REPORT

2021 Annual Groundwater Monitoring & Corrective Action Report

Georgia Power Company - Plant McDonough-Atkinson Ash Pond 1

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Summary

This summary of *the 2021 Annual Groundwater Monitoring & Corrective Action Report* provides the status of groundwater monitoring and corrective program from July 2020 through June 2021 at Georgia Power Company (Georgia Power)'s Plant McDonough-Atkinson Ash Pond 1 (AP-1). This summary was prepared by Golder Associates Inc. (Golder) on behalf of Georgia Power to meet the requirements listed in Part A, Section 6[1] of the US Environmental Protection Agency (US EPA) coal combustion residual (CCR) rule [40 Code of Federal Regulations (CFR) 257 Subpart D]. As required in 40 CFR § 257.90(e), this semi-annual report describes the status of the groundwater monitoring program, summarizes key actions completed, and presents projected key activities for the upcoming year for AP-1. Other CCR units (AP-2 and 3/4) on-site at Plant McDonough are reported separately.

Plant McDonough-Atkinson (Plant McDonough), formerly a coal-fired power generating facility, was converted to a natural gas combined-cycle power generating facility in 2011. Located approximately 7 miles northwest of Atlanta in southeast Cobb County (5551 South Cobb Dr SE, Atlanta, GA 30339), the property occupies approximately 390 acres and is bounded on the southeast by the Chattahoochee River.

Plant McDonough

Groundwater at the Site is monitored using a well network comprised of upgradient and downgradient wells for each CCR Unit. AP-1 network consists of three (3) upgradient and seven (7) downgradient wells installed to meet federal and state monitoring requirements. Routine sampling and reporting for AP-1 began after the background groundwater conditions were established between 2016 and 2018. Based on groundwater quality, an assessment monitoring program and assessment of corrective measures were established on November 13, 2019, and July 9, 2020, respectively. During the 2021 annual reporting period, the Site remained in assessment monitoring as corrective measures are evaluated.

Groundwater elevation measurements were recorded from the site monitoring wells prior to each sampling event. The elevation data were used to confirm the groundwater flow direction, and to confirm that the groundwater monitoring well network for the CCR units remains sufficient to monitor groundwater downgradient of the unit.

2021 Annual Groundwater Monitoring Activities

There was no change to the AP-1 certified detection monitoring network in 2020-2021. Groundwater monitoring sampling events for AP-1 were conducted in August 2020 (annual), September 2020 (semi-annual), and March

[1] 80 FR 21468, April 17, 2015, as amended at 81 FR 51807, August. 5, 2016; 83 FR 36452, July 30, 2018; 85 FR 53561, August 28, 2020.

2021 (semi-annual). Groundwater samples were collected from 10 detection monitoring wells and 5 assessment monitoring wells and analyzed for Appendix III[2] and Appendix IV[3] required monitoring parameters.

Analytical data from the September 2020 and March 2021 monitoring events have been statistically analyzed in accordance with the site's certified statistical analysis method (Groundwater Stats Consulting, 2019). For each semi-annual monitoring event, statistical analyses indicate statistically significant increases (SSIs) for Appendix III constituents above the statistical limits and statistically significant levels (SSLs) of Appendix IV constituents above the groundwater protection standards as summarized below.

Appendix III Constituent	**September 2020**
Boron	DGWC-37, DGWC-38, DGWC-39, DGWC-40, DGWC-67, DGWC-68A
Calcium	DGWC-37, DGWC-38, DGWC-39, DGWC-40, DGWC-67, DGWC-68A
Chloride	DGWC-37, DGWC-38, DGWC-39, DGWC-40, DGWC-67, DGWC-69
pH	DGWC-40
Sulfate	DGWC-37, DGWC-38, DGWC-39, DGWC-40, DGWC-67, DGWC-68A
TDS	DGWC-38, DGWC-39, DGWC-40, DGWC-67
Appendix IV Constituent	**September 2020**
Arsenic	DGWC-69
Cobalt	DGWC-40
Molybdenum	DGWC-68A
Appendix III Constituent	**March 2021**
Boron	DGWC-37, DGWC-38, DGWC-39, DGWC-40, DGWC-67, DGWC-68A
Calcium	DGWC-37, DGWC-38, DGWC-39, DGWC-40, DGWC-67, DGWC-68A
Chloride	DGWC-37, DGWC-38, DGWC-39, DGWC-40, DGWC-67, DGWC-69
pH	DGWC-39, DGWC-40, DGWC-68A
Sulfate	DGWC-37, DGWC-38, DGWC-39, DGWC-40, DGWC-67, DGWC-68A
TDS	DGWC-38, DGWC-39, DGWC-40
Appendix IV Constituent	**March 2021**
Arsenic	DGWC-69
Cobalt	DGWC-40
Molybdenum	DGWC-68A

The Appendix IV SSLs are horizontally delineated onsite through surface water sampling downgradient of the site. Arsenic, cobalt, and molybdenum are not detected in the surface water bodies downgradient of AP-1. Based on review of the Appendix III and Appendix IV results noted above, the site will remain in assessment monitoring. Georgia Power will continue routine groundwater monitoring and evaluation of corrective action alternatives at the site. Reports will be posted to the website and provided to the Georgia Environmental Protection Division (GA EPD) semi-annually.

[2] Appendix III: boron, calcium, chloride, fluoride, pH, sulfate, and total dissolved solids

[3] Appendix IV: antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, fluoride, lead, lithium, mercury, molybdenum, combined radium (226 + 228), selenium, and thallium.

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CERTIFICATION

This *2021 Annual Groundwater Monitoring & Corrective Action Report*, Georgia Power Company - *Plant McDonough-Atkinson – Ash Pond 1 (AP-1)* has been prepared in compliance with the United States Environmental Protection Agency coal combustion residual rule [40 Code of Federal Regulations (CFR) 257 Subpart D] and the Georgia Environmental Protection Division Rules for Solid Waste Management 391-3-4-.10 (6)(a-c) by a qualified groundwater scientist or engineer with Golder Associates Inc.

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1.0 INTRODUCTION

In accordance with the United States Environmental Protection Agency (US EPA) coal combustion residuals (CCR) rule [40 Code of Federal Regulations (CFR) 257 Subpart D] and the Georgia (GA) Environmental Protection Division (EPD) Rules for Solid Waste Management 391-3-4-.10, this *2021 Annual Groundwater Monitoring and Corrective Action Report* was prepared to document groundwater monitoring activities conducted at Georgia Power Company (Georgia Power)'s Plant McDonough-Atkinson Ash Pond 1 (AP-1) and satisfies the requirements of § 257.90(e). To specify groundwater monitoring requirements, GA EPD rule 391-3-4-.10(6)(a) incorporates by reference the US EPA CCR rule (40 CFR 257 Subpart D). For ease of reference, the US EPA CCR rules are cited within this report.

This annual report documents activities conducted from July 2020 through June 2021 at AP-1. This report includes results from the annual monitoring for Appendix IV of 40 CFR 257 conducted in August 2020 and from both semi-annual monitoring events conducted in September 2020 and March 2021 for AP-1.

1.1 Site Description and Background

Plant McDonough-Atkinson (Plant McDonough, Site), formerly a coal-fired power generating facility, was converted to a natural gas combined-cycle power generating facility in 2011. Located approximately 7 miles northwest of Atlanta in southeast Cobb County (5551 South Cobb Dr SE, Atlanta, GA 30339), the property occupies approximately 390 acres and is bounded on the southeast by the Chattahoochee River. A site location map is included as Figure 1.

Four CCR surface impoundments are located on-site: Ash Pond 1 (AP-1), Ash Pond 2 (AP-2), Ash Pond 3 (AP-3) and Ash Pond 4 (AP-4). AP-3 and AP-4 have historically operated together and are being closed as a Combined Unit AP-2 and 3/4 and is reported separately A notification of intent to initiate closure of the inactive CCR surface impoundment for AP-1 was certified on December 7, 2015 and posted to Georgia Power's website. A permit application package was submitted to GA EPD in November 2018 and is pending approval. Groundwater monitoring and reporting for AP-1 are being performed to meet the alternate schedule in § 257.100(e)(5) of the revised US EPA CCR rule (August 5, 2016).

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 (Golder, 2020a). The site is located in the Piedmont/Blue Ridge geologic province, which contains some of the oldest rock formations in the southeastern United States. These late Precambrian to late Paleozoic rocks have undergone repeated cycles of igneous intrusions and extrusions, metamorphism, folding, faulting, shearing, and silicification. Rock outcrops near the site consist of biotite gneiss, porphyritic gneiss, mica schist, and quartzite.

Residual soils, primarily clayey/sandy silt, sandy silt with clay, and silty sand, occur as a variably thick blanket overlying bedrock across most of the site. These residual saprolitic soils along with saprolitic transitionally or partially weathered rock, collectively the overburden, range between approximately 9 to 61 feet in thickness across the site, with an average thickness of approximately 38 feet. Saprolitic rock is considered to be transitionally weathered rock (TWR) or partially weathered rock (PWR). Where TWR is a qualitative description, PWR is defined by Standard Penetration Test (SPT) blow counts that exceed 50 blows/six inches.

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

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

1.3 Groundwater Monitoring Network

Pursuant to § 257.91, a groundwater monitoring system was installed within the uppermost aquifer at AP-1 to monitor groundwater passing the waste boundary. Wells were located to monitor upgradient and downgradient groundwater conditions based on groundwater flow direction. The monitoring well network was certified by a Professional Engineer in Georgia on April 17, 2019, and the certification is maintained in the Operating Record pursuant to § 257.90(f). AP-1 monitoring well and piezometer locations are shown on Figure 2.

The certified monitoring well network for AP-1 consists of three (3) upgradient monitoring wells and seven (7) downgradient monitoring wells. Table 1 includes well construction details for the AP-1 monitoring well network. Additionally, a separate network for AP-2 and 3/4 as well as a series of piezometers were installed at the Site. Table 1 also includes the current assessment well network and the construction details for each of the site wells and piezometers for AP-1 and the separate multi-unit monitoring network for AP-2 and 3/4.

2.0 GROUNDWATER MONITORING ACTIVITIES

The following section describes monitoring-related activities for sampling performed at the Site from July 2020 through June 2021. Routine groundwater sampling was performed in August 2020, September 2020, and March 2021 in accordance with 40 CFR § 257.93.

2.1 Monitoring Well Installation and Maintenance

There was no change to the detection groundwater monitoring system during this reporting period. Additional delineation piezometers have been installed and incorporated as necessary into the assessment monitoring program (Table 1). Monitoring well related activities included visual inspection of well conditions prior to sampling, recording conditions around the well, and performing exterior maintenance to provide safe access for sampling. The well inspection logs are included in Appendix A. During this reporting period (July 1, 2020 through June 30, 2021), additional piezometers were installed at the site on three different occasions to meet different objectives.

Piezometer B-100 was installed in July 2020 at the site to further define groundwater gradient and flow direction and to characterize and horizontally delineate the nature and extent of select constituents in groundwater at the Site. This piezometer installation is documented in a report, *Piezometer Installation Report (B-99 through B-100)* (Golder, 2020b), a copy of which is included in Appendix B.

From October 2020 through November 2020, additional piezometers were installed to characterize and vertically delineate the nature and extent of select constituents in groundwater at the Site. Piezometers B-105D and B-110D were installed adjacent to DGWC-40 and DGWC-68A respectively. Well development and slug testing of these vertical delineation piezometers was completed in January and April 2021. The installation of the vertical delineation piezometers is documented in a report, *Piezometer Installation Report (B-101D through B-111D)* (Golder, 2021a), a copy of which is included as Appendix B.

During March through April 2021 additional piezometers were installed to characterize and vertically delineate the nature and extent of select constituents in groundwater. These piezometers, including vertical delineation piezometers B-112D, B-113D as well as upgradient piezometers B-116D, B-117D, B-118, and B-119D, were installed to further characterize and vertically delineate the nature and extent of select constituents in groundwater at the Site. The installation of the vertical delineation piezometers is documented in a report *Piezometer Installation Report (B-112D through B-120D)* (Golder, 2021b).

The piezometers installed during this reporting period were surveyed by Metro Engineering and Surveying Company of McDonough, Georgia. The top of the well casing and the survey pin installed at each well pad were surveyed to within 0.5-foot horizontal accuracy and to 0.01-foot vertical accuracy. The horizontal locations (i.e., northings and eastings) were recorded in feet relative to the North American Datum of 1983 (NAD) with the vertical elevation recorded in feet relative to North American Vertical Datum of 1988 (NAVD). Each of the well installation reports presents a summary of well construction for the new piezometers and presents the certified survey data and construction logs for each piezometer. The new survey data are incorporated into this report's applicable tables. A copy of the survey report has been included in each of the well installation reports in Appendix B.

2.2 Assessment Monitoring

Pursuant to §257.94(e), an assessment monitoring program has been established for AP-1 at Plant McDonough based on the statistically significant increases (SSIs) documented in the *2019 Annual Groundwater Monitoring and Corrective Action Report,* (Golder, 2019). A notice of assessment monitoring was placed in the operating record on November 13, 2019.

Groundwater sampling events were conducted for AP-1 in August 2020, September 2020, and March 2021. Samples were collected from each well in the certified monitoring network. The monitoring wells sampled included AP-1 monitoring wells presented in Table 1 as well as assessment monitoring wells B-62, B-100, B-105D and B-112D and B-113D (Figure 2). Note, the assessment monitoring well network has been modified to include additional monitoring locations. The additional locations are reflected in Table 1; however, not all locations were sampled during the reported sampling events because installation and development occurred after the February 2021 sampling event. Table 2 presents a summary of groundwater sampling events completed for AP-1 and the status of the monitoring network.

During the August 2020 sampling event, groundwater samples were collected and analyzed for Appendix IV constituents to meet requirements of §257.95(b). During the September 2020 and March 2021 semi-annual sampling events, groundwater samples were collected for Appendix III parameters and those Appendix IV constituents detected during the August 2020 event. Results of sampling activities conducted in August 2020, September 2020, and March 2021 are presented in Appendix A.

2.3 Additional Sampling

Additional sampling was conducted during the reporting period in support of the assessment of corrective measures and in continuing to define the nature and extent of impacts resulting from AP-1. Additional sampling included cation and anions (e.g., bicarbonate/carbonate alkalinity, potassium, magnesium, and sodium) for each of the detection monitoring wells along with additional sampling at wells B-105D, B-110D, B-112D and B-113D to support delineation efforts as well as assessment of corrective measures. This additional sampling is further discussed in Section 5.0. Upgradient monitoring wells B-116D, B-117D, B-118 and B-119D were sampled to characterize background conditions at the site and are being evaluated to update the statistical network.

Due to the proximity of the engineered stream channel (also referred to as the unnamed tributary) west of AP-1 and the Chattahoochee River in the downgradient direction of the wells showing statistically significant levels (SSLs) of arsenic, cobalt and molybdenum, installation of additional wells to horizontally characterize this area is infeasible. In response, Georgia Power collected surface water samples from the engineered stream channel and the Chattahoochee River on November 10, 2020, February 2, 2021, and March 9, 2021. The surface water samples collected in November 2020 were analyzed at varying locations for appendix III parameters, select appendix IV parameters (i.e., beryllium, cobalt, molybdenum) and major ions (magnesium, potassium, sodium total and bicarbonate alkalinity). The surface water samples collected on February 2021 were analyzed at varying locations for appendix III parameters, select appendix IV parameters (i.e., arsenic, beryllium, cobalt and molybdenum), and major ions (e.g., magnesium, potassium, sodium, total alkalinity, and bicarbonate alkalinity." The surface water samples collected on March 2021 were analyzed at varying locations for appendix III parameters, select appendix IV parameters (i.e., arsenic, beryllium, cobalt, and molybdenum), and major ions (e.g., magnesium, potassium, sodium, total alkalinity, and bicarbonate alkalinity. Surface water sample locations are shown on Figure 2. Surface water samples are collected in accordance with *Region 4 U.S. Environmental Protection Agency Science and Ecosystem Support Division Operating Procedures for Surface Water Sampling* SESDPROC-201-R4 (December 16, 2016). The laboratory reports associated with each of these sampling events are provided in Appendix A. Georgia Power will continue collecting the surface water samples semiannually.

Chemical analysis of soils/rock for Uranium-235, Uranium-238, Thorium-232, Thorium-235, and Radium 228 was completed as part of a radium source study to document the naturally occurring radium at the Site. Rock core samples from the screened intervals at B-104D, B-109D, B-111D, B-115D, B-116D, B-117D, and B 119D were submitted to Pace Analytical Laboratories of Peachtree Corners, GA for these analyses. Results of these analyses are presented in Appendix A. Preliminary evaluation of these data supports the presence of naturally-occurring radium at the site and an Alternate Source Demonstration will be prepared if an SSL of radium is identified once a sufficient number of samples have been collected to statistically analyze the results.

3.0 SAMPLE METHODOLOGY AND ANALYSIS

Sampling events completed during this reporting period at AP-1 include the annual Appendix IV monitoring event and two subsequent assessment monitoring events. Groundwater analytical data and chain of custody records are presented in Appendix A. The following sections describe methods used to conduct groundwater monitoring at the site.

3.1 Groundwater Elevation Measurement

Prior to each scheduled sampling event in August 2020, September 2020, and February/March 2021 groundwater elevations were recorded at each well and piezometer. Groundwater elevations data are summarized in Table 3. Calculated water level data were used to develop Figures 3A, 3B, and 3C. Site potentiometric maps show that groundwater generally flows west/southwest across the site and is consistent with historic observations.

3.2 Groundwater Gradient and Flow Velocity

Hydraulic gradient is calculated as the difference in groundwater elevation (in feet) divided by the distance between two piezometers or wells (in feet). Groundwater elevation data recorded in August 2020, September 2020, and February 2021 from three piezometer/well pairings; B-29/DGWC-68A, B-28/DWGC-37, and B-50/DWGC-39, located along the groundwater flow path and perpendicular to the potentiometric contours were used to calculate hydraulic gradients for AP-1.

Average groundwater flow velocities at the site were calculated using hydraulic gradient data, hydraulic conductivity data generated from slug testing results, and an estimated effective porosity of the screened portion of the uppermost aquifer. Based on slug test data, the average hydraulic conductivity of the overburden is 7.70 x 10^{-4} centimeters/second (cm/s). An effective porosity of 0.2 (20%) was used based on the default values for effective porosity recommended by US EPA for a silty sand-type soil (US EPA, 1996). The hydraulic gradients calculated between the well pairs are shown on Tables 4A, 4B, and 4C, respectively, for August 2020, September 2020, and February 2021.

The horizontal flow velocities were calculated using the commonly used derivative of Darcy's Law:

$$V = \frac{K * i}{n_e}$$

Where:

V = Groundwater flow velocity $\left(\frac{feet}{day}\right)$

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

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

n_e = Effective porosity

Using this equation, groundwater flow velocities were calculated for AP-1 using August 2020, September 2020, and February 2021 groundwater elevation data. Tables 4A, 4B and 4C presents the velocities calculated using groundwater elevation data from these sampling events.

Calculated (horizontal) flow velocities ranged from approximately 87 feet per year (ft/yr) to 173 ft/yr during the August 2020, September 2020 and February 2021 events. These estimated flow velocities are consistent with past results and are also generally consistent with other published velocities for regolith-upper bedrock aquifers of the Piedmont (Heath, R.C., 1982).

3.3 Groundwater Sampling

Groundwater samples were collected in accordance with § 257.93(a) and using US EPA Region 4 Field Quality and Technical Procedures as a guide (US EPA, 2001). Monitoring wells were purged and sampled using low-flow sampling procedures. Non-dedicated, low-flow pneumatic bladder pumps and peristaltic pumps were used to

purge and sample the wells. Field equipment was decontaminated prior to use and between wells using US EPA Laboratory Services and Applied Science Division, Operating Procedure, Field Equipment Cleaning and Decontamination (US EPA, 2020). In-Situ SmarTroll and Aqua TROLL 400 were used to monitor and record field water quality parameters [temperature, specific conductance, dissolved oxygen (DO), pH, and oxidation-reduction potential (ORP)] during purging. Turbidity was monitored using a LaMotte 2020we turbidimeter. Groundwater samples were collected when the following stabilization criteria were met for a minimum of three consecutive readings:

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

Following well stabilization, unfiltered samples were collected directly into appropriately preserved laboratory supplied sample containers, placed in ice-packed coolers, and submitted to the laboratory following standard chain-of-custody protocol. Field information forms, generated directly from the SmarTroll®/Aqua TROLL®, and chain-of-custody records are included in Appendix A.

Field data and sampling notes for each monitoring well are recorded on the field information forms, which contains a description of the sampling equipment, sampling method, purge rate, field observations, and depth to water measurements at each monitoring location. Calibration forms for field instruments and field data sheets are also included in Appendix A.

3.4 Laboratory Analysis

Groundwater samples were collected during three groundwater monitoring events (August 2020, September 2020, and March 2021). During the August 2020 sampling event, wells were sampled and analyzed for Appendix IV monitoring parameters pursuant to 40 CFR §257.95(b). The September 2020 and March 2021 sampling events represent semi-annual sampling events for AP-1 at Plant McDonough. Because AP-1 is currently in assessment monitoring, groundwater samples from wells in the detection monitoring program were analyzed for Appendix III and the detected Appendix IV monitoring parameters per 40 CFR § 257 and § 261. Tables 5A through 5F presents a tabulated summary of the August 2020, September 2020, and March 2021 detection and assessment sample results. Results of surface water samples collected in November 2020, February 2021 and March 2021 are presented on Tables 5G and 5I, respectively. Analytical methods used for monitoring parameters can be found in the analytical data reports in Appendix A.

Laboratory analyses for all events were performed by Pace Analytical Services, LLC (Pace) in Norcross, Georgia. Pace is accredited by the National Environmental Laboratory Accreditation Program (NELAP) and maintains NELAP certification for all parameters analyzed for this project. Analytical data, chain-of-custody records, and NELAP certifications for the monitoring events are presented in Appendix A.

3.5 Quality Assurance and Quality Control

During each sampling event, quality assurance/quality control (QA/QC) samples were collected at a minimum rate of one sample per every 20 samples. QA/QC samples included equipment blanks (where non-dedicated

sampling equipment is used), field blanks, and duplicate samples. QA/QC sample data was evaluated during data validation (as described below) and is included in Appendix A.

Groundwater quality data in this report were independently validated in accordance with US EPA Region IV Data Validation Standard Operating Procedures (US EPA, 2011), National Functional Guidelines for Inorganic Superfund Methods Data Review (January 2017) 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, relative percent differences (RPDs), laboratory and field duplicate RPDs, field and equipment blanks, and reporting limits. Where appropriate, validation qualifiers and flags are applied to the data per US EPA procedures and guidance. Data validation summaries are provided in Appendix A. The data are considered usable for meeting project objectives and the results are considered valid.

A value followed by a "J" flag in tables and laboratory reports indicate that the value is an estimated analyte concentration detected between the method detection limit (MDL) and the laboratory reporting limit (RL). The estimated value is positively identified but is below the lowest level that can be reliably achieved within specified limits of precision and accuracy under routine laboratory operating conditions. Total radium concentration (Radium 226+228) is a combination of isotopes 226 and 228. When radium data are reported below the MDC (Minimum Detectable Concentration), the values are followed by a "U" flag in tables.

4.0 STATISTICAL ANALYSIS

Statistical analysis of Appendix III and Appendix IV groundwater monitoring data was performed pursuant to §257.93-95 following the established statistical method for AP-1. The statistical analysis report prepared by Groundwater Stats Consulting, LLC. is presented in Appendix C.

4.1 Statistical Method

The selected statistical method for AP-1 was developed in accordance with 40 CFR § 257.93(f), using methodology presented in Statistical Analysis of Groundwater Data at Resource Conservation and Recovery Act (RCRA) Facilities, Unified Guidance, March 2009, US EPA 530/R-09-007 (Unified Guidance; US EPA, 2009). The Sanitas groundwater statistical software was used to perform statistical analyses. Sanitas is a decision-support software package that incorporates the statistical tests required of Subtitle C and D facilities by US EPA regulations and guidance as recommended in the US EPA Unified Guidance (2009) document.

The following table provides a summary of the statistical methodology used at AP-1 for each of the semi-annual compliance monitoring events.

PLANT MCDONOUGH AP-1 STATISTICAL METHOD SUMMARY		
Monitoring Well Network	Upgradient Wells	DGWA-53, DGWA-70A, DGWA-71
	Downgradient Wells	DGWC-37, DGWC-38, DGWC-39, DGWC-40, DGWC-67, DGWC-68A, DGWC-69
	Assessment Monitoring Wells[1]	B-62, B-100, B-105D, B-112D, B-113D
CCR Monitoring Parameters	Appendix III (Detection Monitoring)	Boron, Calcium, Chloride, Fluoride, pH, Sulfate, TDS

PLANT MCDONOUGH AP-1 STATISTICAL METHOD SUMMARY		
	Appendix IV (Assessment Monitoring)	Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Radium (226 + 228)
Statistical Methodology	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 (Optional)	1-of-2 with minimum of 8 samples per well for interwell testing. ▪ Initial statistical exceedance warrants independent resampling within 90 days. ▪ If resample passes, well/parameter is not considered a confirmed SSI. ▪ If resample exceeds, well/parameter has a confirmed SSI. ▪ If no resample is collected, the original result is deem verified.

Note:
[1] Additional assessment monitoring wells were added to the network after the sampling event took place. These wells are noted here, however, samples may not have been collected during the scheduled sampling event. Assessment monitoring data were not appropriate for statistical analyses unless a minimum of four data points were available.

The following guidance are also applicable to the statistical analytical method:

- Statistical analyses are not performed on analytes containing 100% non-detects (US EPA Unified Guidance, 2009, Chapter 6).
- When data contain less than or equal to 15% no-detects in background, simple substitution of one-half the RL is utilized in the statistical analysis. The RL 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.

4.1.1 Appendix III Detection Monitoring Statistical Methods

Appendix III Statistical Analyses Groundwater monitoring data were statistically evaluated through the use of interwell prediction limits. The Sen's Slope/Mann Kendall trend test was also performed to evaluate concentrations over time and determine whether concentrations are statistically increasing, decreasing, or stabilizing.

4.1.2 Appendix IV Assessment Monitoring Statistical Methods

Statistical analysis, while in assessment monitoring, is performed through the use of confidence intervals compared to a groundwater protection standard (GWPS). Parametric tolerance limits are used to calculate site specific background limits from pooled upgradient well data for Appendix IV parameters with a target of 95% confidence and 95% coverage. The confidence and coverage levels for nonparametric tolerance limits are dependent upon the number of background samples. The background limits were then used when determining the GWPS under 40 CFR § 257.95(h) and GA EPD Rule 391-3-4-.10(6)(a). As described in 40 CFR § 257.95(h)(1-3), the GWPS is:

- The maximum contaminant level (MCL) established under §§ 141.62 and 141.66 of this title.
- Where an MCL has not been established, Rule Specified Limits (RSLs) have been specified for cobalt (0.006 mg/L), lead (0.015 mg/L), lithium (0.040 mg/L), or molybdenum (0.100 mg/L). These criteria are not currently adopted by Georgia EPD.
- The respective background level for a constituent when the background level is higher than the MCL or rule identified GWPS.

US EPA revised the CCR Rule on July 30, 2018, updating GWPS for cobalt, lead, lithium, and molybdenum as described above in 40 CFR § 257.95(h)(2). Presently those updated GWPS have not yet been incorporated in the current GA EPD Rules for Solid Waste Management 391-3-4-.10(6)(a); therefore, under EPD rules, background concentrations are considered when determining the GWPS for constituents where an MCL has not been established (or where background is higher than the MCL). Under the existing EPD rules, the GWPS is:

- The MCL or
- The background concentration when an MCL is not established or when the background concentration is higher than the MCL.

Following the above federal and state rule requirements, GWPSs were established for statistical comparison of Appendix IV constituents. Table 6 summarizes the background limit established at each monitoring well and the GWPS established under State and Federal rules.

To complete the statistical comparison to GWPS, confidence intervals were constructed for each of the Appendix IV parameters in each downgradient well. Those confidence intervals were compared to the GWPS established for both the State and Federal rules. Only when the entire confidence interval is above a GWPS is the well/constituent pair considered to exceed its respective standard. If there is an exceedance of the established standard, a SSL exceedance is identified.

A summary table of the statistical results accompanies the prediction limits for Appendix III and confidence intervals for Appendix IV in Appendix C. The background period for statistical analyses includes data through

March 2021. Tolerance limits for confidence interval calculations are updated to include current data. Due to varying reporting limits in background, the most recent reporting limit is used when data are not reported above detection limits. This results in a more appropriate statistical test.

4.2 Statistical Analysis Results

Analytical data from September 2020 and March 2021 at AP-1 have been statistically analyzed in accordance with the site's certified Statistical Analysis Plan. Verification resampling to confirm initial SSIs was not performed; therefore, initial SSIs are considered verified. The statistical results are included in Appendix C.

4.2.1 September 2020 Appendix III Statistical Results

Based on the statistical results, SSIs of boron, calcium, chloride, pH, sulfate, and total dissolved solids (TDS) were identified following the September 2020 assessment monitoring event. A detailed list of the noted exceedances is presented in Appendix C.

4.2.2 September 2020 Appendix IV Statistical Results

Analytical data from the September 2020 monitoring event at AP-1 have been statistically analyzed in accordance with the certified statistical analysis method. Review of the Sanitas results indicates that using the GWPS established according to both 40 CFR § 257.95(h) and 391-3-4-.10(6)(a), the following SSLs were identified:

AP-1 Confidence Interval Statistically Significant Level Exceedances	
Appendix IV Parameter	**AP-1 Detection Monitoring Well**
Arsenic	DGWC-69
Cobalt	DGWC-40
Molybdenum	DGWC-68A

4.2.3 March 2021 Appendix III Statistical Results

Based on the statistical results (Appendix C), SSIs of boron, calcium, chloride, pH, sulfate, and TDS were identified following the March 2021 assessment monitoring event. A detailed list of the noted exceedances is presented in Appendix C.

Based on review of the Appendix III statistical analysis (Appendix C), Appendix III constituents have not returned to background levels and assessment monitoring will continue pursuant to 40 CFR § 257.95(f)

4.2.4 March 2021 Appendix IV Statistical Results

Analytical data from the March 2021 monitoring event at AP-1 have been statistically analyzed in accordance with the certified statistical analysis method. Review of the Sanitas results indicates that using the GWPS established according to both 40 CFR § 257.95(h) and 391-3-4-.10(6)(a), the following SSLs were identified:

AP-1 Confidence Interval Statistically Significant Level Exceedances	
Appendix IV Parameter	**AP-1 Detection Monitoring Well**
Arsenic	DGWC-69
Cobalt	DGWC-40
Molybdenum	DGWC-68A

5.0 ASSESSMENT MONITORING AND DELINEATION STATUS

Specific details regarding the delineation status at AP-1 is discussed in the *Semi-Annual Remedy Selection and Design Progress Report* (Appendix D). Limited groundwater analytical data are available for assessment monitoring wells. In accordance with Section 21.1.1 of the Unified Guidance (US EPA, 2009), four independent data are the minimum population size recommended to construct confidence intervals required to assess SSLs for Appendix IV constituents. At the time of this report, the data set for many of the assessment wells is limited to fewer than four independent datums and therefore not appropriate for the statistical analyses at this time. For wells where the minimum of four data points are available, statistical analyses are included in Appendix C.

Assessment monitoring data from the March 2021 monitoring event at AP-1 were statistically analyzed in accordance with the certified statistical analysis method where sufficient data are available (B-62 and B-100 only). Review of the Sanitas results indicates that using the GWPS established according to both 40 CFR § 257.95(h) and 391-3-4-.10(6)(a), there are no exceedances of the GWPS where sufficient data are available.

As a conservative approach, Georgia Power elected to collect surface water samples to supplement horizontal delineation. Due to the proximity of the engineered stream channel (also identified as the unnamed tributary) and the Chattahoochee River in the downgradient direction of the wells showing SSLs of arsenic (DGWC-69), molybdenum (DGWC-68A) and cobalt (DGWC-40), installation of additional wells to horizontally characterize this area is infeasible. As such, surface water samples were collected from both the engineered stream channel and the Chattahoochee River in November 2020 and again in February 2021. The molybdenum SSL identified at DGWC-68A is horizontally delineated by surface water samples collected at UT-03 location and downstream locations (UT01-DS and CR+0.4). The arsenic SSL identified at DGWC-69 is horizontally delineated by surface water samples collected at UT-02 location and downstream locations (UT-03, UT01-DS and CR+0.4). The cobalt SSL identified at DGWC-40 is horizontally delineated by surface water samples collected at CR-0.1 and additional downstream locations (CR+0.2 and CR+0.4); see Figure 2. The results from surface water samples as presented in Tables 5G and 5H, indicate that arsenic and molybdenum are not detected in the engineered stream channel and cobalt is not detected in the Chattahoochee River. Based on data collected to date, there are no impacts to surface water by constituents with SSLs at AP-1 at Plant McDonough and the horizontal delineation of target SSL constituents are complete.

Additional sampling at assessment monitoring wells B-105D, B-110D, B-112D, B-113D was conducted to support vertical delineation efforts during this reporting period. Vertical delineation of constituents exceeding SSLs at AP-1 is in progress. The current Appendix IV dataset for the assessment monitoring wells is limited to less than four independent sampling events. Georgia Power will continue to monitor these wells until an adequate data set is available for statistical analysis. Results of available data are included in Tables 5D through 5F.

6.0 ASSESSMENT OF CORRECTIVE MEASURES

Following the requirements of 40 CFR § 257.96, Plant McDonough has initiated an Assessment of Corrective Measures (ACM) for cobalt and molybdenum. Notification of this action was placed in the operating record on July 9, 2020. Since the submission of the ACM report in December 2020, arsenic was identified as an SSL on at well DGWC-69 (Golder, 2020c) and was incorporated into the ACM evaluation.

In accordance with 40 CFR § 257.97(a) a remedy selection report will be prepared and submitted concurrent with semi-annual groundwater monitoring reports to document results associated with additional data collection, and present progress toward selection and design of a groundwater remedy. A copy of the report is included as Appendix D. At least 30 days prior to the selection of remedy or remedies, a public meeting to discuss the results of the corrective measures assessment will be held pursuant to 40 CFR 257.96(e).

The *Semi-Annual Remedy Selection and Design Progress Report* that is included as Appendix D includes the following information:

i) A summary of the closure status for AP-1 as it relates to source control.

ii) Summary of work completed to achieve delineation of constituents exceeding groundwater protection standards and a summary of data collected to date towards remedy selection.

iii) A summary of remedial alternatives and progress towards remedy selection.

7.0 MONITORING PROGRAM STATUS

Statistical evaluations of the groundwater monitoring data for AP-1 confirms SSIs of Appendix III groundwater monitoring parameters above background and SSLs of Appendix IV groundwater monitoring parameters above the established GWPS. AP-1 will continue to be monitored in accordance with the assessment monitoring program pursuant to 40 CFR § 257.95. An assessment of corrective measures was initiated following the provisions of 40 CFR § 257.96. Pursuant to 40 CFR 257.95(g)(1)(iv), the additional delineation wells and surface water monitoring locations may continue to be sampled as part of the ongoing semi-annual assessment monitoring program.

8.0 CONCLUSIONS AND FUTURE ACTIONS

This *2021 Annual Groundwater Monitoring and Corrective Action Report, Georgia Power Plant McDonough-Atkinson - Ash Pond 1 (AP-1)* was prepared to fulfill the requirements of US EPA CCR rule 40 CFR 257 Subpart D and Georgia EPD rule 391-3-4-.10.

The groundwater flow directions interpreted during the August 2020, September 2020, and February/March 2021 events are consistent with historical evaluations and the monitoring well network continues to effectively monitor the uppermost aquifer in the vicinity of AP-1.

Review of analytical results and statistical analyses developed for the site indicates confirmed SSIs of Appendix III above background and SSLs of Appendix IV above the established GWPS. In accordance with 40 CFR § 257.96, Georgia Power has initiated an assessment of corrective measures study for the identified SSLs.

Based on the findings presented herein, Plant McDonough will continue with assessment groundwater monitoring and reporting. The next sampling event is tentatively scheduled for September of 2021. The September 2021

semiannual assessment monitoring event will be a combined event to meet the requirements of 40 C.F.R. §257.95(b) and (d)(1) and will include sampling and analysis of all Appendix III and IV constituents.

9.0 REFERENCES

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Tables

TABLE 1
SUMMARY OF MONITORING WELL, ASSESSMENT WELL AND PIEZOMETER CONSTRUCTION
Georgia Power Company - Plant McDonough
Atlanta, Georgia

Well-ID	Hydraulic Location	Screened Media	NAD 83 Northing	NAD 83 Easting	Top of Casing Elevation (feet NAVD 88)	Ground Surface Elevation (feet NAVD 88)	Total Well Depth (feet bgs)	Top of Screen Elevation (feet NAVD 88)	Bottom of Screen Elevation (feet NAVD 88)	Screen Length (feet)	Date of Installation
ASH POND 1 (AP-1) DETECTION MONITORING WELL NETWORK											
DGWA-53	Upgradient	Upper Bedrock	1393472.8	2201668.8	844.26	841.3	28.9	823.7	813.7	10	9/24/2016
DGWA-70A	Upgradient	Overburden	1390481.4	2200591.6	808.52	805.8	59.3	756.9	746.9	10	5/10/2017
DGWA-71	Upgradient	Overburden	1393963.3	2201714.8	863.84	861.2	43.8	827.8	817.8	10	2/28/2017
DGWC-37	Downgradient	Overburden	1390482.2	2200919.8	766.21	763.7	39.7	734.4	724.4	10	11/28/2012
DGWC-38	Downgradient	Overburden	1390362.7	2201148.6	757.43	754.7	25.0	740.0	730.0	10	11/29/2012
DGWC-39	Downgradient	Overburden	1390303.6	2201540.1	759.89	757.0	21.2	746.2	736.2	10	11/6/2012
DGWC-40	Downgradient	Overburden	1390625.7	2201825.9	779.06	776.2	34.9	751.7	741.7	10	11/5/2012
DGWC-67	Downgradient	Overburden	1390953.8	2200830.7	766.70	767.0	56.3	720.7	710.7	10	3/14/2017
DGWC-68A	Downgradient	Overburden	1391301.2	2200734.9	765.33	765.4	29.8	746.0	736.0	10	4/20/2017
DGWC-69	Downgradient	Overburden	1391585.0	2200657.1	763.75	764.0	24.3	749.7	739.7	10	3/16/2017
ASH POND 1 (AP-1) ASSESSMENT MONITORING WELL NETWORK											
B-62	Downgradient	Upper Bedrock	1389828.1	2201811.2	760.08	760.4	39.9	730.7	720.7	10	10/4/2016
B-100	Downgradient	Overburden	1390254.8	2202242.1	777.95	775.3	44.8	740.5	730.5	10	7/8/2020
B-105D	Downgradient	Upper Bedrock	1390634.5	2201831.9	779.01	776.0	70.00	716.0	706.0	10	10/19/2020
B-112D	Downgradient	Upper Bedrock	1391564.2	2200664.1	765.58	766.1	55	721.4	711.4	10	3/22/2021
B-113D	Downgradient	Upper Bedrock	1391264.6	2200719.2	758.22	758.8	85	684.4	674.4	10	3/30/2021

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ASH POND 2 and ASH PONDS 3/4 (AP-2, 3/4) DETECTION MONITORING WELL NETWORK											
DGWA-53	Upgradient	Upper Bedrock	1393472.8	2201668.8	844.26	841.3	28.9	823.7	813.7	10	9/24/2016
DGWA-70A	Upgradient	Overburden	1390481.4	2200591.6	808.52	805.8	59.3	756.9	746.9	10	5/10/2017
DGWA-71	Upgradient	Overburden	1393963.3	2201714.8	863.84	861.2	43.8	827.8	817.8	10	2/28/2017
DGWC-2	Downgradient	Overburden/Upper Bedrock	1393958.0	2202119.5	850.88	848.3	49.0	809.6	799.6	10	10/2/2012
DGWC-4	Downgradient	Overburden	1394171.5	2202662.4	814.85	812.1	45.0	777.4	767.4	10	10/3/2012
DGWC-5	Downgradient	Overburden/Upper Bedrock	1394306.3	2202965.1	791.75	788.7	30.0	769.0	759.0	10	10/4/2012
DGWC-8	Downgradient	Overburden	1394322.2	2203882.1	826.38	824.1	49.1	785.4	775.4	10	10/10/2012
DGWC-9	Downgradient	Overburden	1394055.9	2204170.0	824.35	821.8	30.0	802.2	792.2	10	10/10/2012
DGWC-10	Downgradient	Overburden	1393818.3	2204201.1	823.55	820.9	45.4	785.9	775.9	10	10/11/2012
DGWC-11	Downgradient	Overburden	1393547.1	2204166.2	800.57	798.1	49.1	759.3	749.3	10	10/15/2012
DGWC-12	Downgradient	Overburden	1393149.4	2204128.3	773.86	771.2	25.1	756.5	746.5	10	10/15/2012
DGWC-13	Downgradient	Overburden	1392881.1	2204084.6	794.10	791.3	43.8	757.9	747.9	10	11/29/2012
DGWC-14	Downgradient	Overburden/Upper Bedrock	1392574.2	2204013.3	792.40	789.8	34.3	765.9	755.9	10	12/18/2012
DGWC-15	Downgradient	Overburden	1392544.1	2203679.0	824.50	821.5	67.1	764.8	754.8	10	11/29/2012
DGWC-17	Downgradient	Overburden	1392645.6	2203051.0	837.05	834.2	44.5	800.0	790.0	10	1/9/2013
DGWC-19	Downgradient	Overburden	1392342.6	2202601.0	825.46	822.9	39.8	793.5	783.5	10	3/12/2013
DGWC-20	Downgradient	Overburden	1392164.5	2202315.6	822.14	819.8	39.7	790.7	780.7	10	3/5/2013
DGWC-21	Downgradient	Overburden/Upper Bedrock	1392067.5	2202063.5	816.28	813.5	69.0	754.9	744.9	10	10/31/2012
DGWC-22	Downgradient	Upper Bedrock	1392126.3	2201791.9	816.59	813.7	60.0	764.0	754.0	10	10/25/2012
DGWC-23	Downgradient	Upper Bedrock	1392239.7	2201582.0	818.37	815.7	60.1	765.9	755.9	10	10/25/2012
DGWC-42	Downgradient	Overburden	1391327.8	2201870.2	804.68	802.0	50.4	762.1	752.1	10	11/12/2012
DGWC-47	Downgradient	Overburden/Upper Bedrock	1391553.8	2202610.5	797.45	794.3	28.8	775.9	765.9	10	6/23/2016
DGWC-48	Downgradient	Overburden/Upper Bedrock	1391314.6	2202290.2	788.33	785.2	30.0	765.6	755.6	10	6/22/2016

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ASH POND 2 and ASH PONDS 3/4 (AP-2, 3/4) ASSESSMENT MONITORING WELL NETWORK											
B-56	Downgradient	Overburden	1393957.9	2204187.8	823.59	821.0	45.0	786.4	776.4	10	10/3/2016
B-62	Downgradient	Upper Bedrock	1389828.1	2201811.2	760.08	760.4	39.9	730.7	720.7	10	10/4/2016
B-63	Downgradient	Overburden	1390999.1	2202978.1	777.10	777.3	46.0	741.8	731.8	10	10/6/2016
B-66	Downgradient	Overburden	1393858.2	2204277.5	815.90	813.3	55.3	768.3	758.3	10	11/16/2016
B-77	Downgradient	Overburden	1390948.7	2202942.0	776.86	777.1	42	745.1	735.1	10	9/17/2019
B-82	Downgradient	Overburden	1393750.0	2204258.1	810.07	807.5	45	773.0	763.0	10	9/21/2019
B-83	Downgradient	Overburden	1390735.5	2202695.6	776.98	777.1	48.6	738.5	728.5	10	9/30/2019
B-88	Downgradient	Overburden	1394401.1	2203738.3	820.07	817.0	72	755.0	745.0	10	11/15/2019
B-92	Downgradient	Overburden	1394392.7	2203026.7	785.08	785.3	24.6	770.7	760.7	10	12/11/2019
B-93	Downgradient	Overburden	1394348.7	2202946.7	789.07	789.2	28.9	770.3	760.3	10	12/12/2019
B-97	Downgradient	Overburden/Upper Bedrock	1394430.0	2203008.3	786.29	786.6	31	765.3	755.3	10	2/11/2020
B-98	Downgradient	Overburden	1394392.5	2202934.0	789.67	789.8	19.4	780.8	770.8	10	2/10/2020
B-100	Downgradient	Overburden	1390254.8	2202242.1	777.95	775.3	44.8	740.5	730.5	10	7/8/2020
B-101D	Downgradient	Overburden/Upper Bedrock	1394063.6	2204168.2	824.29	821.2	75.00	756.3	746.3	10	11/12/2020
B-102D	Downgradient	Upper Bedrock	1393828.4	2204200.4	823.42	820.6	85.00	746.2	736.2	10	11/10/2020
B-104D	Downgradient	Upper Bedrock	1391318.3	2202298.5	787.90	785.3	60.00	735.3	725.3	10	10/20/2020
B-106D	Downgradient	Upper Bedrock	1394327.1	2203869.2	826.21	823.5	80.00	754.1	744.1	10	11/13/2020
B-107D	Downgradient	Upper Bedrock	1392334.5	2202596.4	823.38	820.6	85.75	745.5	735.5	10	10/28/2020
B-108D	Downgradient	Upper Bedrock	1392156.1	2202312.5	821.13	818.4	80.00	749.4	739.4	10	10/27/2020
B-109D	Downgradient	Upper Bedrock	1393957.5	2202127.0	850.73	847.8	100.00	758.4	748.4	10	10/31/2020
B-111D	Downgradient	Upper Bedrock	1394303.4	2202956.4	791.87	789.1	85.00	714.9	704.9	10	11/3/2020
B-115D	Downgradient	Upper Bedrock	1391265.3	2202580.7	789.17	786.4	80	717.2	707.2	10	3/20/2021
B-120D	Downgradient	Upper Bedrock	1394047.2	2202436.4	836.42	834.0	70	775.0	765.0	10	3/6/2021

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PIEZOMETERS											
B-3	Downgradient	Overburden/Upper Bedrock	1394045.1	2202411.5	837.78	835.0	37.0	808.3	798.3	10	10/3/2012
B-6	Downgradient	Overburden	1394419.5	2203266.5	789.47	786.5	35.4	761.5	751.5	10	10/9/2012
B-7	Downgradient	Overburden	1394374.6	2203596.1	809.16	806.1	25.2	791.3	781.3	10	10/9/2012
B-16	Downgradient	Overburden	1392595.1	2203315.4	826.47	823.6	43.7	790.2	780.2	10	12/19/2012
B-18	Downgradient	Overburden	1392521.0	2202875.5	826.56	823.9	32.6	801.5	791.5	10	1/10/2013
B-24	Downgradient	Upper Bedrock	1392479.9	2201450.0	822.11	819.3	79.1	751.0	741.0	10	10/24/2012
B-25	Downgradient	Upper Bedrock	1392813.3	2201502.7	836.54	833.5	54.8	789.1	779.1	10	10/24/2012
B-26	Downgradient	Upper Bedrock	1393105.6	2201550.4	853.60	850.6	49.3	811.7	801.7	10	10/23/2012
B-28	Downgradient	Overburden/Upper Bedrock	1391967.4	2201679.2	816.08	813.3	69.4	754.3	744.3	10	10/31/2012
B-29	Downgradient	Overburden	1391890.0	2201422.0	816.43	813.5	54.4	769.4	759.4	10	1/11/2013
B-31	Downgradient	Upper Bedrock	1392034.3	2200928.5	797.47	794.9	45.1	760.2	750.2	10	1/22/2013
B-41	Downgradient	Overburden	1390920.8	2201751.9	795.20	792.4	60.0	743.0	733.0	10	11/14/2012
B-50	Downgradient	Overburden	1391657.1	2201841.0	809.67	809.2	36.0	784.4	774.4	10	6/24/2016
B-51	Downgradient	Overburden	1390501.2	2200906.5	765.92	763.3	65.0	708.3	698.3	10	6/27/2016
B-52	Downgradient	Overburden	1392308.3	2201314.8	822.89	820.3	50.0	781.4	771.4	10	9/28/2016
B-54	Downgradient	Overburden/Upper Bedrock	1394423.5	2203140.7	785.46	782.6	34.2	758.8	748.8	10	9/26/2016
B-55	Downgradient	Overburden	1394142.6	2204147.9	825.12	822.9	52.0	781.9	771.9	10	9/22/2016
B-56	Downgradient	Overburden	1393957.9	2204187.8	823.59	821.0	45.0	786.4	776.4	10	10/3/2016
B-57	Downgradient	Upper Bedrock	1391396.3	2202736.9	789.04	786.0	50.5	746.0	736.0	10	9/24/2016
B-58	Downgradient	Overburden	1391125.7	2202426.5	788.17	785.2	45.0	750.7	740.7	10	9/23/2016
B-59	Downgradient	Overburden/Upper Bedrock	1394349.1	2203001.1	788.00	785.5	30.3	765.3	755.3	10	9/23/2016
B-60	Downgradient	Overburden	1391100.7	2202881.6	782.13	779.2	49.8	739.9	729.9	10	9/29/2016
B-61	Downgradient	Overburden	1390957.8	2202505.8	782.09	779.0	51.9	737.5	727.5	10	9/29/2016
B-62	Downgradient	Upper Bedrock	1389828.1	2201811.2	760.08	760.4	39.9	730.7	720.7	10	10/4/2016

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Georgia Power Company - Plant McDonough
Atlanta, Georgia

Well-ID	Hydraulic Location	Screened Media	NAD 83 Northing	NAD 83 Easting	Top of Casing Elevation (feet NAVD 88)	Ground Surface Elevation (feet NAVD 88)	Total Well Depth (feet bgs)	Top of Screen Elevation (feet NAVD 88)	Bottom of Screen Elevation (feet NAVD 88)	Screen Length (feet)	Date of Installation
PIEZOMETERS											
B-64	Downgradient	Overburden	1394381.9	2203031.3	785.83	786.1	30.4	766.1	756.1	10	11/2/2016
B-65	Downgradient	Overburden/Upper Bedrock	1394381.2	2204050.8	821.95	822.3	45.4	787.9	777.9	10	11/15/2016
B-68	Downgradient	Overburden	1391298.2	2200714.2	758.68	759.0	18.0	751.0	741.0	10	3/16/2017
B-72	Downgradient	Overburden	1391242.2	2200723.9	758.85	758.09	21.9	746.6	736.6	10	4/19/2017
B-73	Downgradient	Overburden	1391352.4	2200697.5	759.46	758.85	15.8	753.5	743.5	10	4/19/2017
B-74	Downgradient	Overburden	1391279.8	2200665.3	759.44	758.96	16.5	748.2	743.2	5	4/25/2017
B-78	Downgradient	Overburden/Upper Bedrock	1394328.2	2202958.2	790.75	788.0	30	768.0	758.5	10	9/22/2019
B-79	Downgradient	Overburden	1394458.6	2203223.0	788.66	785.9	34.93	761.0	751.5	10	9/21/2019
B-80	Downgradient	Overburden	1394372.6	2203533.9	804.47	801.8	30	782.0	772.5	10	9/20/2019
B-81	Downgradient	Overburden	1394364.9	2203741.1	820.56	817.7	50	778.5	768.5	10	9/22/2019
B-84	Downgradient	Overburden	1390411.9	2202241.9	776.34	776.6	49.1	737.5	727.5	10	10/1/2019
B-85	Downgradient	Overburden/Upper Bedrock	1394433.4	2203134.5	782.54	782.7	34.5	758.5	748.5	10	11/18/2019
B-86	Downgradient	Overburden/Upper Bedrock	1394480.0	2203206.6	784.29	784.6	34.1	760.5	750.5	10	11/18/2019
B-87	Downgradient	Overburden	1394401.9	2203531.3	803.37	800.4	42	768.7	758.7	10	11/17/2019
B-89	Downgradient	Upper Bedrock	1394398.4	2204049.4	822.36	822.6	49.5	783.1	773.1	10	11/19/2019
B-90	Downgradient	Overburden	1394501.0	2203212.6	784.00	784.2	33.4	760.8	750.8	10	12/10/2019
B-91	Downgradient	Overburden	1394447.1	2203123.9	782.98	783.1	34.6	758.5	748.5	10	12/11/2019
B-94	Downgradient	Overburden	1394402.0	2203513.7	801.74	799.2	45.24	764.6	754.6	10	1/23/2020
B-95	Downgradient	Overburden	1394518.6	2203167.7	784.00	784.3	33.3	761.3	751.3	10	2/11/2020
B-96	Downgradient	Overburden	1394478.7	2203099.3	784.92	785.3	33.1	762.2	752.2	10	2/10/2020
B-99	Downgradient	Overburden	1394524.2	2203084.5	782.39	782.6	12.3	775.3	770.3	5	7/7/2020
B-103D	Downgradient	Upper Bedrock	1391543.5	2202614.4	795.96	793.8	70.00	733.8	723.8	10	10/15/2020

TABLE 1
SUMMARY OF MONITORING WELL, ASSESSMENT WELL AND PIEZOMETER CONSTRUCTION
Georgia Power Company - Plant McDonough
Atlanta, Georgia

Well-ID	Hydraulic Location	Screened Media	NAD 83 Northing	NAD 83 Easting	Top of Casing Elevation (feet NAVD 88)	Ground Surface Elevation (feet NAVD 88)	Total Well Depth (feet bgs)	Top of Screen Elevation (feet NAVD 88)	Bottom of Screen Elevation (feet NAVD 88)	Screen Length (feet)	Date of Installation
PIEZOMETERS											
B-110D	Downgradient	Upper Bedrock	1391294.4	2200736.0	764.61	764.7	65.00	711.7	701.7	10	11/17/2020
B-116D	Upgradient	Upper Bedrock	1390483.7	2200611.0	807.82	805.3	90	726.1	716.1	10	3/8/2021
B-117D	Upgradient	Upper Bedrock	1393963.8	2201727.3	863.82	861.2	75	796.5	786.5	10	3/17/2021
B-118	Upgradient	Upper Bedrock	1391219.3	2200449.7	807.70	805.0	75	740.2	730.2	10	3/9/2021
B-119D	Upgradient	Upper Bedrock	1391236.4	2200446.6	807.15	804.5	105	709.8	699.8	10	3/16/2021

Notes:

1. bgs = below ground surface

2. DGWC-68 and DGWA-70 are not used as monitoring well due to well replacement and modifications to the proposed well network. DGWA-70 was abandoned 5/1/2017.

2. Coordinate System: NAD 1983 State Plane Georgia West (U.S. feet)

3. NAD - North American Datum; NAVD - North American Vertical Datum

TABLE 2
GROUNDWATER SAMPLING EVENT SUMMARY
Georgia Power Company - Plant McDonough Ash Pond 1
Atlanta, Georgia

Well ID	Hydraulic Location	Summary of Sampling Events			Status of Monitoring Well
		August 2020	September 2020	March 2021	
Purpose of Sampling Event		Annual Appendix IV Assessment	Detection/ Assessment	Detection/ Assessment	
ASH POND 1 (AP-1) MONITORING WELL NETWORK					
DGWA-53	Upgradient	X	X	X	Assessment
DGWA-70A	Upgradient	X	X	X	Assessment
DGWA-71	Upgradient	X	X	X	Assessment
DGWC-37	Downgradient	X	X	X	Assessment
DGWC-38	Downgradient	X	X	X	Assessment
DGWC-39	Downgradient	X	X	X	Assessment
DGWC-40	Downgradient	X	X	X	Assessment
DGWC-67	Downgradient	X	X	X	Assessment
DGWC-68A	Downgradient	X	X	X	Assessment
DGWC-69	Downgradient	X	X	X	Assessment
ASH POND 1 (AP-1) ASSESSMENT MONITORING WELL NETWORK					
B-62	Downgradient	X	X	X	Assessment
B-100	Downgradient	X	X	X	Assessment
B-105D	Downgradient	X	X	X	Assessment
B-112D	Downgradient	X	X	X	Assessment
B-113D	Downgradient	X	X	X	Assessment

TABLE 3
SUMMARY OF GROUNDWATER ELEVATIONS
Georgia Power Company - Plant McDonough
Atlanta, Georgia

Well ID	Top of Casing Elevation (feet)	Groundwater Elevation (feet)		
		8/10/2020	9/21/2020	2/25/2021
ASH POND 1 (AP-1) MONITORING WELLS				
DGWA-53	844.26	829.41	830.68	830.64
DGWA-70A	808.52	768.95	762.11	769.85
DGWA-71	863.84	835.74	835.26	836.52
DGWC-37	766.21	752.13	752.92	752.94
DGWC-38	757.43	750.97	751.54	751.50
DGWC-39	759.89	751.21	752.88	753.22
DGWC-40	779.06	760.12	761.56	762.56
DGWC-67	766.70	756.40	757.31	757.18
DGWC-68A	765.33	755.00	755.53	755.45
DGWC-69	763.75	757.37	758.01	758.26
ASH POND 2 and ASH PONDS 3/4 (AP-2, 3/4) MONITORING WELLS				
DGWA-53	844.26	829.41	830.68	830.64
DGWA-70A	808.52	768.95	762.11	769.85
DGWA-71	863.84	835.74	835.26	836.52
DGWC-2	850.88	820.86	820.53	820.80
DGWC-4	814.85	791.48	791.43	791.90
DGWC-5	791.75	782.15	782.85	779.74
DGWC-8	826.38	793.33	793.57	792.07
DGWC-9	824.35	799.07	800.14	795.21
DGWC-10	823.55	791.09	793.53	796.18
DGWC-11	800.57	783.81	786.33	789.25
DGWC-12	773.86	763.51	765.13	765.16
DGWC-13	794.10	760.55	761.87	759.96
DGWC-14	792.40	771.30	771.31	772.54
DGWC-15	824.50	785.05	784.94	785.02
DGWC-17	837.05	804.92	804.51	804.28
DGWC-19	825.46	801.16	801.20	801.18
DGWC-20	822.14	798.00	799.24	800.57
DGWC-21	816.28	796.96	798.78	800.73
DGWC-22	816.59	796.03	796.29	797.81
DGWC-23	818.37	797.89	798.92	800.82
DGWC-42	804.68	772.46	769.51	775.11
DGWC-47	797.45	777.61	780.49	781.11
DGWC-48	788.33	771.83	772.89	774.58

TABLE 3
SUMMARY OF GROUNDWATER ELEVATIONS
Georgia Power Company - Plant McDonough
Atlanta, Georgia

Well ID	Top of Casing Elevation (feet)	Groundwater Elevation (feet)		
		8/10/2020	9/21/2020	2/25/2021
PIEZOMETERS				
B-3	837.78	803.08	802.55	802.64
B-6	789.47	783.87	784.14	780.84
B-7	809.16	787.35	786.75	809.16
B-16	826.47	795.42	795.25	795.53
B-18	826.56	804.91	804.71	805.28
B-24	822.11	803.11	802.87	805.30
B-25	836.54	818.43	821.53	823.32
B-26	853.60	826.64	825.55	829.40
B-28	816.08	786.05	786.95	788.96
B-29	816.43	788.57	788.90	791.34
B-31	797.47	763.94	764.01	764.60
B-41	795.20	768.70	769.91	770.92
B-50	809.67	781.58	784.77	788.27
B-51	765.92	752.66	753.37	753.46
B-52	822.89	796.63	795.34	797.86
B-54	785.46	779.52	779.86	777.08
B-55	825.12	802.40	804.99	802.49
B-56	823.59	794.43	795.39	796.43
B-57	789.04	769.93	770.02	771.66
B-58	788.17	767.77	767.76	769.72
B-59	788.00	780.39	780.72	775.67
B-60	782.13	750.42	751.22	752.32
B-61	782.09	761.75	762.24	764.34
B-62	760.08	742.48	743.11	745.66
B-63	777.10	747.56	749.12	749.80
B-64	785.83	779.70	780.14	776.49
B-65	821.95	803.50	803.40	821.95
B-66	815.90	793.69	796.72	798.33
B-68	758.68	754.72	755.19	755.14
B-72	758.46	755.04	754.83	755.35
B-73	759.21	754.72	755.26	755.21
B-74	759.06	754.90	754.68	755.39
B-76	760.53	745.42	745.11	746.06
B-77	776.86	746.42	748.68	748.96
B-78	790.75	780.25	780.84	778.67
B-79	788.66	781.84	782.14	780.49

TABLE 3
SUMMARY OF GROUNDWATER ELEVATIONS
Georgia Power Company - Plant McDonough
Atlanta, Georgia

Well ID	Top of Casing Elevation (feet)	Groundwater Elevation (feet)		
		8/10/2020	9/21/2020	2/25/2021
PIEZOMETERS				
B-80	804.47	787.10	786.62	786.13
B-81	820.56	788.63	787.86	782.41
B-82	810.07	790.70	794.12	796.22
B-83	776.98	744.88	745.99	747.35
B-84	776.34	741.33	743.85	746.63
B-85	782.54	779.54	775.63	777.76
B-86	784.29	782.34	777.24	781.22
B-87	803.37	786.87	786.57	785.95
B-88	820.07	787.50	786.77	782.04
B-89	822.36	799.35	799.26	822.36
B-90	784.00	781.14	782.44	781.36
B-91	782.98	779.29	779.60	778.00
B-92	785.08	779.78	780.32	777.95
B-93	789.07	781.35	782.55	779.89
B-94	801.74	786.71	786.49	785.79
B-95	784.00	781.58	781.89	781.45
B-96	784.92	779.37	779.82	778.30
B-97	786.29	780.26	781.29	781.03
B-98	789.67	780.52	782.01	782.39
B-99	782.39	778.57	778.97	779.06
B-100	777.95	742.31	742.78	744.87
B-101D	824.29	--	--	793.26
B-102D	823.42	--	--	792.80
B-103D	795.96	--	--	783.50
B-104D	787.90	--	--	781.64
B-105D	779.01	--	--	762.82
B-106D	826.21	--	--	790.54
B-107D	823.38	--	--	801.98
B-108D	821.13	--	--	801.03
B-109D	850.73	--	--	812.13
B-110D	764.61	--	--	756.55
B-111D	791.87	--	--	781.12

Notes:

1. Elevation data recorded in feet North American Vertical Datum (NAVD)
2. N/A = Not Applicable
3. -- = Not yet constructed
4. Survey data for monitoring wells and piezometers provided by Metro Engineering.

TABLE 4A
GROUNDWATER VELOCITY CALCULATIONS - AUGUST 2020
Georgia Power Company - Plant McDonough
Atlanta, Georgia

Flow Paths	Groundwater Elevation (feet msl)	Δ h (feet)[1]	Δ l (feet)[2]	Hydraulic Gradient (Δ h/Δ l)[3]	Average Hydraulic Conductivity, K (centimeter per second)[5]	Assumed Effective Porosity (n_e)[6]	Average Linear Groundwater Velocity	
							(feet per day)[4]	(feet per year)[4]
ASH POND 1 (AP-1)								
B-29/DGWC-68A	788.57	33.57	900	0.037	0.00077	0.2	0.41	149
	755.00							
B-28/DGWC-37	786.05	33.92	1700	0.020	0.00077	0.2	0.22	79
	752.13							
B-50/DGWC-39	781.58	30.37	1400	0.022	0.00077	0.2	0.24	86
	751.21							

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 based on historic aquifer performance tests
6. Assumed effective porosities for overburden was based on the default values recommended by USEPA for a silty sand-type soil (1996). Assumed effective porosity for upper bedrock was derived from Daniel and Dahlen (2002) and Dowd and Marshall (1995).

TABLE 4B
GROUNDWATER VELOCITY CALCULATIONS - SEPTEMBER 2020
Georgia Power Company - Plant McDonough
Atlanta, Georgia

Flow Paths	Groundwater Elevation (feet msl)	Δ h (feet)[1]	Δ l (feet)[2]	Hydraulic Gradient (Δ h/Δ l)[3]	Average Hydraulic Conductivity, K (centimeter per second)[5]	Assumed Effective Porosity (n_e)[6]	Average Linear Groundwater Velocity	
							(feet per day)[4]	(feet per year)[4]
ASH POND 1 (AP-1)								
B-29/DGWC-68A	788.90	33.37	900	0.037	0.00077	0.2	0.40	148
	755.53							
B-28/DGWC-37	786.95	34.03	1700	0.020	0.00077	0.2	0.22	80
	752.92							
B-50/DGWC-39	784.77	31.89	1400	0.023	0.00077	0.2	0.25	91
	752.88							

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 based on historic aquifer performance tests
6. Assumed effective porosities for overburden was based on the default values recommended by USEPA for a silty sand-type soil (1996). Assumed effective porosity for upper bedrock was derived from Daniel and Dahlen (2002) and Dowd and Marshall (1995).

TABLE 4C
GROUNDWATER VELOCITY CALCULATIONS - FEBRUARY 2021
Georgia Power Company - Plant McDonough
Atlanta, Georgia

Flow Paths	Groundwater Elevation (feet msl)	Δ h (feet)[1]	Δ l (feet)[2]	Hydraulic Gradient (Δ h/Δ l)[3]	Average Hydraulic Conductivity, K (centimeter per second)[5]	Assumed Effective Porosity (n_e)[6]	Average Linear Groundwater Velocity	
							(feet per day)[4]	(feet per year)[4]
ASH POND 1 (AP-1)								
B-29/DGWC-68A	791.34	35.89	900	0.040	0.00077	0.2	0.44	159
	755.45							
B-28/DGWC-37	788.96	36.02	1700	0.021	0.00077	0.2	0.23	84
	752.94							
B-50/DGWC-39	788.27	35.05	1400	0.025	0.00077	0.2	0.27	100
	753.22							

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 based on historic aquifer performance tests
6. Assumed effective porosities for overburden was based on the default values recommended by USEPA for a silty sand-type soil (1996). Assumed effective porosity for upper bedrock was derived from Daniel and Dahlen (2002) and Dowd and Marshall (1995).

TABLE 5A
ANALYTICAL DATA SUMMARY
Ash Pond 1 - August 2020
Georgia Power Company - Plant McDonough
Atlanta, Georgia

Analyte	Units	Well ID									
		DGWA-53	DGWA-70A	DGWA-71	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A	DGWC-69
		8/13/2020	8/11/2020	8/11/2020	8/13/2020	8/13/2020	8/13/2020	8/13/2020	8/13/2020	8/13/2020	8/13/2020
Appendix III											
BORON, TOTAL	mg/L	--	--	--	--	--	--	--	--	--	--
CALCIUM, TOTAL	mg/L	--	--	--	--	--	--	--	--	--	--
CHLORIDE, TOTAL	mg/L	--	--	--	--	--	--	--	--	--	--
FLUORIDE, TOTAL	mg/L	0.062 J	<0.050	<0.050	0.068 J	0.060 J	0.076 J	0.16	<0.050	0.076 J	0.084 J
pH	S.U.	6.17	5.86	5.96	6.34	6.05	6.39	4.65	6.28	6.63	6.26
SULFATE, TOTAL	mg/L	--	--	--	--	--	--	--	--	--	--
TOTAL DISSOLVED SOLIDS	mg/L	--	--	--	--	--	--	--	--	--	--
Appendix IV											
ANTIMONY, TOTAL	mg/L	0.00030 J	0.0013 J	0.0018 J	<0.00028	<0.00028	<0.00028	<0.00028	<0.00028	<0.00028	0.0019 J
ARSENIC, TOTAL	mg/L	<0.00078	<0.00078	<0.00078	<0.00078	<0.00078	<0.00078	<0.00078	<0.00078	<0.00078	0.029
BARIUM, TOTAL	mg/L	0.046	0.041	0.026	0.088	0.032	0.089	0.018	0.095	0.088	0.13
BERYLLIUM, TOTAL	mg/L	<0.000046	0.00013 J	0.00011 J	0.00010 J	<0.000046	<0.000046	0.0033	<0.000046	<0.000046	0.000063 J
CADMIUM, TOTAL	mg/L	<0.00012	<0.00012	<0.00012	<0.00012	0.00021 J	<0.00012	0.00084 J	0.00015 J	0.00021 J	<0.00012
CHROMIUM, TOTAL	mg/L	<0.00055	0.0016 J	0.00060 J	0.00058 J	<0.00055	<0.00055	0.00072 J	<0.00055	<0.00055	<0.00055
COBALT, TOTAL	mg/L	0.0051	0.0012 J	<0.00038	<0.00038	0.0014 J	0.0060	0.044	0.0015 J	<0.00038	<0.00038
FLUORIDE, TOTAL	mg/L	0.062 J	<0.050	<0.050	0.068 J	0.060 J	0.076 J	0.16	<0.050	0.076 J	0.084 J
LEAD, TOTAL	mg/L	<0.000036	0.00030 J	<0.000036	<0.000036	<0.000036	<0.000036	0.000049 J	0.000056 J	<0.000036	0.000059 J
LITHIUM, TOTAL	mg/L	0.0085 J	0.0019 J	0.0015 J	0.0023 J	0.0028 J	<0.00081	0.0022 J	0.0044 J	<0.00081	0.0031 J
MERCURY, TOTAL	mg/L	<0.000078	<0.000078	<0.000078	<0.000078	<0.000078	<0.000078	<0.000078	<0.000078	<0.000078	<0.000078
MOLYBDENUM, TOTAL	mg/L	0.012	<0.00069	<0.00069	<0.00069	0.00098 J	<0.00069	<0.00069	<0.00069	0.19	0.011
RADIUM (226 + 228)	pCi/L	1.04	0.812 U	0.965 U	0.990	0.132 U	0.626 U	1.60	0.897 U	1.46	2.66
SELENIUM, TOTAL	mg/L	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	0.0018 J	<0.0016	<0.0016	<0.0016
THALLIUM, TOTAL	mg/L	<0.00014	<0.00014	<0.00014	<0.00014	0.00016 J	<0.00014	<0.00014	<0.00014	<0.00014	<0.00014

Notes:

1. mg/L - Milligrams per Liter; pCi/L - picocuries per Liter; S.U. - Standard Units
2. < indicates the substance was not detected above the analytical method detection limit (MDL). The value displayed is the method detection limit.
3. J indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed is qualified by the laboratory as an estimated number.
4. Radium data are a combination of radium isotopes 226 and 228. When results are reported below the MDC (Minimum Detectable Concentration), data is displayed with an accompanying U. The MDC varies depending upon the sample amount and elapsed time of the measurement.
5. Not Sampled - Sample not analyzed for this constituent.

TABLE 5B
ANALYTICAL DATA SUMMARY
Ash Pond 1 - September 2020
Georgia Power Company - Plant McDonough
Atlanta, Georgia

Analyte	Units	Well ID									
		DGWA-53	DGWA-70A	DGWA-71	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A	DGWC-69
		9/22/2020	9/22/2020	9/22/2020	9/24/2020	9/24/2020	9/25/2020	9/23/2020	9/23/2020	9/23/2020	9/23/2020
Appendix III											
BORON, TOTAL	mg/L	0.056 J	< 0.0052	< 0.0052	1.6	2.9	3.3	0.76	3.2	1.7	0.041 J
CALCIUM, TOTAL	mg/L	15.5	5.0	5.4	55.9	84.1	92.5	41.9	42.0	50.2	8.0
CHLORIDE, TOTAL	mg/L	1.6	1.9	5.2	5.6	8.2	7.9	19.7	7.1	3.6	4.7
FLUORIDE, TOTAL	mg/L	0.099 J	< 0.050	< 0.050	0.061 J	0.057 J	0.086 J	0.054 J	< 0.050	0.070 J	0.064 J
pH	S.U.	6.43	6.01	6.06	6.30	6.05	6.38	4.78	6.23	6.60	6.08
SULFATE, TOTAL	mg/L	13.5	< 0.50	6.5	84.1	240	153	190	99.8	38.7	5.9
TOTAL DISSOLVED SOLIDS	mg/L	142	46.0	74.0	280	489	460	357	296	251	102
Appendix IV											
ANTIMONY, TOTAL	mg/L	< 0.00028	< 0.00028	< 0.00028	< 0.00028	< 0.00028	< 0.00028	< 0.00028	< 0.00028	< 0.00028	< 0.00028
ARSENIC, TOTAL	mg/L	0.00093 J	< 0.00078	< 0.00078	< 0.00078	< 0.00078	0.00087 J	< 0.00078	< 0.00078	< 0.00078	0.032
BARIUM, TOTAL	mg/L	0.070	0.038	0.024	0.094	0.032	0.10	0.019	0.10	0.094	0.055
BERYLLIUM, TOTAL	mg/L	< 0.000046	0.000068 J	0.000069 J	0.000088 J	0.000058 J	< 0.000046	0.0031	< 0.000046	< 0.000046	0.000061 J
CADMIUM, TOTAL	mg/L	< 0.00012	< 0.00012	< 0.00012	0.00027 J	0.00081 J	< 0.00012	0.00080 J	0.00018 J	0.00024 J	< 0.00012
CHROMIUM, TOTAL	mg/L	< 0.00055	0.00089 J	< 0.00055	< 0.00055	< 0.00055	< 0.00055	0.0011 J	< 0.00055	< 0.00055	0.0011 J
COBALT, TOTAL	mg/L	0.011	< 0.00038	< 0.00038	< 0.00038	0.0013 J	0.0061	0.046	0.0011 J	< 0.00038	< 0.00038
FLUORIDE, TOTAL	mg/L	0.099 J	< 0.050	< 0.050	0.061 J	0.057 J	0.086 J	0.054 J	< 0.050	0.070 J	0.064 J
LEAD, TOTAL	mg/L	< 0.000036	0.000078 J	< 0.000036	< 0.000036	0.00014 J	0.00022 J	0.00028 J	< 0.000036	0.00035 J	0.00017 J
LITHIUM, TOTAL	mg/L	0.0089 J	< 0.00081	0.0012 J	0.0021 J	0.0029 J	< 0.00081	0.0022 J	0.0043 J	< 0.00081	0.0023 J
MERCURY, TOTAL	mg/L	< 0.000078	< 0.000078	< 0.000078	0.000091 J	0.000085 J	< 0.000078	< 0.000078	< 0.000078	< 0.000078	< 0.000078
MOLYBDENUM, TOTAL	mg/L	0.039	< 0.00069	< 0.00069	< 0.00069	0.0010 J	< 0.00069	< 0.00069	< 0.00069	0.20	0.0056 J
RADIUM (226 + 228)	pCi/L	2.27	0.450 U	0.216 U	1.03 U	0.593 U	0.181 U	1.28 U	0.131 U	0.563 U	1.80
SELENIUM, TOTAL	mg/L	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	0.0067 J	< 0.0016	< 0.0016	< 0.0016
THALLIUM, TOTAL	mg/L	< 0.00014	< 0.00014	< 0.00014	< 0.00014	0.00015 J	< 0.00014	< 0.00014	< 0.00014	< 0.00014	< 0.00014

Notes:

1. mg/L - Milligrams per Liter; pCi/L - picocuries per Liter; S.U. - Standard Units
2. < indicates the substance was not detected above the analytical method detection limit (MDL). The value displayed is the method detection limit.
3. J indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed is qualified by the laboratory as an estimated number.
4. Radium data are a combination of radium isotopes 226 and 228. When results are reported below the MDC (Minimum Detectable Concentration), data is displayed with an accompanying U. The MDC varies depending upon the sample amount and elapsed time of the measurement.

TABLE 5C
ANALYTICAL DATA SUMMARY
Ash Pond 1 - March 2021
Georgia Power Company - Plant McDonough
Atlanta, Georgia

Analyte	Units	Well ID									
		DGWA-53	DGWA-70A	DGWA-71	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A	DGWC-69
		3/12/2021	3/1/2021	3/1/2021	3/11/2021	3/11/2021	3/11/2021	3/8/2021	3/11/2021	3/10/2021	3/10/2021
Appendix III											
BORON, TOTAL	mg/L	0.064	< 0.0052	0.0054 J	1.4	2.7	2.5	0.72	3.4	1.7	0.024 J
CALCIUM, TOTAL	mg/L	18.4	4.1	5.9	56.0	85.8	91.9	44.9	45.4	54.2	8.5
CHLORIDE, TOTAL	mg/L	2.0	1.9	3.9	5.6	8.0	7.7	19.1	7.4	3.6	5.0
FLUORIDE, TOTAL	mg/L	0.076 J	< 0.050	< 0.050	0.057 J	0.058 J	0.083 J	0.17	< 0.050	0.070 J	0.055 J
pH	S.U.	6.38	5.43	5.80	6.49	6.22	6.66	4.79	6.28	6.74	6.13
SULFATE, TOTAL	mg/L	8.8	< 0.50	5.2	81.9	154	123	191	76.7	38.4	6.4
TOTAL DISSOLVED SOLIDS	mg/L	124	25.0	62.0	255	463	440	346	265	232	78.0
Appendix IV											
ANTIMONY, TOTAL	mg/L	< 0.00028	< 0.00028	0.0019 J	< 0.00028	< 0.00028	< 0.00028	0.00033 J	< 0.00028	0.00032 J	0.0018 J
ARSENIC, TOTAL	mg/L	< 0.00078	< 0.00078	< 0.00078	< 0.00078	< 0.00078	< 0.00078	< 0.00078	0.00080 J	< 0.00078	0.028
BARIUM, TOTAL	mg/L	0.076	0.042	0.028	0.075	0.032	0.078	0.016	0.11	0.090	0.048
BERYLLIUM, TOTAL	mg/L	< 0.000046	0.00012 J	0.00011 J	< 0.000046	< 0.000046	< 0.000046	0.0030	< 0.000046	0.000061 J	0.000050 J
CADMIUM, TOTAL	mg/L	< 0.00012	< 0.00012	< 0.00012	< 0.00012	< 0.00012	< 0.00012	0.00072	0.00053	< 0.00012	< 0.00012
CHROMIUM, TOTAL	mg/L	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	0.00060 J	0.0014 J	< 0.00055	0.00090 J
COBALT, TOTAL	mg/L	0.0078	< 0.00038	< 0.00038	< 0.00038	0.0017 J	0.0058	0.039	0.0016 J	< 0.00038	< 0.00038
FLUORIDE, TOTAL	mg/L	0.076 J	< 0.050	< 0.050	0.057 J	0.058 J	0.083 J	0.17	< 0.050	0.070 J	0.055 J
LEAD, TOTAL	mg/L	< 0.000036	< 0.000036	< 0.000036	< 0.000036	0.00014 J	< 0.000036	0.000054 J	0.00025 J	0.000067 J	0.00010 J
LITHIUM, TOTAL	mg/L	0.0083 J	< 0.00081	0.0012 J	0.0024 J	0.0030 J	< 0.00081	0.0022 J	0.0050 J	< 0.00081	0.0023 J
MERCURY, TOTAL	mg/L	--	--	--	--	--	--	--	--	--	--
MOLYBDENUM, TOTAL	mg/L	0.018	< 0.00069	< 0.00069	< 0.00069	0.00092 J	< 0.00069	< 0.00069	< 0.00069	0.20	0.0056 J
RADIUM (226 + 228)	pCi/L	1.63	0.552 U	0.389 U	0.956 U	0.0784 U	0.969 U	0.714 U	1.55	0.568 U	1.60
SELENIUM, TOTAL	mg/L	< 0.0016	< 0.0016	< 0.0016	< 0.0016	0.0019 J	< 0.0016	0.0023 J	0.0027 J	0.0017 J	< 0.0016
THALLIUM, TOTAL	mg/L	< 0.00014	< 0.00014	< 0.00014	< 0.00014	< 0.00014	< 0.00014	< 0.00014	< 0.00014	< 0.00014	< 0.00014

Notes:
1. mg/L - milligrams per Liter
2. pCi/L - picocuries per Liter
3. S.U. - Standard Units
4. < indicates the substance was not detected above the analytical method detection limit (MDL). The value displayed is the method detection limit.
5. J indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed is qualified by the laboratory as an estimated number.
6. Radium data are a combination of radium isotopes 226 and 228. When results are reported below the MDC (Minimum Detectable Concentration), data is displayed with an accompanying U. The MDC varies depending upon the sample amount and elapsed time of the measurement.
7. -- Each of these Appendix IV constituents were not detected during the August 2020 monitoring event and therefore are not required to be analyzed.

TABLE 5D
ADDITIONAL SAMPLING ANALYTICAL DATA SUMMARY
Ash Pond 1 - August 2020
Georgia Power Company - Plant McDonough
Atlanta, Georgia

Analyte	UNITS	Well ID		
		B-62	B-74	B-100
		8/13/2020	8/14/2020	8/17/2020
Appendix III				
BORON, TOTAL	mg/L	--	--	--
CALCIUM, TOTAL	mg/L	--	--	--
CHLORIDE, TOTAL	mg/L	--	--	--
FLUORIDE, TOTAL	mg/L	0.11	0.16	<0.050
pH	S.U.	6.40	6.19	5.02
SULFATE, TOTAL	mg/L	--	--	--
TOTAL DISSOLVED SOLIDS	mg/L	--	--	--
Appendix IV				
ANTIMONY, TOTAL	mg/L	<0.00028	<0.00028	0.0013 J
ARSENIC, TOTAL	mg/L	<0.00078	0.010	<0.00078
BARIUM, TOTAL	mg/L	0.026	0.077	0.015
BERYLLIUM, TOTAL	mg/L	0.00011 J	0.000076 J	0.00040 J
CADMIUM, TOTAL	mg/L	<0.00012	0.00026 J	0.00059 J
CHROMIUM, TOTAL	mg/L	<0.00055	<0.00055	<0.00055
COBALT, TOTAL	mg/L	<0.00038	0.0023 J	0.077
FLUORIDE, TOTAL	mg/L	0.11	0.16	<0.050
LEAD, TOTAL	mg/L	<0.000036	<0.000036	0.000088 J
LITHIUM, TOTAL	mg/L	0.0087 J	0.0011 J	0.0013 J
MERCURY, TOTAL	mg/L	<0.000078	<0.000078	0.00011 J
MOLYBDENUM, TOTAL	mg/L	<0.00069	0.052	<0.00069
RADIUM (226 + 228)	pCi/L	1.63	1.67	1.40 U
SELENIUM, TOTAL	mg/L	<0.0016	<0.0016	<0.0016
THALLIUM, TOTAL	mg/L	<0.00014	<0.00014	<0.00014

Notes:

1. mg/L - Milligrams per Liter; pCi/L - picocuries per Liter; S.U. - Standard Units

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

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

4. Radium data are a combination of radium isotopes 226 and 228. When results are reported below the MDC (Minimum Detectable Concentration), data is displayed with an accompanying U. The MDC varies depending upon the sample amount and elapsed time of the measurement.

5. Not Sampled - Sample not analyzed for this constituent.

TABLE 5E
ADDITIONAL SAMPLING ANALYTICAL DATA SUMMARY
Ash Pond 1 - September 2020
Georgia Power Company - Plant McDonough
Atlanta, Georgia

Analyte	Units	Well ID		
		B-62	B-74	B-100
		9/24/2020	9/25/2020	9/25/2020
Appendix III				
BORON, TOTAL	mg/L	0.074 J	0.30	0.27
CALCIUM, TOTAL	mg/L	28.8	18.6	44.7
CHLORIDE, TOTAL	mg/L	5.7	6.0	13.2
FLUORIDE, TOTAL	mg/L	0.093 J	0.14	< 0.050
pH	S.U.	6.55	6.16	5.53
SULFATE, TOTAL	mg/L	50.6	20.1	385
TOTAL DISSOLVED SOLIDS	mg/L	170	134	724
Appendix IV				
ANTIMONY, TOTAL	mg/L	0.00046 J	< 0.00028	< 0.00028
ARSENIC, TOTAL	mg/L	< 0.00078	0.012	< 0.00078
BARIUM, TOTAL	mg/L	0.025	0.066	0.022
BERYLLIUM, TOTAL	mg/L	0.00013 J	0.000097 J	0.00035 J
CADMIUM, TOTAL	mg/L	< 0.00012	0.00017 J	0.00027 J
CHROMIUM, TOTAL	mg/L	< 0.00055	< 0.00055	0.00094 J
COBALT, TOTAL	mg/L	< 0.00038	0.0028 J	0.034
FLUORIDE, TOTAL	mg/L	0.093 J	0.14	< 0.050
LEAD, TOTAL	mg/L	< 0.000036	0.000041 J	0.00021 J
LITHIUM, TOTAL	mg/L	0.0084 J	0.0014 J	0.0027 J
MERCURY, TOTAL	mg/L	< 0.000078	< 0.000078	< 0.000078
MOLYBDENUM, TOTAL	mg/L	< 0.00069	0.049	< 0.00069
RADIUM (226 + 228)	pCi/L	1.28 U	1.29 U	0.799 U
SELENIUM, TOTAL	mg/L	< 0.0016	< 0.0016	< 0.0016
THALLIUM, TOTAL	mg/L	< 0.00014	< 0.00014	< 0.00014

Notes:

1. mg/L - Milligrams per Liter; pCi/L - picocuries per Liter; S.U. - Standard Units

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

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

4. Radium data are a combination of radium isotopes 226 and 228. When results are reported below the MDC (Minimum Detectable Concentration), data is displayed with an accompanying U. The MDC varies depending upon the sample amount and elapsed time of the measurement.

TABLE 5F
ADDITIONAL SAMPLING ANALYTICAL DATA SUMMARY
Ash Pond 1 - March and April 2021
Georgia Power Company - Plant McDonough
Atlanta, Georgia

Analyte	Units	Well ID									
		B-62	B-100	B-105D	B-110D	B-112D	B-113D	B-116D	B-117D	B-118	B-119D
		3/12/2021	3/8/2021	3/8/2021	3/16/2021	4/15/2021	4/16/2021	4/13/2021	4/14/2021	4/13/2021	4/13/2021
Appendix III											
BORON, TOTAL	mg/L	0.092 J	0.24	0.64	0.28	0.26	0.16	< 0.0052	< 0.0052	< 0.0052	0.039 J
CALCIUM, TOTAL	mg/L	28.8	47.7	79.6	49.9	34.6	47.2	10.6	9.8	6.5	20.5
CHLORIDE, TOTAL	mg/L	5.9	12.9	17.4	2.0	10.0	6.7	3.2	4.9	5.2	9.9
FLUORIDE, TOTAL	mg/L	0.11	< 0.050	0.32	0.76	0.30	0.71	< 0.050	0.056 J	0.055 J	0.12
pH	S.U.	6.34	5.32	6.37	7.53	6.83	7.77	6.06	6.06	6.02	6.64
SULFATE, TOTAL	mg/L	46.5	388	228	51.4	95.6	46.5	1.3	11.7	7.0	82.2
TOTAL DISSOLVED SOLIDS	mg/L	172	660	477	194	289	229	96.0	115	89.0	229
Appendix IV											
ANTIMONY, TOTAL	mg/L	< 0.0014	0.0017 J	0.00069 J	< 0.00028	0.00041 J	0.0021 J	< 0.00028	< 0.00028	< 0.00028	< 0.00028
ARSENIC, TOTAL	mg/L	< 0.0039	< 0.00078	0.0025 J	0.0036 J	0.00078 J	< 0.00078	0.0012 J	0.0015 J	0.00094 J	0.0019 J
BARIUM, TOTAL	mg/L	0.027	0.022	0.041	0.0061	0.026	0.0032 J	0.020	0.048	0.032	0.0087
BERYLLIUM, TOTAL	mg/L	< 0.00023	0.00046 J	< 0.000046	< 0.000046	< 0.000046	< 0.000046	< 0.000046	< 0.000046	< 0.000046	< 0.000046
CADMIUM, TOTAL	mg/L	< 0.00059	0.00027 J	< 0.00012	< 0.00012	< 0.00012	0.00019 J	< 0.00012	< 0.00012	< 0.00012	< 0.00012
CHROMIUM, TOTAL	mg/L	< 0.0028	0.00057 J	< 0.00055	< 0.00055	0.00085 J	0.0011 J	< 0.00055	< 0.00055	0.00059 J	< 0.00055
COBALT, TOTAL	mg/L	< 0.0019	0.029	0.0042 J	0.00083 J	0.0025 J	< 0.00038	< 0.00038	0.00079 J	0.00090 J	0.0015 J
FLUORIDE, TOTAL	mg/L	0.11	< 0.050	0.32	0.76	0.30	0.71	< 0.050	0.056 J	0.055 J	0.12
LEAD, TOTAL	mg/L	< 0.00018	0.00018 J	< 0.000036	< 0.000036	0.00014 J	0.00014 J	< 0.000036	< 0.000036	0.00012 J	< 0.000036
LITHIUM, TOTAL	mg/L	0.0087 J	0.0024 J	0.015 J	0.013 J	0.0045 J	0.013 J	0.0066 J	0.013 J	0.0019 J	0.0045 J
MERCURY, TOTAL	mg/L	--	--	--	--	< 0.000078	< 0.000078	0.00018 J	< 0.000078	< 0.000078	< 0.000078
MOLYBDENUM, TOTAL	mg/L	< 0.0034	< 0.00069	0.0011 J	0.076	0.037	0.078	< 0.00069	0.00081 J	0.0056 J	0.027
RADIUM (226 + 228)	pCi/L	1.18 U	0.168 U	1.87	1.26	0.945 U	0.852 U	0.505 U	1.20	0.948 U	0.904 U
SELENIUM, TOTAL	mg/L	< 0.0078	0.0019 J	< 0.0016	0.0016 J	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016
THALLIUM, TOTAL	mg/L	< 0.00072	< 0.00014	< 0.00014	< 0.00014	< 0.00014	< 0.00014	< 0.00014	< 0.00014	< 0.00014	< 0.00014

Notes:

1. mg/L = Milligrams per Liter; pCi/L = picocuries per Liter; S.U. = Standard Units; -- = Sample not analyzed for this constituent.

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

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

4. Radium data are a combination of radium isotopes 226 and 228. When results are reported below the MDC (Minimum Detectable Concentration), data is displayed with an accompanying U. The MDC varies depending upon the sample amount and elapsed time of the measurement.

TABLE 5G
SURFACE WATER ANALYTICAL DATA SUMMARY
Ash Pond 1 - November 2020
Georgia Power Company - Plant McDonough
Atlanta, Georgia

Analyte	Units	SURFACE WATER SAMPLES									
		UT01_DS	UT01_US	UT02	CR+0.4	CR+0.2	Dewatering Upstream	Dewatering Downstream	CR-0.2	CR-0.5	CR-0.8
		11/10/2020	11/10/2020	11/10/2020	11/10/2020	11/10/2020	11/10/2020	11/10/2020	11/10/2020	11/10/2020	11/10/2020
Appendix III											
Calcium	mg/L	22.3	21.3	21.9	-	-	-	-	-	-	-
Chloride	mg/L	11.5	12.0	11.7	-	-	-	-	-	-	-
Fluoride	mg/L	0.18	0.18	0.18	-	-	-	-	-	-	-
pH	S.U.	7.18	7.30	7.31	7.35	7.42	6.90	7.03	7.82	7.40	7.62
Sulfate	mg/L	20.5	16.1	16.5	-	-	-	-	-	-	-
Total Dissolved Solids	mg/L	145	132	127	-	-	-	-	-	-	-
Appendix IV											
Beryllium	mg/L	-	-	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050
Cobalt	mg/L	-	-	-	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Molybdenum	mg/L	<0.010	<0.010	<0.010	-	-	-	-	-	-	-
Major Ions											
Alkalinity, Total as CaCO3	mg/L	68.8	68.8	67.9	-	-	-	-	-	-	-
Alkalinity,Bicarbonate (CaCO3)	mg/L	68.8	68.8	67.9	-	-	-	-	-	-	-
Magnesium	mg/L	4.8	4.2	4.4	2.0	2.0	2.0	2.0	2.1	2.0	2.0
Potassium	mg/L	3.9	3.8	4.2	2.6	2.5	2.7	2.6	2.6	2.8	2.6
Sodium	mg/L	13.9	14.2	14.4	5.4	5.5	5.5	5.6	5.9	5.7	5.6

Notes:

S.U. = Standard Units; mg/L = miligrams per liter

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

"--" = analysis was not performed

TABLE 5H
SURFACE WATER ANALYTICAL DATA SUMMARY
Ash Pond1 - February 2021
Georgia Power Company - Plant McDonough
Atlanta, Georgia

Analyte	Units	SURFACE WATER SAMPLES											
		UT01_DS	UT01_US	UT02	UT03	CR+0.4	CR+0.2	CR-0.1	Dewatering Downstream	Dewatering Upstream	CR-0.2	CR-0.5	CR-0.8
		2/2/2021	2/2/2021	2/2/2021	2/2/2021	2/2/2021	2/2/2021	2/2/2021	2/2/2021	2/2/2021	2/2/2021	2/2/2021	2/2/2021
Field Parameters													
Temperature	F	47.4	46.7	46.6	45.4	46.16	46.24	46.43	46.41	46.52	46.6	46.75	46.98
pH	S.U.	7.19	7.07	7.05	7.01	7.65	7.57	7.78	7.70	7.51	7.48	7.46	7.15
ORP	mV	110.4	144.3	147.3	143.9	-4.80	-3.40	-8.10	-11.0	-9.80	-19.3	-20.8	-21.3
Dissolved Oxygen	mg/L	10.60	11.82	11.90	11.17	13.02	13.08	12.92	14.72	12.87	13.00	13.05	13.97
Turbidity	NTU	5.96	4.05	4.19	4.6	14.2	13.7	16.0	11.8	12.3	14.0	14.4	14.0
Specific Conductance	mS/cm	0.252	0.187	0.190	0.189	0.080	0.080	0.083	0.079	0.079	0.079	0.078	0.080
Appendix III													
Boron	mg/L	0.11	0.046	0.063	0.069	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Calcium	mg/L	17.4	17.2	17.4	17.3	5.3	5.0	5.2	5.1	4.9	5.0	5.2	4.9
Chloride	mg/L	9.9	10.7	10.4	10.2	6.3	6.2	6.6	6.1	6.1	6.2	6.2	6.4
Fluoride	mg/L	0.17	0.22	0.17	0.17	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sulfate	mg/L	16.5	14.5	15.5	15.4	4.5	4.4	4.8	4.3	4.3	4.3	4.3	4.5
Total Dissolved Solids	mg/L	100	97	99	98	27	41	25	30	29	38	31	30
Appendix IV													
Arsenic	ug/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Beryllium	mg/L	--	--	--	--	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt	mg/L	--	--	--	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Molybdenum	mg/L	<0.00069	<0.00069	<0.00069	<0.00069	<0.00069	<0.00069	<0.00069	<0.00069	<0.00069	<0.00069	<0.00069	<0.00069
Major Ions													
Alkalinity, Total as CaCO3	mg/L	55.1	53.5	54.7	54.3	20.5	20.4	20.7	16.7	20.1	17.2	17	17
Alkalinity,Bicarbonate (CaCO3)	mg/L	55.1	53.5	54.7	54.3	20.5	20.4	20.7	16.7	20.1	17.2	17	17
Magnesium	mg/L	3.6	3.3	3.3	3.4	2.1	2.0	2.1	2.0	2.0	2.1	2.1	2.1
Potassium	mg/L	2.9	2.9	3	2.9	2.8	2.7	2.8	2.7	2.7	2.8	2.8	2.8
Sodium	mg/L	12.2	12.7	12.7	12.6	7.0	6.8	7.0	6.9	6.8	6.8	7.0	7.0

Notes:

F = Farenheit; S.U. = Standard Units; mV = Milivolts; mg/L = miligrams per liter; ug/L = micrograms per liter; mS/cm = Milisemens per centimeter; NTU = nephelometric turbidity unit

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

"--" = analysis was not performed

TABLE 5I
SURFACE WATER ANALYTICAL DATA SUMMARY
Ash Pond2 and 3/4 - March 2021
Georgia Power Company - Plant McDonough
Atlanta, Georgia

Analyte	Units	SURFACE WATER SAMPLES											
		UT01_DS	UT01_US	UT02	UT03	CR+0.4	CR+0.2	Dewatering Downstream	Dewatering Upstream	CR-0.1	CR-0.2	CR-0.5	CR-0.8
		3/9/2021	3/9/2021	3/9/2021	3/9/2021	3/9/2021	3/9/2021	3/9/2021	3/9/2021	3/9/2021	3/9/2021	3/9/2021	3/9/2021
Field Parameters													
pH	S.U.	7.4	7.3	7.0	7.3	7.4	7.3	7.3	7.1	7.2	7.0	7.0	7.1
Appendix III													
Boron	mg/L	0.064	<0.040	0.063	0.054	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Calcium	mg/L	12.2	14.1	13.2	12.7	4.7	5.2	5.1	5.4	5.3	5.2	5.5	5.0
Chloride	mg/L	10.4	11.2	10.7	10.4	7.0	6.4	6.2	6.4	6.5	6.6	6.7	6.3
Fluoride	mg/L	0.49	0.42	0.45	0.47	< 0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sulfate	mg/L	12.9	12.6	14.2	13.4	4.3	3.8	3.6	3.7	4.2	3.8	3.7	3.8
Total Dissolved Solids	mg/L	96.0	80.0	89.0	84.0	42.0	28.0	47.0	28.0	45.0	50.0	77.0	21.0
Appendix IV													
Arsenic	ug/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Beryllium	mg/L	--	--	--	--	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt	mg/L	--	--	--	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Molybdenum	mg/L	<0.010	<0.010	<0.010	<0.010	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Major Ions													
Alkalinity, Total as CaCO3	mg/L	32.2	40.0	34.9	33.3	17.7	17.3	17.4	17.4	17.2	17.6	17.0	17.2
Alkalinity,Bicarbonate (CaCO3)	mg/L	32.2	40.0	34.9	33.3	17.7	17.3	17.4	17.4	17.2	17.6	17.0	17.2
Magnesium	mg/L	2.8	2.9	2.8	2.8	2.2	2.2	2.1	2.2	2.1	2.0	2.1	2.1
Potassium	mg/L	2.8	2.8	2.7	2.7	2.6	2.7	2.6	2.7	2.7	2.7	2.7	2.6
Sodium	mg/L	10.5	11.7	10.9		6.5	6.7	6.4	6.8	6.6	6.6	6.9	6.5

Notes:

mg/L = miligrams per liter; ug/L - micrograms per liter; S. U. - Standard Units

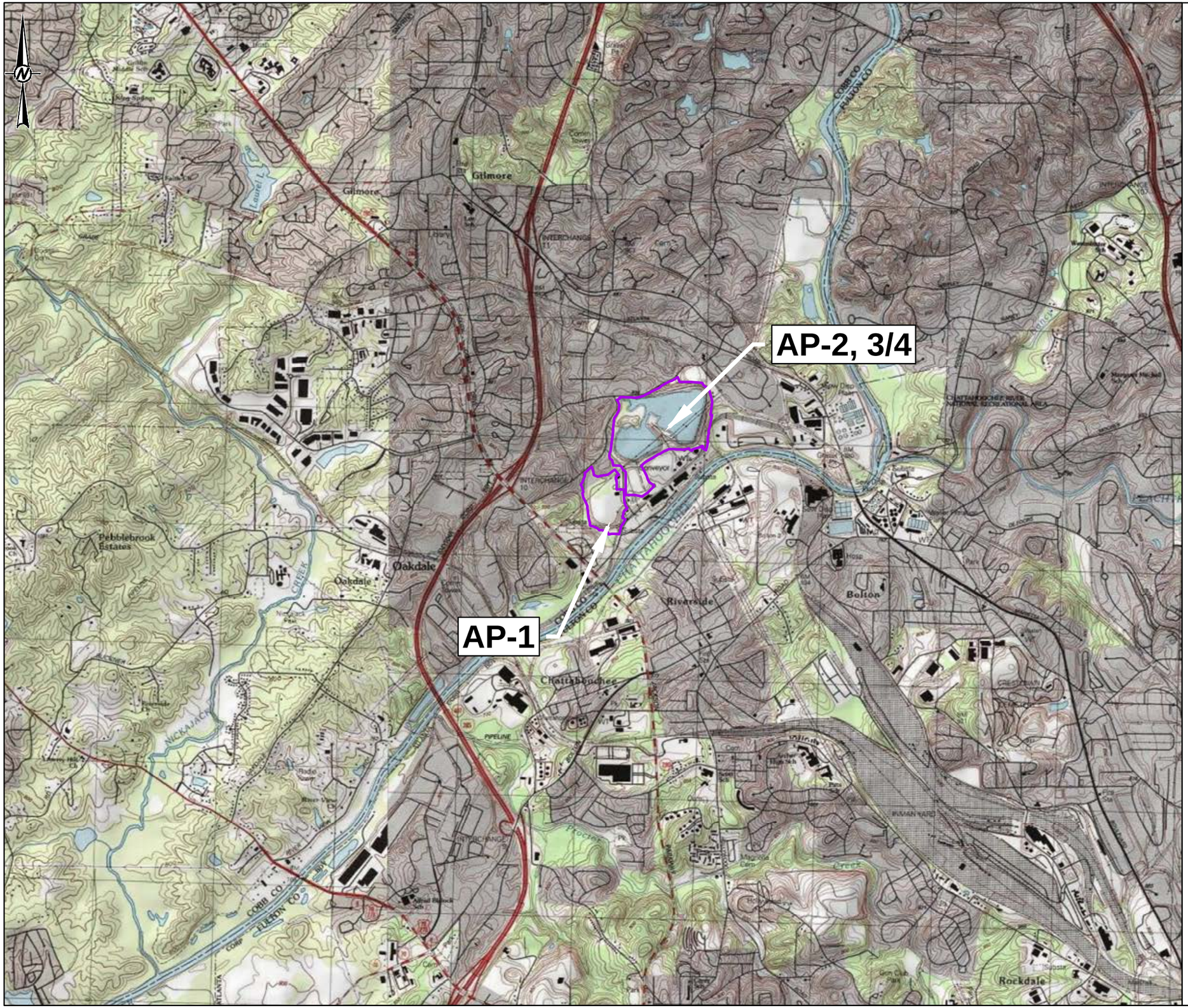
< indicates the substance was not detected above the analytical reporting limit (RL). The value displayed is the RL.

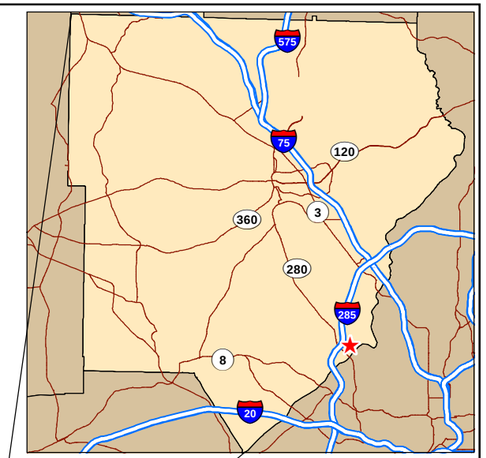
"--" = analysis was not performed

TABLE 6
SUMMARY OF BACKGROUND LEVELS AND GWPS
Georgia Power Company - Plant McDonough Ash Pond 1
Atlanta, Georgia

Analyte	Units	Maximum Contaminant Level (MCL)	Rule Specified Limit	Site Specific Background September 2020[1]	Site Specific Background March 2021[1]	Federal GWPS[2]	State GWPS[3]
Antimony	mg/L	0.006	--	0.003[4]	0.003[4]	0.006	0.006
Arsenic	mg/L	0.01	--	0.005[4]	0.005[4]	0.01	0.01
Barium	mg/L	2	--	0.19	0.19	2	2
Beryllium	mg/L	0.004	--	0.003[4]	0.0005 [4]	0.004	0.004
Cadmium	mg/L	0.005	--	0.0025[4]	0.0005[4]	0.005	0.005
Chromium	mg/L	0.1	--	0.01[4]	0.005[4]	0.1	0.1
Cobalt	mg/L	NA	0.006	0.032	0.032	0.032	0.032
Fluoride	mg/L	4	--	0.42	0.42	4	4
Lead	mg/L	NA	0.015	0.005[4]	0.001[4]	0.015	0.001
Lithium	mg/L	NA	0.04	0.03[4]	0.03[4]	0.04	0.03
Mercury	mg/L	0.002	--	0.0005[4]	0.0002[4]	0.002	0.002
Molybdenum	mg/L	NA	0.1	0.041	0.041	0.1	0.041
Radium (226 + 228)	pCi/L	5	--	5.92	6.4	6.4	6.4
Selenium	mg/L	0.05	--	0.01[4]	0.005[4]	0.05	0.05
Thallium	mg/L	0.002	--	0.001[4]	0.001[4]	0.002	0.002

Figures





REFERENCE

SERVICE LAYER CREDITS: COPYRIGHT:© 2013 NATIONAL GEOGRAPHIC SOCIETY, I-CUBED

0 0.5 1

1 INCH=0.5 MILES

CLIENT
GEORGIA POWER COMPANY PLANT MCDONOUGH-ATKINSON

Georgia Power

PROJECT
2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT-ASH POND 1

TITLE
SITE LOCATION MAP

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2019-1-31
PREPARED	SEB
DESIGN	SEB
CHECKED	DP
REVIEWED/APPROVED	RPK

PROJECT No. 166849618

Rev. 0

FIGURE 1

LEGEND

- AP-1 MONITORING WELL
- PIEZOMETER
- AP-2,3/4 MONITORING WELL
- UPGRADIENT WELL
- SURFACE WATER MONITORING LOCATION
- DEWATERING WELL
- STAFF GUAGE
- PROPERTY BOUNDARY
- PERMIT BOUNDARY

NOTES

1. ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE

REFERENCE

1. SERVICE LAYER CREDITS: AERIAL IMAGE DATED NOVEMBER 2019 FROM GOOGLE EARTH AND MARCH 09, 2021 FROM COOPER, BARNETTE & PAGE, INC. (CBP).

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

3. MONITORING WELL/PIEZOMETER LOCATIONS SURVEYED BY METRO ENGINEERING 08/10/2020.

0 600 1,200

1 IN= 600 FT

CLIENT
GEORGIA POWER COMPANY PLANT MCDONOUGH-ATKINSON

PROJECT
2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT-ASH POND 1

TITLE
MONITORING WELL, PIEZOMETER AND SURFACE WATER LOCATION MAP

CONSULTANT
GOLDER MEMBER OF WSP

YYYY-MM-DD	2021-02-03
PREPARED	DJC
DESIGN	DLP
CHECKED	DLP
REVIEWED/APPROVED	RPK

PROJECT No. 166849621
Rev. 0
FIGURE 2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET HAS BEEN MODIFIED FROM ANSI B

Path: C:\Jarvis\Golder Associates\166849\6_SCS Plant McDonough GW Cons Svcs GA - 800_Shapefile\MXD\Remedy Selection Work Plan\Figure 2 - Proposed Investigation Location Map.mxd

LEGEND

- PIEZOMETER
- AP-1 MONITORING WELL
- AP-2,3/4 MONITORING WELL
- UPGRADIENT WELL
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- GROUNDWATER SURFACE CONTOUR (FT NAVD)
- PERMIT BOUNDARY
- PROPERTY BOUNDARY

NOTES

1. ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
2. GROUNDWATER ELEVATION MEAUSREMENTS OBTAINED AUGUST 10, 2020 BY GOLDER ASSOCIATES.
3. GROUNDWATER ELEVATIONS DISPLAYED IN FEET REFERENCED TO NORTH AMERICAN VERTICAL DATUM (FT NAVD).
4. B-72 THROUGH B-74 WATER LEVELS NOT TAKEN DURING AUGUST 10TH, 2020 EVENT.

REFERENCE

1. AERIAL IMAGE DATED NOVEMBER 2018 FROM GOOGLE EARTH.
2. COORDINATE SYSTEM: NAD 1983 STATE PLANE GEORGIA WEST (U.S. FEET).
3. MONITORING WELL/PIEZOMETER LOCATIONS AND ELEVATIONS SURVEYED BY METRO ENGINEERING AND SURVEYING COMPANY IN AUGUST 2020

0 600 1,200

1 IN= 600 FT

CLIENT
GEORGIA POWER COMPANY PLANT MCDONOUGH-ATKINSON

Georgia Power

PROJECT
2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT-ASH POND 1

TITLE
SITE POTENTIOMETRIC MAP
AUGUST 10, 2020

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2020-08-10
PREPARED	SEB
DESIGN	SEB
CHECKED	BAS
REVIEWED/APPROVED	DLP

PROJECT No. 166849618
Rev. 0
FIGURE **3A**

Path: Q:\GIS\Southern Company\166849618-SCS-Plant McDonough\figures\SitePotentiometricMap_SEB_Aug2020_WL_10.4.mxd

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET HAS BEEN MODIFIED FROM: ANSI B

LEGEND

- PIEZOMETER
- AP-1 MONITORING WELL
- AP-2,3,4 MONITORING WELL
- UPGRADIENT WELL
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- GROUNDWATER SURFACE CONTOUR (FT NAVD)
- PERMIT BOUNDARY
- PROPERTY BOUNDARY

NOTES

1. ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
2. GROUNDWATER ELEVATION MEAUSREMENTS OBTAINED SEPTEMBER 21, 2020 BY GOLDER ASSOCIATES.
3. GROUNDWATER ELEVATIONS DISPLAYED IN FEET REFERENCED TO NORTH AMERICAN VERTICAL DATUM (FT NAVD).
4. B-72 THROUGH B-74 WATER LEVELS NOT TAKEN DURING SEPTEMBER 21ST, 2020 EVENT.

REFERENCE

1. AERIAL IMAGE DATED NOVEMBER 2018 FROM GOOGLE EARTH.
2. COORDINATE SYSTEM: NAD 1983 STATE PLANE GEORGIA WEST (U.S. FEET).
3. MONITORING WELL/PIEZOMETER LOCATIONS AND ELEVATIONS SURVEYED BY METRO ENGINEERING AND SURVEYING COMPANY IN AUGUST 2020.

0 600 1,200

1 IN= 600 FT

RACHEL P. KIRKMAN ★ GEORGIA REGISTERED PROFESSIONAL GEOLOGIST ★ PG001756 9-30-21

CLIENT
GEORGIA POWER COMPANY PLANT MCDONOUGH-ATKINSON

Georgia Power

PROJECT
2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT-ASH POND 1

TITLE
SITE POTENTIOMETRIC MAP
SEPTEMBER 21, 2020

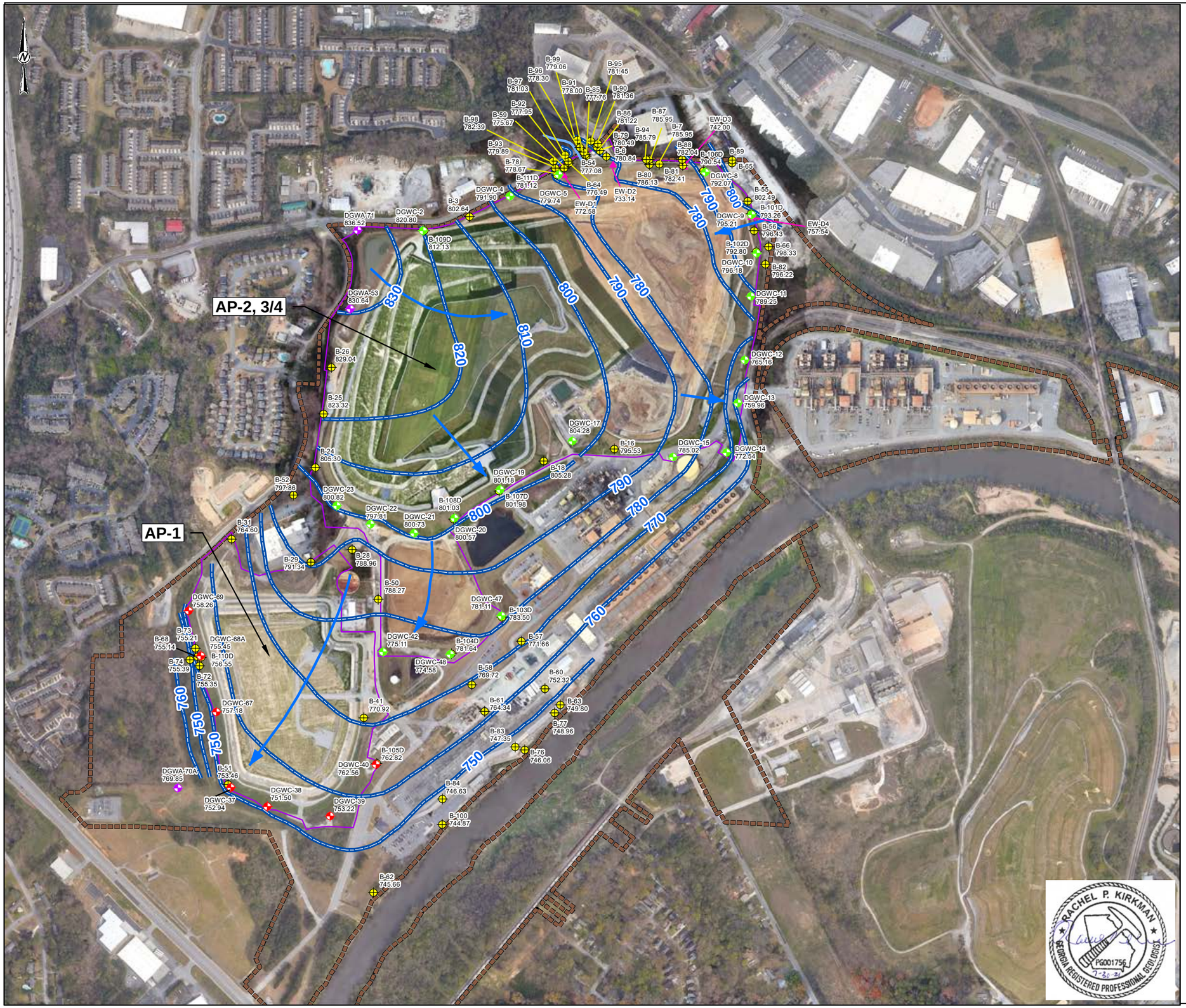
CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2020-09-21
PREPARED	SEB
DESIGN	SEB
CHECKED	BAS
REVIEWED/APPROVED	RPK

PROJECT No. 166849618
Rev. 0
FIGURE **3B**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET HAS BEEN MODIFIED FROM: ANSI B

Path: G:\GIS\Southern Company\166849618-SCS-Plant McDonough\Figures\SitePotentiometricMap_SEB_Sep02020_WL_10.4.mxd



LEGEND

- PIEZOMETER
- AP-1 MONITORING WELL
- AP-2,3/4 MONITORING WELL
- UPGRADIENT WELL
- DEWATERING WELL
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- GROUNDWATER SURFACE CONTOUR (FT-NAVD)
- SURFACE WATER STREAM
- PERMIT BOUNDARY
- PROPERTY BOUNDARY

NOTES

1. ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
2. GROUNDWATER ELEVATION MEAUSREMENTS OBTAINED FEBRUARY 25, 2021 BY GOLDER ASSOCIATES.
3. GROUNDWATER ELEVATIONS DISPLAYED IN FEET REFERENCED TO NORTH AMERICAN VERTICAL DATUM (FT NAVD).
4. WELLS THAT CONTAIN A "D" DESIGNATION FOLLOWING THE NUMBER ARE DEEP WELLS AND ELEVATIONS ARE NOT USED FOR CONTOURING.

REFERENCE

1. AERIAL IMAGE DATED NOVEMBER 2019 FROM GOOGLE EARTH AND MARCH 09, 2021 FROM COOPER, BARNETTE & PAGE, INC. (CBP).
2. COORDINATE SYSTEM: NAD 1983 STATE PLANE GEORGIA WEST (U.S. FEET).
3. MONITORING WELL/PIEZOMETER LOCATIONS AND ELEVATIONS SURVEYED BY METRO ENGINEERING AND SURVEYING COMPANY IN AUGUST 2020 WITH ADDITIONAL SURVEY PROVIDED IN JANUARY 2021 AND MAY 2021.

0 600 1,200

1 IN= 600 FT

CLIENT
GEORGIA POWER COMPANY PLANT MCDONOUGH-ATKINSON

PROJECT
2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT-ASH POND 1

TITLE
SITE POTENTIOMETRIC MAP
FEBRUARY 25, 2021

CONSULTANT
GOLDER MEMBER OF WSP

YYYY-MM-DD	2021-03-05
PREPARED	SEB
DESIGN	SEB
CHECKED	BAS
REVIEWED/APPROVED	RPK

PROJECT No. 166849621
Rev. 0
FIGURE 3C

RACHEL P. KIRKMAN ★ GEORGIA REGISTERED PROFESSIONAL GEOLOGIST ★ PG001756 3-30-21

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET HAS BEEN MODIFIED FROM ANSI B

APPENDIX A

Laboratory Analytical Data, Field Data Forms, Instrument Calibration Forms, Well Inspection Forms, Data Validation Summaries, and Laboratory Accreditation

APPENDIX A

Laboratory Analytical Data
August 2020

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

September 09, 2020

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

RE: Project: PLANT MCDONOUGH BACKGROUND
Pace Project No.: 92490488

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between August 12, 2020 and August 14, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

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

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

CERTIFICATIONS

Project: PLANT MCDONOUGH BACKGROUND
Pace Project No.: 92490488

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
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

Pace Analytical Services Peachtree Corners
110 Technology Pkwy, Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Virginia Certification #: 460204

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: PLANT MCDONOUGH BACKGROUND
Pace Project No.: 92490488

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92490488001	**DGWA-70A**	Water	08/11/20 11:37	08/12/20 08:57
92490488002	**DGWA-71**	Water	08/11/20 14:55	08/12/20 08:57
92490488003	**EB-1**	Water	08/11/20 12:50	08/12/20 08:57
92490488004	**DGWA-53**	Water	08/13/20 13:07	08/14/20 14:30

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

SAMPLE ANALYTE COUNT

Project: PLANT MCDONOUGH BACKGROUND
Pace Project No.: 92490488

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92490488001	**DGWA-70A**	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92490488002	**DGWA-71**	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92490488003	**EB-1**	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92490488004	**DGWA-53**	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte
PASI-GA = Pace Analytical Services - Peachtree Corners, GA
PASI-PA = Pace Analytical Services - Greensburg

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ANALYTICAL RESULTS

Project: PLANT MCDONOUGH BACKGROUND
Pace Project No.: 92490488

Sample: DGWA-70A **Lab ID: 92490488001** Collected: 08/11/20 11:37 Received: 08/12/20 08:57 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**5.86**	Std. Units			1		08/20/20 17:23		
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.0013J**	mg/L	0.0030	0.00028	1	08/13/20 10:10	08/17/20 18:33	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/13/20 10:10	08/17/20 18:33	7440-38-2	
Barium	**0.041**	mg/L	0.010	0.00071	1	08/13/20 10:10	08/17/20 18:33	7440-39-3	
Beryllium	**0.00013J**	mg/L	0.0030	0.000046	1	08/13/20 10:10	08/17/20 18:33	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/13/20 10:10	08/17/20 18:33	7440-43-9	
Chromium	**0.0016J**	mg/L	0.010	0.00055	1	08/13/20 10:10	08/17/20 18:33	7440-47-3	B
Cobalt	**0.0012J**	mg/L	0.0050	0.00038	1	08/13/20 10:10	08/17/20 18:33	7440-48-4	
Lead	**0.00030J**	mg/L	0.0050	0.000036	1	08/13/20 10:10	08/17/20 18:33	7439-92-1	
Lithium	**0.0019J**	mg/L	0.030	0.00081	1	08/13/20 10:10	08/17/20 18:33	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/13/20 10:10	08/17/20 18:33	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/13/20 10:10	08/17/20 18:33	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/13/20 10:10	08/17/20 18:33	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	08/14/20 08:10	08/14/20 13:26	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	ND	mg/L	0.10	0.050	1		08/13/20 23:59	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PLANT MCDONOUGH BACKGROUND
Pace Project No.: 92490488

Sample: DGWA-71 **Lab ID: 92490488002** Collected: 08/11/20 14:55 Received: 08/12/20 08:57 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**5.96**	Std. Units			1		08/20/20 17:23		
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.0018J**	mg/L	0.0030	0.00028	1	08/13/20 10:10	08/17/20 18:56	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/13/20 10:10	08/17/20 18:56	7440-38-2	
Barium	**0.026**	mg/L	0.010	0.00071	1	08/13/20 10:10	08/17/20 18:56	7440-39-3	
Beryllium	**0.00011J**	mg/L	0.0030	0.000046	1	08/13/20 10:10	08/17/20 18:56	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/13/20 10:10	08/17/20 18:56	7440-43-9	
Chromium	**0.00060J**	mg/L	0.010	0.00055	1	08/13/20 10:10	08/17/20 18:56	7440-47-3	B
Cobalt	ND	mg/L	0.0050	0.00038	1	08/13/20 10:10	08/17/20 18:56	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/13/20 10:10	08/17/20 18:56	7439-92-1	
Lithium	**0.0015J**	mg/L	0.030	0.00081	1	08/13/20 10:10	08/17/20 18:56	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/13/20 10:10	08/17/20 18:56	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/13/20 10:10	08/17/20 18:56	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/13/20 10:10	08/17/20 18:56	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	08/14/20 08:10	08/14/20 13:29	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	ND	mg/L	0.10	0.050	1		08/14/20 01:08	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PLANT MCDONOUGH BACKGROUND
Pace Project No.: 92490488

Sample: EB-1 **Lab ID: 92490488003** Collected: 08/11/20 12:50 Received: 08/12/20 08:57 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.00038J**	mg/L	0.0030	0.00028	1	08/13/20 10:10	08/17/20 19:13	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/13/20 10:10	08/17/20 19:13	7440-38-2	
Barium	ND	mg/L	0.010	0.00071	1	08/13/20 10:10	08/17/20 19:13	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/13/20 10:10	08/17/20 19:13	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/13/20 10:10	08/17/20 19:13	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/13/20 10:10	08/17/20 19:13	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/13/20 10:10	08/17/20 19:13	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/13/20 10:10	08/17/20 19:13	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/13/20 10:10	08/17/20 19:13	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/13/20 10:10	08/17/20 19:13	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/13/20 10:10	08/17/20 19:13	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/13/20 10:10	08/17/20 19:13	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	08/14/20 08:10	08/14/20 13:31	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	ND	mg/L	0.10	0.050	1		08/14/20 01:22	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PLANT MCDONOUGH BACKGROUND
Pace Project No.: 92490488

Sample: DGWA-53 **Lab ID: 92490488004** Collected: 08/13/20 13:07 Received: 08/14/20 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.17**	Std. Units			1		08/20/20 17:23		
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.00030J**	mg/L	0.0030	0.00028	1	08/18/20 18:30	08/19/20 18:37	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/18/20 18:30	08/19/20 18:37	7440-38-2	
Barium	**0.046**	mg/L	0.010	0.00071	1	08/18/20 18:30	08/19/20 18:37	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/18/20 18:30	08/19/20 18:37	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/18/20 18:30	08/19/20 18:37	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/18/20 18:30	08/19/20 18:37	7440-47-3	
Cobalt	**0.0051**	mg/L	0.0050	0.00038	1	08/18/20 18:30	08/19/20 18:37	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/18/20 18:30	08/19/20 18:37	7439-92-1	
Lithium	**0.0085J**	mg/L	0.030	0.00081	1	08/18/20 18:30	08/19/20 18:37	7439-93-2	
Molybdenum	**0.012**	mg/L	0.010	0.00069	1	08/18/20 18:30	08/19/20 18:37	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/18/20 18:30	08/19/20 18:37	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/18/20 18:30	08/19/20 18:37	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	08/18/20 12:00	08/19/20 11:13	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	**0.062J**	mg/L	0.10	0.050	1		08/18/20 19:53	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT MCDONOUGH BACKGROUND
Pace Project No.: 92490488

QC Batch: 559731
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92490488001, 92490488002, 92490488003

METHOD BLANK: 2969713 Matrix: Water
Associated Lab Samples: 92490488001, 92490488002, 92490488003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	08/17/20 18:05	
Arsenic	mg/L	ND	0.0050	0.00078	08/17/20 18:05	
Barium	mg/L	ND	0.010	0.00071	08/17/20 18:05	
Beryllium	mg/L	ND	0.0030	0.000046	08/17/20 18:05	
Cadmium	mg/L	ND	0.0025	0.00012	08/17/20 18:05	
Chromium	mg/L	0.00061J	0.010	0.00055	08/17/20 18:05	
Cobalt	mg/L	ND	0.0050	0.00038	08/17/20 18:05	
Lead	mg/L	ND	0.0050	0.000036	08/17/20 18:05	
Lithium	mg/L	ND	0.030	0.00081	08/17/20 18:05	
Molybdenum	mg/L	ND	0.010	0.00069	08/17/20 18:05	
Selenium	mg/L	ND	0.010	0.0016	08/17/20 18:05	
Thallium	mg/L	ND	0.0010	0.00014	08/17/20 18:05	

LABORATORY CONTROL SAMPLE: 2969714

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.11	110	80-120	
Arsenic	mg/L	0.1	0.099	99	80-120	
Barium	mg/L	0.1	0.10	103	80-120	
Beryllium	mg/L	0.1	0.11	106	80-120	
Cadmium	mg/L	0.1	0.098	98	80-120	
Chromium	mg/L	0.1	0.098	98	80-120	
Cobalt	mg/L	0.1	0.098	98	80-120	
Lead	mg/L	0.1	0.10	102	80-120	
Lithium	mg/L	0.1	0.11	106	80-120	
Molybdenum	mg/L	0.1	0.10	101	80-120	
Selenium	mg/L	0.1	0.097	97	80-120	
Thallium	mg/L	0.1	0.10	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2973381 2973382

Parameter	Units	92490488001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	0.0013J	0.1	0.1	0.11	0.11	110	105	75-125	4	20	
Arsenic	mg/L	ND	0.1	0.1	0.10	0.098	102	98	75-125	4	20	
Barium	mg/L	0.041	0.1	0.1	0.15	0.15	112	106	75-125	4	20	
Beryllium	mg/L	0.00013J	0.1	0.1	0.11	0.10	105	103	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT MCDONOUGH BACKGROUND
Pace Project No.: 92490488

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2973381 2973382

Parameter	Units	92490488001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	mg/L	ND	0.1	0.1	0.099	0.097	99	97	75-125	2	20	
Chromium	mg/L	0.0016J	0.1	0.1	0.10	0.096	102	95	75-125	7	20	
Cobalt	mg/L	0.0012J	0.1	0.1	0.10	0.097	101	96	75-125	5	20	
Lead	mg/L	0.00030J	0.1	0.1	0.11	0.10	106	101	75-125	5	20	
Lithium	mg/L	0.0019J	0.1	0.1	0.11	0.11	106	104	75-125	2	20	
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.098	102	98	75-125	4	20	
Selenium	mg/L	ND	0.1	0.1	0.097	0.095	96	95	75-125	1	20	
Thallium	mg/L	ND	0.1	0.1	0.10	0.10	105	102	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT MCDONOUGH BACKGROUND
Pace Project No.: 92490488

QC Batch: 560739
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92490488004

METHOD BLANK: 2974806 Matrix: Water
Associated Lab Samples: 92490488004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	08/19/20 17:51	
Arsenic	mg/L	ND	0.0050	0.00078	08/19/20 17:51	
Barium	mg/L	ND	0.010	0.00071	08/19/20 17:51	
Beryllium	mg/L	ND	0.0030	0.000046	08/19/20 17:51	
Cadmium	mg/L	ND	0.0025	0.00012	08/19/20 17:51	
Chromium	mg/L	ND	0.010	0.00055	08/19/20 17:51	
Cobalt	mg/L	ND	0.0050	0.00038	08/19/20 17:51	
Lead	mg/L	ND	0.0050	0.000036	08/19/20 17:51	
Lithium	mg/L	ND	0.030	0.00081	08/19/20 17:51	
Molybdenum	mg/L	ND	0.010	0.00069	08/19/20 17:51	
Selenium	mg/L	ND	0.010	0.0016	08/19/20 17:51	
Thallium	mg/L	ND	0.0010	0.00014	08/19/20 17:51	

LABORATORY CONTROL SAMPLE: 2974807

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.11	111	80-120	
Arsenic	mg/L	0.1	0.099	99	80-120	
Barium	mg/L	0.1	0.10	102	80-120	
Beryllium	mg/L	0.1	0.099	99	80-120	
Cadmium	mg/L	0.1	0.10	100	80-120	
Chromium	mg/L	0.1	0.10	103	80-120	
Cobalt	mg/L	0.1	0.10	101	80-120	
Lead	mg/L	0.1	0.10	100	80-120	
Lithium	mg/L	0.1	0.10	104	80-120	
Molybdenum	mg/L	0.1	0.11	106	80-120	
Selenium	mg/L	0.1	0.10	102	80-120	
Thallium	mg/L	0.1	0.099	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2974808 2974809

Parameter	Units	92490942006 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	114	109	75-125	5	20	
Arsenic	mg/L	ND	0.1	0.1	0.10	0.099	100	99	75-125	2	20	
Barium	mg/L	0.088	0.1	0.1	0.22	0.21	131	119	75-125	6	20	M1
Beryllium	mg/L	ND	0.1	0.1	0.099	0.096	99	96	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT MCDONOUGH BACKGROUND
Pace Project No.: 92490488

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2974808 2974809

Parameter	Units	92490942006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	mg/L	0.00021J	0.1	0.1	0.10	0.098	99	98	75-125	1	20	
Chromium	mg/L	ND	0.1	0.1	0.10	0.10	102	101	75-125	1	20	
Cobalt	mg/L	ND	0.1	0.1	0.099	0.098	99	98	75-125	1	20	
Lead	mg/L	ND	0.1	0.1	0.098	0.097	98	97	75-125	0	20	
Lithium	mg/L	ND	0.1	0.1	0.10	0.098	102	97	75-125	4	20	
Molybdenum	mg/L	0.19	0.1	0.1	0.31	0.29	122	105	75-125	5	20	
Selenium	mg/L	ND	0.1	0.1	0.10	0.093	99	92	75-125	7	20	
Thallium	mg/L	ND	0.1	0.1	0.097	0.096	97	96	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT MCDONOUGH BACKGROUND
Pace Project No.: 92490488

QC Batch: 559929
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92490488001, 92490488002, 92490488003

METHOD BLANK: 2971190 Matrix: Water
Associated Lab Samples: 92490488001, 92490488002, 92490488003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.000078	08/14/20 12:55	

LABORATORY CONTROL SAMPLE: 2971191

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0024	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2971192 2971193

Parameter	Units	92489844052 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	0.0025	0.0025	98	99	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT MCDONOUGH BACKGROUND
Pace Project No.: 92490488

QC Batch: 560630
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92490488004

METHOD BLANK: 2974336 Matrix: Water
Associated Lab Samples: 92490488004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.000078	08/19/20 10:06	

LABORATORY CONTROL SAMPLE: 2974337

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0024	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2974338 2974339

Parameter	Units	92490825001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	3.1 ug/L	0.0025	0.0025	0.0060	0.0058	118	111	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 MCDONOUGH BACKGROUND
Pace Project No.: 92490488

QC Batch: 559792
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92490488001, 92490488002, 92490488003

METHOD BLANK: 2970272 Matrix: Water
Associated Lab Samples: 92490488001, 92490488002, 92490488003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	0.050	08/13/20 23:31	

LABORATORY CONTROL SAMPLE: 2970273

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.5	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2970274 2970275

Parameter	Units	92490488001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	ND	2.5	2.5	2.7	2.6	106	104	90-110	2	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2970276 2970277

Parameter	Units	92490503008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	ND	2.5	2.5	2.6	2.4	102	98	90-110	4	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 MCDONOUGH BACKGROUND
Pace Project No.: 92490488

QC Batch: 560576
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92490488004

METHOD BLANK: 2974090 Matrix: Water
Associated Lab Samples: 92490488004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	0.050	08/18/20 13:07	

LABORATORY CONTROL SAMPLE: 2974091

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.5	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2974092 2974093

Parameter	Units	92490804001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.82	2.5	2.5	3.3	3.3	100	101	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2974094 2974095

Parameter	Units	92490867001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.37	2.5	2.5	3.0	3.1	107	107	90-110	1	10	

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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 MCDONOUGH BACKGROUND
Pace Project No.: 92490488

Sample: DGWA-70A **Lab ID: 92490488001** Collected: 08/11/20 11:37 Received: 08/12/20 08:57 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.178 ± 0.171 (0.324) C:89% T:NA**	pCi/L	08/24/20 07:35	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.634 ± 0.446 (0.869) C:64% T:88%**	pCi/L	08/27/20 11:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.812 ± 0.617 (1.19)**	pCi/L	09/04/20 08:28	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 MCDONOUGH BACKGROUND
Pace Project No.: 92490488

Sample: DGWA-71 **Lab ID: 92490488002** Collected: 08/11/20 14:55 Received: 08/12/20 08:57 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.217 ± 0.159 (0.256) C:94% T:NA**	pCi/L	08/24/20 07:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.748 ± 0.451 (0.847) C:69% T:85%**	pCi/L	08/27/20 11:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.965 ± 0.610 (1.10)**	pCi/L	09/04/20 08:28	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 MCDONOUGH BACKGROUND
Pace Project No.: 92490488

Sample: EB-1 **Lab ID: 92490488003** Collected: 08/11/20 12:50 Received: 08/12/20 08:57 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**-0.0219 ± 0.117 (0.336) C:88% T:NA**	pCi/L	08/24/20 07:36	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.168 ± 0.413 (0.918) C:66% T:83%**	pCi/L	08/27/20 11:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.168 ± 0.530 (1.25)**	pCi/L	09/04/20 08:38	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 MCDONOUGH BACKGROUND
Pace Project No.: 92490488

Sample: DGWA-53 **Lab ID: 92490488004** Collected: 08/13/20 13:07 Received: 08/14/20 14:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.706 ± 0.192 (0.183) C:81% T:NA**	pCi/L	08/31/20 19:25	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.337 ± 0.382 (0.798) C:61% T:83%**	pCi/L	09/08/20 11:52	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.04 ± 0.574 (0.981)**	pCi/L	09/09/20 08:53	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 MCDONOUGH BACKGROUND
Pace Project No.: 92490488

QC Batch: 411433
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92490488004

METHOD BLANK: 1990338 Matrix: Water
Associated Lab Samples: 92490488004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.527 ± 0.407 (0.796) C:61% T:86%	pCi/L	09/08/20 11:52	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: PLANT MCDONOUGH BACKGROUND
Pace Project No.: 92490488

QC Batch: 410124
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92490488001, 92490488002, 92490488003

METHOD BLANK: 1984702 Matrix: Water
Associated Lab Samples: 92490488001, 92490488002, 92490488003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.731 ± 0.425 (0.763) C:63% T:81%	pCi/L	08/27/20 11:50	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: PLANT MCDONOUGH BACKGROUND
Pace Project No.: 92490488

QC Batch: 410046
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92490488001, 92490488002, 92490488003

METHOD BLANK: 1984358 Matrix: Water
Associated Lab Samples: 92490488001, 92490488002, 92490488003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0476 ± 0.101 (0.237) C:93% T:NA	pCi/L	08/24/20 07:55	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: PLANT MCDONOUGH BACKGROUND
Pace Project No.: 92490488

QC Batch: 411372
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92490488004

METHOD BLANK: 1989991 Matrix: Water
Associated Lab Samples: 92490488004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0430 ± 0.0800 (0.185) C:87% T:NA	pCi/L	08/31/20 19:25	

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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 MCDONOUGH BACKGROUND
Pace Project No.: 92490488

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PLANT MCDONOUGH BACKGROUND
Pace Project No.: 92490488

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92490488001	**DGWA-70A**				
92490488002	**DGWA-71**				
92490488004	**DGWA-53**				
92490488001	**DGWA-70A**	EPA 3005A	559731	EPA 6020B	559753
92490488002	**DGWA-71**	EPA 3005A	559731	EPA 6020B	559753
92490488003	**EB-1**	EPA 3005A	559731	EPA 6020B	559753
92490488004	**DGWA-53**	EPA 3005A	560739	EPA 6020B	560802
92490488001	**DGWA-70A**	EPA 7470A	559929	EPA 7470A	559986
92490488002	**DGWA-71**	EPA 7470A	559929	EPA 7470A	559986
92490488003	**EB-1**	EPA 7470A	559929	EPA 7470A	559986
92490488004	**DGWA-53**	EPA 7470A	560630	EPA 7470A	560770
92490488001	**DGWA-70A**	EPA 9315	410046		
92490488002	**DGWA-71**	EPA 9315	410046		
92490488003	**EB-1**	EPA 9315	410046		
92490488004	**DGWA-53**	EPA 9315	411372		
92490488001	**DGWA-70A**	EPA 9320	410124		
92490488002	**DGWA-71**	EPA 9320	410124		
92490488003	**EB-1**	EPA 9320	410124		
92490488004	**DGWA-53**	EPA 9320	411433		
92490488001	**DGWA-70A**	Total Radium Calculation	412557		
92490488002	**DGWA-71**	Total Radium Calculation	412557		
92490488003	**EB-1**	Total Radium Calculation	412558		
92490488004	**DGWA-53**	Total Radium Calculation	413004		
92490488001	**DGWA-70A**	EPA 300.0 Rev 2.1 1993	559792		
92490488002	**DGWA-71**	EPA 300.0 Rev 2.1 1993	559792		
92490488003	**EB-1**	EPA 300.0 Rev 2.1 1993	559792		
92490488004	**DGWA-53**	EPA 300.0 Rev 2.1 1993	560576		

Pace Analytical

Sample Condition Upon Rec

Client Name: G.A Power

WO# : 92490488

92490488

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

Tracking #: _____

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

Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other _____

Thermometer Used 233

Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 1.8

Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 8/12/2008

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)

F-ALLC003rev.3, 11September2008

Pace Analytical	Document Name: Bottle Identification Form (BIF)	Document Issued: March 14, 2019 Page 1 of 1
	Document No.: F-CAR-CS-043-Rev.00	Issuing Authority: Pace Carolinas Quality Office

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg
**Bottom half of box is to list number of bottle

Project # **WO#: 92490488**

PM: KLH1 Due Date: 08/26/20
CLIENT: GA-GA Power

Matrix	Items	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SPST-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)
	1		—				1																		2		
	2		—				1																		2		
	3		—				1																		2		
	4																										
	5																										
	6																										
	7																										
	8																										
	9																										
	10																										
	11																										
	12																										

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

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 Off
Out of hold, incorrect preservative, out of temp, incorrect containers.

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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: Jinju Abraham	Attention: sclairmoore@southernco.com
Address: 2480 Maner Road Atlanta, GA 30339	Copy To: Golder	Company Name:
Email: jabraham@southernco.com	Purchase Order #:	Address:
Phone: (404) 506-7239 Fax:	Project Name: Plant McDonough Background	Pace Quote:
Requested Due Date:	Project #: 166849618	Pace Project Manager: Kevin Herring
		Pace Profile #:

Regulatory Agency

State / Location: GA

Requested Analysis Filtered (Y/N)

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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Analyses Test: App IV Metals*	Fluoride	Radium 226/228	Residual Chlorine (Y/N)	624904488
																Y/N	N	N	N	
1	DGWA-70A	WT	G	8/11/2020	1137		3	1		2						X	X	X		pH 5.86
2	DGWA-71	WT	G	8/11/2020	1455		3	1		2						X	X	X		pH 5.96
3	EB-1	WT	G	8/11/2020	1250		3	1		2						X	X	X		
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

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)
Acp IV metals = Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl		8/12	856	Pace	8/12	856				
	Pace	8/12	1436		8/12/20	1445	1.8	Y	N	Y

SAMPLER NAME AND SIGNATURE

SAMPLER NAME: Kevin Herring

SAMPLER SIGNATURE: [signature] DATE Signed: 8-12-20

Quality Control Sample Performance Assessment

Test: Ra-226
Analyst: JJY
Date: 8/21/2020
Worklist: 55563
Matrix: DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1634358
MB concentration:	0.046
MB Counting Uncertainty:	0.101
MB MDC:	0.237
MB Numerical Performance Indicator:	0.93
MB Status vs Numerical Indicator:	N/A
MB Status vs MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS55663	LCSD55663
Count Date:	8/24/2020	8/24/2020
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.945	24.945
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, Fl:	0.505	0.503
Target Conc. (pCi/L, g, Fl:	4.760	4.776
Uncertainty (Calculated):	0.057	0.057
Result (pCi/L, g, Fl:	4.133	5.003
LCS/LCSD Counting Uncertainty (pCi/L, g, Fl:	0.579	0.603
Numerical Performance Indicator:	-2.12	0.74
Percent Recovery:	86.81%	104.76%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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, Fl:		
MS Target Conc (pCi/L, g, Fl:		
MSD Aliquot (L, g, Fl:		
MSD Target Conc. (pCi/L, g, Fl:		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result Counting Uncertainty (pCi/L, g, Fl:		
Sample Matrix Spike Result:		
Matrix Spike Result Counting Uncertainty (pCi/L, g, Fl:		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, Fl:		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS55663	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD55663	
Sample Result (pCi/L, g, Fl:	4.133	
Sample Result Counting Uncertainty (pCi/L, g, Fl:	0.579	
Sample Duplicate Result (pCi/L, g, Fl:	5.003	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, Fl:	0.603	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-2.049	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	19.74%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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, Fl:	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, Fl:	
Duplicate Numerical Performance Indicator:	
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:	
MS/MSD Duplicate Status vs Numerical Indicator:	
MS/MSD Duplicate Status vs RPD:	
% RPD Limit:	

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

Comments:

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	JJY
Date:	8/21/2020
Worklist:	55663
Matrix:	OW

Method Blank Assessment	
MB Sample ID	1964358
MB concentration:	0.043
MB Counting Uncertainty:	0.101
MB MDC:	0.237
MB Numerical Performance Indicator:	0.53
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCS (Y or N)?	N
	LCS55663	LCSD55663
Count Date:	8/24/2020	
Spike ID:	19-823	
Decay Corrected Spike Concentration (pCi/mL):	24.045	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.505	
Target Conc. (pCi/L, g, F):	4.760	
Uncertainty (Calculated):	0.557	
Result (pCi/L, g, F):	4.133	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.579	
Numerical Performance Indicator:	-2.12	
Percent Recovery:	86.8%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

Sample Matrix Spike Control Assessment	MS-MSD 1	MS-MSD 2
Sample Collection Date:		
Sample I.C.:		
Sample MS I.C.:		
Sample MSD I.C.:		
Spike I.C.:		
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	92490603014	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.:	92490603014DUP	
Sample Result (pCi/L, g, F):	0.670	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.276	
Sample Duplicate Result (pCi/L, g, F):	0.731	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.286	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	0.729	92490603014
Duplicate RPD:	17.09%	92490603014DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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:		
% RPD Limit:		

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

Comments:

8/24/2020

Quality Control Sample Performance Assessment

Pace Analytical

Test: Ra-226
Analyst: LAL
Date: 8/31/2020
Worklist: 55836
Matrix: DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID:	1988961
MB concentration:	-0.043
MB Counting Uncertainty:	0.668
MB MDC:	0.186
MB Numerical Performance Indicator:	-1.08
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS55836	LCSD55835
Count Date:	9/1/2020	
Spike I.D.:	18-032	
Decay Corrected Spike Concentration (pCi/mL):	24.045	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.50	
Target Conc. (pCi/L, g, F):	4.798	
Uncertainty (Calculated):	0.058	
Result (pCi/L, g, F):	4.493	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.750	
Numerical Performance Indicator:	-0.73	
Percent Recovery:	93.65%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limit:	125%	
Lower % Recovery Limit:	75%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limit:		
MS/MSD Lower % Recovery Limit:		

Duplicate Sample Assessment		
Sample I.D.:	924905030020	Enter Duplicate
Duplicate Sample I.D:	924905030020DUP	sample IDs if
Sample Result (pCi/L, g, F):	0.717	other than
Sample Result Counting Uncertainty (pCi/L, g, F):	0.321	LCS/LCSD in
Sample Duplicate Result (pCi/L, g, F):	0.626	the space below
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.314	
Are sample and/or duplicate results below RL?:	See Below #*	
Duplicate Numerical Performance Indicator:	0.399	924905030020
Duplicate RPD:	13.51%	924905030020_P
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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:		
% RPD Limit:		

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

Comments:

vkm 9/1/2020

Quality Control Sample Performance Assessment

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	LAL
Date:	8/31/2020
Worklist:	55836
Matrix:	DW

Method Blank Assessment	
MB Sample ID:	1285291
MB concentration:	-0.043
MB Counting Uncertainty:	0.068
MB MDC:	0.135
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)?	Y
	LCS55836	LCSD55836
Count Date:	9/1/2020	9/1/2020
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.045	24.045
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, Fl):	0.501	0.500
Target Conc. (pCi/L, g, Fl):	4.798	4.808
Uncertainty (Calculated):	0.958	0.958
Result (pCi/L, g, Fl):	4.493	5.168
LCS/LCSD Counting Uncertainty (pCi/L, g, Fl):	0.750	0.855
Numerical Performance Indicator:	-0.79	0.52
Percent Recovery:	93.65%	107.49%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limit:	125%	125%
Lower % Recovery Limit:	75%	75%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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, Fl):		
MS Target Conc. (pCi/L, g, Fl):		
MSD Aliquot (L, g, Fl):		
MSD Target Conc. (pCi/L, g, Fl):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result Counting Uncertainty (pCi/L, g, Fl):		
Sample Matrix Spike Result:		
Matrix Spike Result Counting Uncertainty (pCi/L, g, Fl):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, Fl):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limit:		
MS/MSD Lower % Recovery Limit:		

Duplicate Sample Assessment		
Sample I.D.:	LCS55836	Enter Duplicate sample IDs if other than LCS/LCSD in the space below
Duplicate Sample I.D.:	LCSD55836	
Sample Result (pCi/L, g, Fl):	4.493	
Sample Result Counting Uncertainty (pCi/L, g, Fl):	0.750	
Sample Duplicate Result (pCi/L, g, Fl):	5.168	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, Fl):	0.855	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-1.163	924905030620
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	13.75%	924905030620DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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, Fl):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, Fl):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:		
MS/MSD Duplicate Status vs Numerical Indicator:		
MS/MSD Duplicate Status vs RPD:		
% RPD Limit:		

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

Comments:

LAM 9/1/2020

Quality Control Sample Performance Assessment

Pace Analytical

Test:	Ra-226
Analyst:	VAL
Date:	8/24/2020
Worklist:	55667
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID:	1954702
MB concentration:	0.731
MB 2 Sigma CSU:	0.425
MB MDC:	0.762
MB Numerical Performance Indicator:	2.37
MB Status vs Numerical Indicator:	Fail*
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCS (1 or N)?	Y
	LCS55667	LCSD55667
Count Date:	8/27/2020	8/27/2020
Spike ID.:	20-030	20-030
Decay Corrected Spike Concentration (pCi/mL):	38.637	38.637
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.926	0.926
Target Conc. (pCi/L, g, F):	4.772	4.900
Uncertainty (Calculated):	0.234	0.235
Result (pCi/L, g, F):	6.454	5.781
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.448	1.295
Numerical Performance Indicator:	2.25	1.45
Percent Recovery:	135.21%	120.42%
Status vs Numerical Indicator:	Warning	N/A
Status vs Recovery:	Fail High**	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:		
Sample ID:		
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):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS55667	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD55667	
Sample Result (pCi/L, g, F):	6.454	
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.448	
Sample Duplicate Result (pCi/L, g, F):	5.781	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.295	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	0.678	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	11.57%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	35%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:		
MS/MSD Duplicate Status vs Numerical Indicator:		
MS/MSD Duplicate Status vs RPD:		
% RPD Limit:		

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

Comments:
*If the lowest activity sample in this batch is greater than ten times the blank value, the blank is acceptable; otherwise this batch must be re-prepped.
~~**If all sample results are below MDC, the batch is acceptable, otherwise this batch must be reprepped due to LCS failure.~~

LCS MPI 2.3 JJT 8-25-2020

Quality Control Sample Performance Assessment

Pace Analytical

Test:	Ra-226
Analyst:	VAL
Date:	9/2/2020
Worklist:	55850
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID:	1990338
MB concentration:	0.327
MB 2 Sigma CSU:	0.497
MB MDC:	0.796
MB Numerical Performance Indicator:	2.54
MB Status vs Numerical Indicator:	Warning
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS55850	LCSD55850
Count Date:	9/4/2020	9/5/2020
Spike I.D.:	20-030	20-030
Decay Corrected Spike Concentration (pCi/mL):	38.485	38.485
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.607	0.600
Target Conc. (pCi/L, g, F):	4.769	4.794
Uncertainty (Calculated):	0.234	0.235
Result (pCi/L, g, F):	4.545	4.050
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.130	1.059
Numerical Performance Indicator:	0.30	-0.82
Percent Recovery:	103.69%	90.37%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS55850	Enter Duplicate sample ID and other than LCS/LCSD in the space below
Duplicate Sample I.D.:	LCSD55850	
Sample Result (pCi/L, g, F):	4.545	
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.130	
Sample Duplicate Result (pCi/L, g, F):	4.050	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.059	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	0.769	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	13.79%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	38%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.:		
Sample MS I.D.:		
Sample MSD I.D.:		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:		
MS/MSD Duplicate Status vs Numerical Indicator:		
MS/MSD Duplicate Status vs RPD:		
% RPD Limit:		

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

Comments:

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

September 10, 2020

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

RE: Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on August 14, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

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

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

CERTIFICATIONS

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
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

Pace Analytical Services Peachtree Corners
110 Technology Pkwy, Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Virginia Certification #: 460204

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92490942001	**DGWC-37**	Water	08/13/20 11:00	08/14/20 14:30
92490942002	**DGWC-38**	Water	08/13/20 10:00	08/14/20 14:30
92490942003	**DGWC-39**	Water	08/13/20 15:05	08/14/20 14:30
92490942004	**DGWC-40**	Water	08/13/20 11:22	08/14/20 14:30
92490942005	**DGWC-67**	Water	08/13/20 16:25	08/14/20 14:30
92490942006	**DGWC-68A**	Water	08/13/20 15:25	08/14/20 14:30
92490942007	**DGWC-69**	Water	08/13/20 14:35	08/14/20 14:30
92490942008	**EB-2**	Water	08/13/20 17:30	08/14/20 14:30

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SAMPLE ANALYTE COUNT

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92490942001	**DGWC-37**	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92490942002	**DGWC-38**	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92490942003	**DGWC-39**	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92490942004	**DGWC-40**	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92490942005	**DGWC-67**	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92490942006	**DGWC-68A**	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92490942007	**DGWC-69**	EPA 6020B	CW1	12	PASI-GA

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SAMPLE ANALYTE COUNT

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92490942008	**EB-2**	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte
PASI-GA = Pace Analytical Services - Peachtree Corners, GA
PASI-PA = Pace Analytical Services - Greensburg

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ANALYTICAL RESULTS

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

Sample: DGWC-37 **Lab ID: 92490942001** Collected: 08/13/20 11:00 Received: 08/14/20 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.34**	Std. Units			1		08/20/20 17:23		
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	08/17/20 16:46	08/20/20 20:00	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/17/20 16:46	08/20/20 20:00	7440-38-2	
Barium	**0.088**	mg/L	0.010	0.00071	1	08/17/20 16:46	08/20/20 20:00	7440-39-3	
Beryllium	**0.00010J**	mg/L	0.0030	0.000046	1	08/17/20 16:46	08/20/20 20:00	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/17/20 16:46	08/20/20 20:00	7440-43-9	
Chromium	**0.00058J**	mg/L	0.010	0.00055	1	08/17/20 16:46	08/20/20 20:00	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/17/20 16:46	08/20/20 20:00	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/17/20 16:46	08/20/20 20:00	7439-92-1	
Lithium	**0.0023J**	mg/L	0.030	0.00081	1	08/17/20 16:46	08/20/20 20:00	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/17/20 16:46	08/20/20 20:00	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/17/20 16:46	08/20/20 20:00	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/17/20 16:46	08/20/20 20:00	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	08/18/20 12:00	08/19/20 12:38	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	**0.068J**	mg/L	0.10	0.050	1		08/18/20 17:33	16984-48-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
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ANALYTICAL RESULTS

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

Sample: DGWC-38 **Lab ID: 92490942002** Collected: 08/13/20 10:00 Received: 08/14/20 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.05**	Std. Units			1		08/20/20 17:23		
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	08/17/20 16:46	08/20/20 20:06	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/17/20 16:46	08/20/20 20:06	7440-38-2	
Barium	**0.032**	mg/L	0.010	0.00071	1	08/17/20 16:46	08/20/20 20:06	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/17/20 16:46	08/20/20 20:06	7440-41-7	
Cadmium	**0.00021J**	mg/L	0.0025	0.00012	1	08/17/20 16:46	08/20/20 20:06	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/17/20 16:46	08/20/20 20:06	7440-47-3	
Cobalt	**0.0014J**	mg/L	0.0050	0.00038	1	08/17/20 16:46	08/20/20 20:06	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/17/20 16:46	08/20/20 20:06	7439-92-1	
Lithium	**0.0028J**	mg/L	0.030	0.00081	1	08/17/20 16:46	08/20/20 20:06	7439-93-2	
Molybdenum	**0.00098J**	mg/L	0.010	0.00069	1	08/17/20 16:46	08/20/20 20:06	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/17/20 16:46	08/20/20 20:06	7782-49-2	
Thallium	**0.00016J**	mg/L	0.0010	0.00014	1	08/17/20 16:46	08/20/20 20:06	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	08/18/20 12:00	08/19/20 12:48	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	**0.060J**	mg/L	0.10	0.050	1		08/18/20 17:47	16984-48-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
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ANALYTICAL RESULTS

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

Sample: DGWC-39 **Lab ID: 92490942003** Collected: 08/13/20 15:05 Received: 08/14/20 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.39**	Std. Units			1		08/20/20 17:23		
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	08/17/20 16:46	08/20/20 20:12	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/17/20 16:46	08/20/20 20:12	7440-38-2	
Barium	**0.089**	mg/L	0.010	0.00071	1	08/17/20 16:46	08/20/20 20:12	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/17/20 16:46	08/20/20 20:12	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/17/20 16:46	08/20/20 20:12	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/17/20 16:46	08/20/20 20:12	7440-47-3	
Cobalt	**0.0060**	mg/L	0.0050	0.00038	1	08/17/20 16:46	08/20/20 20:12	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/17/20 16:46	08/20/20 20:12	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/17/20 16:46	08/20/20 20:12	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/17/20 16:46	08/20/20 20:12	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/17/20 16:46	08/20/20 20:12	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/17/20 16:46	08/20/20 20:12	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	08/18/20 12:00	08/19/20 12:50	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	**0.076J**	mg/L	0.10	0.050	1		08/18/20 18:01	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

Sample: DGWC-40 **Lab ID: 92490942004** Collected: 08/13/20 11:22 Received: 08/14/20 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**4.65**	Std. Units			1		08/20/20 17:23		
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	08/17/20 16:46	08/20/20 20:17	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/17/20 16:46	08/20/20 20:17	7440-38-2	
Barium	**0.018**	mg/L	0.010	0.00071	1	08/17/20 16:46	08/20/20 20:17	7440-39-3	
Beryllium	**0.0033**	mg/L	0.0030	0.000046	1	08/17/20 16:46	08/20/20 20:17	7440-41-7	
Cadmium	**0.00084J**	mg/L	0.0025	0.00012	1	08/17/20 16:46	08/20/20 20:17	7440-43-9	
Chromium	**0.00072J**	mg/L	0.010	0.00055	1	08/17/20 16:46	08/20/20 20:17	7440-47-3	
Cobalt	**0.044**	mg/L	0.0050	0.00038	1	08/17/20 16:46	08/20/20 20:17	7440-48-4	
Lead	**0.000049J**	mg/L	0.0050	0.000036	1	08/17/20 16:46	08/20/20 20:17	7439-92-1	
Lithium	**0.0022J**	mg/L	0.030	0.00081	1	08/17/20 16:46	08/20/20 20:17	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/17/20 16:46	08/20/20 20:17	7439-98-7	
Selenium	**0.0018J**	mg/L	0.010	0.0016	1	08/17/20 16:46	08/20/20 20:17	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/17/20 16:46	08/20/20 20:17	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	08/18/20 12:00	08/19/20 12:52	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	**0.16**	mg/L	0.10	0.050	1		08/18/20 18:43	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

Sample: DGWC-67 **Lab ID: 92490942005** Collected: 08/13/20 16:25 Received: 08/14/20 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.28**	Std. Units			1		08/20/20 17:23		
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	08/17/20 16:46	08/20/20 20:23	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/17/20 16:46	08/20/20 20:23	7440-38-2	
Barium	**0.095**	mg/L	0.010	0.00071	1	08/17/20 16:46	08/20/20 20:23	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/17/20 16:46	08/20/20 20:23	7440-41-7	
Cadmium	**0.00015J**	mg/L	0.0025	0.00012	1	08/17/20 16:46	08/20/20 20:23	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/17/20 16:46	08/20/20 20:23	7440-47-3	
Cobalt	**0.0015J**	mg/L	0.0050	0.00038	1	08/17/20 16:46	08/20/20 20:23	7440-48-4	
Lead	**0.000056J**	mg/L	0.0050	0.000036	1	08/17/20 16:46	08/20/20 20:23	7439-92-1	
Lithium	**0.0044J**	mg/L	0.030	0.00081	1	08/17/20 16:46	08/20/20 20:23	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/17/20 16:46	08/20/20 20:23	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/17/20 16:46	08/20/20 20:23	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/17/20 16:46	08/20/20 20:23	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	08/18/20 12:00	08/19/20 12:55	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	ND	mg/L	0.10	0.050	1		08/18/20 18:57	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

Sample: DGWC-68A **Lab ID: 92490942006** Collected: 08/13/20 15:25 Received: 08/14/20 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.63**	Std. Units			1		08/20/20 17:23		
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	08/18/20 18:30	08/19/20 18:02	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/18/20 18:30	08/19/20 18:02	7440-38-2	
Barium	**0.088**	mg/L	0.010	0.00071	1	08/18/20 18:30	08/19/20 18:02	7440-39-3	M1
Beryllium	ND	mg/L	0.0030	0.000046	1	08/18/20 18:30	08/19/20 18:02	7440-41-7	
Cadmium	**0.00021J**	mg/L	0.0025	0.00012	1	08/18/20 18:30	08/19/20 18:02	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/18/20 18:30	08/19/20 18:02	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/18/20 18:30	08/19/20 18:02	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/18/20 18:30	08/19/20 18:02	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/18/20 18:30	08/19/20 18:02	7439-93-2	
Molybdenum	**0.19**	mg/L	0.010	0.00069	1	08/18/20 18:30	08/19/20 18:02	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/18/20 18:30	08/19/20 18:02	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/18/20 18:30	08/19/20 18:02	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	08/18/20 12:00	08/19/20 13:02	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	**0.076J**	mg/L	0.10	0.050	1		08/18/20 19:11	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

Sample: DGWC-69 **Lab ID: 92490942007** Collected: 08/13/20 14:35 Received: 08/14/20 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.26**	Std. Units			1		08/20/20 17:23		
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.0019J**	mg/L	0.0030	0.00028	1	08/18/20 18:30	08/19/20 18:25	7440-36-0	
Arsenic	**0.029**	mg/L	0.0050	0.00078	1	08/18/20 18:30	08/19/20 18:25	7440-38-2	
Barium	**0.13**	mg/L	0.010	0.00071	1	08/18/20 18:30	08/19/20 18:25	7440-39-3	
Beryllium	**0.000063J**	mg/L	0.0030	0.000046	1	08/18/20 18:30	08/19/20 18:25	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/18/20 18:30	08/19/20 18:25	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/18/20 18:30	08/19/20 18:25	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/18/20 18:30	08/19/20 18:25	7440-48-4	
Lead	**0.000059J**	mg/L	0.0050	0.000036	1	08/18/20 18:30	08/19/20 18:25	7439-92-1	
Lithium	**0.0031J**	mg/L	0.030	0.00081	1	08/18/20 18:30	08/19/20 18:25	7439-93-2	
Molybdenum	**0.011**	mg/L	0.010	0.00069	1	08/18/20 18:30	08/19/20 18:25	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/18/20 18:30	08/19/20 18:25	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/18/20 18:30	08/19/20 18:25	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	08/18/20 12:00	08/19/20 13:04	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	**0.084J**	mg/L	0.10	0.050	1		08/18/20 19:25	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

Sample: EB-2 **Lab ID: 92490942008** Collected: 08/13/20 17:30 Received: 08/14/20 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.00049J**	mg/L	0.0030	0.00028	1	08/18/20 18:30	08/19/20 18:31	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/18/20 18:30	08/19/20 18:31	7440-38-2	
Barium	ND	mg/L	0.010	0.00071	1	08/18/20 18:30	08/19/20 18:31	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/18/20 18:30	08/19/20 18:31	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/18/20 18:30	08/19/20 18:31	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/18/20 18:30	08/19/20 18:31	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/18/20 18:30	08/19/20 18:31	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/18/20 18:30	08/19/20 18:31	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/18/20 18:30	08/19/20 18:31	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/18/20 18:30	08/19/20 18:31	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/18/20 18:30	08/19/20 18:31	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/18/20 18:30	08/19/20 18:31	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	08/18/20 12:00	08/19/20 13:07	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	ND	mg/L	0.10	0.050	1		08/18/20 19:39	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

QC Batch: 560481
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92490942001, 92490942002, 92490942003, 92490942004, 92490942005

METHOD BLANK: 2973740 Matrix: Water
Associated Lab Samples: 92490942001, 92490942002, 92490942003, 92490942004, 92490942005

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

LABORATORY CONTROL SAMPLE: 2973741

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.11	106	80-120	
Arsenic	mg/L	0.1	0.097	97	80-120	
Barium	mg/L	0.1	0.098	98	80-120	
Beryllium	mg/L	0.1	0.10	102	80-120	
Cadmium	mg/L	0.1	0.098	98	80-120	
Chromium	mg/L	0.1	0.10	101	80-120	
Cobalt	mg/L	0.1	0.099	99	80-120	
Lead	mg/L	0.1	0.10	101	80-120	
Lithium	mg/L	0.1	0.11	105	80-120	
Molybdenum	mg/L	0.1	0.10	100	80-120	
Selenium	mg/L	0.1	0.098	98	80-120	
Thallium	mg/L	0.1	0.10	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2973742 2973743

Parameter	Units	92490503010 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	0.10	108	103	75-125	5	20	
Arsenic	mg/L	ND	0.1	0.1	0.10	0.098	102	97	75-125	5	20	
Barium	mg/L	0.036	0.1	0.1	0.14	0.13	107	91	75-125	12	20	
Beryllium	mg/L	0.00024J	0.1	0.1	0.090	0.086	90	86	75-125	4	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2973742 2973743

Parameter	Units	92490503010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	mg/L	0.00080J	0.1	0.1	0.098	0.095	97	94	75-125	3	20	
Chromium	mg/L	ND	0.1	0.1	0.099	0.094	98	94	75-125	5	20	
Cobalt	mg/L	0.0018J	0.1	0.1	0.098	0.095	96	93	75-125	3	20	
Lead	mg/L	ND	0.1	0.1	0.097	0.092	97	92	75-125	5	20	
Lithium	mg/L	0.0031J	0.1	0.1	0.095	0.092	92	88	75-125	4	20	
Molybdenum	mg/L	0.0057J	0.1	0.1	0.11	0.10	102	97	75-125	5	20	
Selenium	mg/L	ND	0.1	0.1	0.10	0.099	101	99	75-125	2	20	
Thallium	mg/L	ND	0.1	0.1	0.098	0.094	98	94	75-125	4	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

QC Batch: 560739
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92490942006, 92490942007, 92490942008

METHOD BLANK: 2974806 Matrix: Water
Associated Lab Samples: 92490942006, 92490942007, 92490942008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	08/19/20 17:51	
Arsenic	mg/L	ND	0.0050	0.00078	08/19/20 17:51	
Barium	mg/L	ND	0.010	0.00071	08/19/20 17:51	
Beryllium	mg/L	ND	0.0030	0.000046	08/19/20 17:51	
Cadmium	mg/L	ND	0.0025	0.00012	08/19/20 17:51	
Chromium	mg/L	ND	0.010	0.00055	08/19/20 17:51	
Cobalt	mg/L	ND	0.0050	0.00038	08/19/20 17:51	
Lead	mg/L	ND	0.0050	0.000036	08/19/20 17:51	
Lithium	mg/L	ND	0.030	0.00081	08/19/20 17:51	
Molybdenum	mg/L	ND	0.010	0.00069	08/19/20 17:51	
Selenium	mg/L	ND	0.010	0.0016	08/19/20 17:51	
Thallium	mg/L	ND	0.0010	0.00014	08/19/20 17:51	

LABORATORY CONTROL SAMPLE: 2974807

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.11	111	80-120	
Arsenic	mg/L	0.1	0.099	99	80-120	
Barium	mg/L	0.1	0.10	102	80-120	
Beryllium	mg/L	0.1	0.099	99	80-120	
Cadmium	mg/L	0.1	0.10	100	80-120	
Chromium	mg/L	0.1	0.10	103	80-120	
Cobalt	mg/L	0.1	0.10	101	80-120	
Lead	mg/L	0.1	0.10	100	80-120	
Lithium	mg/L	0.1	0.10	104	80-120	
Molybdenum	mg/L	0.1	0.11	106	80-120	
Selenium	mg/L	0.1	0.10	102	80-120	
Thallium	mg/L	0.1	0.099	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2974808 2974809

Parameter	Units	92490942006 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	114	109	75-125	5	20	
Arsenic	mg/L	ND	0.1	0.1	0.10	0.099	100	99	75-125	2	20	
Barium	mg/L	0.088	0.1	0.1	0.22	0.21	131	119	75-125	6	20	M1
Beryllium	mg/L	ND	0.1	0.1	0.099	0.096	99	96	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2974808 2974809

Parameter	Units	92490942006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	mg/L	0.00021J	0.1	0.1	0.10	0.098	99	98	75-125	1	20	
Chromium	mg/L	ND	0.1	0.1	0.10	0.10	102	101	75-125	1	20	
Cobalt	mg/L	ND	0.1	0.1	0.099	0.098	99	98	75-125	1	20	
Lead	mg/L	ND	0.1	0.1	0.098	0.097	98	97	75-125	0	20	
Lithium	mg/L	ND	0.1	0.1	0.10	0.098	102	97	75-125	4	20	
Molybdenum	mg/L	0.19	0.1	0.1	0.31	0.29	122	105	75-125	5	20	
Selenium	mg/L	ND	0.1	0.1	0.10	0.093	99	92	75-125	7	20	
Thallium	mg/L	ND	0.1	0.1	0.097	0.096	97	96	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

QC Batch: 560634 — Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A — Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92490942001, 92490942002, 92490942003, 92490942004, 92490942005, 92490942006, 92490942007, 92490942008

METHOD BLANK: 2974354 — Matrix: Water
Associated Lab Samples: 92490942001, 92490942002, 92490942003, 92490942004, 92490942005, 92490942006, 92490942007, 92490942008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.000078	08/19/20 12:33	

LABORATORY CONTROL SAMPLE: 2974355

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0023	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2974356 2974357

Parameter	Units	92490942001 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	0.0022	0.0025	86	98	75-125	13	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(770)734-4200

QUALITY CONTROL DATA

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

QC Batch: 560576 — Analysis Method: EPA 300.0 Rev 2.1 1993
QC Batch Method: EPA 300.0 Rev 2.1 1993 — Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92490942001, 92490942002, 92490942003, 92490942004, 92490942005, 92490942006, 92490942007, 92490942008

METHOD BLANK: 2974090 — Matrix: Water
Associated Lab Samples: 92490942001, 92490942002, 92490942003, 92490942004, 92490942005, 92490942006, 92490942007, 92490942008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	0.050	08/18/20 13:07	

LABORATORY CONTROL SAMPLE: 2974091

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.5	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2974092 2974093

Parameter	Units	92490804001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.82	2.5	2.5	3.3	3.3	100	101	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2974094 2974095

Parameter	Units	92490867001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.37	2.5	2.5	3.0	3.1	107	107	90-110	1	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
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(770)734-4200

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

Sample: DGWC-37 **Lab ID: 92490942001** Collected: 08/13/20 11:00 Received: 08/14/20 14:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.166 ± 0.103 (0.163) C:82% T:NA**	pCi/L	08/31/20 19:25	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.824 ± 0.429 (0.748) C:69% T:81%**	pCi/L	09/08/20 11:52	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.990 ± 0.532 (0.911)**	pCi/L	09/09/20 08:53	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 MCDONOUGH AP-1
Pace Project No.: 92490942

Sample: DGWC-38 **Lab ID: 92490942002** Collected: 08/13/20 10:00 Received: 08/14/20 14:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.132 ± 0.113 (0.200) C:74% T:NA**	pCi/L	08/31/20 19:25	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**-0.316 ± 0.282 (0.756) C:66% T:77%**	pCi/L	09/08/20 11:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.132 ± 0.395 (0.956)**	pCi/L	09/09/20 08:53	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 MCDONOUGH AP-1
Pace Project No.: 92490942

Sample: DGWC-39 **Lab ID: 92490942003** Collected: 08/13/20 15:05 Received: 08/14/20 14:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.255 ± 0.164 (0.283) C:81% T:NA**	pCi/L	08/31/20 19:25	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.371 ± 0.469 (0.999) C:64% T:78%**	pCi/L	09/08/20 11:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.626 ± 0.633 (1.28)**	pCi/L	09/09/20 08:53	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

Sample: DGWC-40 **Lab ID: 92490942004** Collected: 08/13/20 11:22 Received: 08/14/20 14:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.193 ± 0.129 (0.218) C:79% T:NA**	pCi/L	08/31/20 19:25	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.41 ± 0.556 (0.875) C:64% T:87%**	pCi/L	09/08/20 11:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.60 ± 0.685 (1.09)**	pCi/L	09/09/20 08:53	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 MCDONOUGH AP-1
Pace Project No.: 92490942

Sample: DGWC-67 **Lab ID: 92490942005** Collected: 08/13/20 16:25 Received: 08/14/20 14:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.305 ± 0.125 (0.171) C:87% T:NA**	pCi/L	08/31/20 19:25	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.592 ± 0.415 (0.803) C:68% T:84%**	pCi/L	09/08/20 11:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.897 ± 0.540 (0.974)**	pCi/L	09/09/20 08:53	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 MCDONOUGH AP-1
Pace Project No.: 92490942

Sample: DGWC-68A **Lab ID: 92490942006** Collected: 08/13/20 15:25 Received: 08/14/20 14:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.160 ± 0.111 (0.187) C:81% T:NA**	pCi/L	08/31/20 19:25	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.30 ± 0.619 (1.08) C:64% T:76%**	pCi/L	09/08/20 12:16	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.46 ± 0.730 (1.27)**	pCi/L	09/09/20 14:53	7440-14-4	

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

Sample: DGWC-69 **Lab ID: 92490942007** Collected: 08/13/20 14:35 Received: 08/14/20 14:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**1.54 ± 0.314 (0.171) C:82% T:NA**	pCi/L	08/31/20 18:35	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.12 ± 0.550 (0.959) C:65% T:76%**	pCi/L	09/08/20 11:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.66 ± 0.864 (1.13)**	pCi/L	09/09/20 14:53	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 MCDONOUGH AP-1
Pace Project No.: 92490942

Sample: EB-2 **Lab ID: 92490942008** Collected: 08/13/20 17:30 Received: 08/14/20 14:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0684 ± 0.0776 (0.142) C:88% T:NA**	pCi/L	08/31/20 18:35	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.501 ± 0.409 (0.820) C:66% T:88%**	pCi/L	09/08/20 11:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.569 ± 0.487 (0.962)**	pCi/L	09/09/20 14:53	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 MCDONOUGH AP-1
Pace Project No.: 92490942

QC Batch: 411433 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92490942001, 92490942002, 92490942003, 92490942004, 92490942005, 92490942006, 92490942007, 92490942008

METHOD BLANK: 1990338 Matrix: Water
Associated Lab Samples: 92490942001, 92490942002, 92490942003, 92490942004, 92490942005, 92490942006, 92490942007, 92490942008

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.527 ± 0.407 (0.796) C:61% T:86%	pCi/L	09/08/20 11:52	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

QC Batch: 411372 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92490942001, 92490942002, 92490942003, 92490942004, 92490942005, 92490942006, 92490942007, 92490942008

METHOD BLANK: 1989991 Matrix: Water
Associated Lab Samples: 92490942001, 92490942002, 92490942003, 92490942004, 92490942005, 92490942006, 92490942007, 92490942008

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0430 ± 0.0800 (0.185) C:87% T:NA	pCi/L	08/31/20 19:25	

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

QUALIFIERS

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92490942001	**DGWC-37**				
92490942002	**DGWC-38**				
92490942003	**DGWC-39**				
92490942004	**DGWC-40**				
92490942005	**DGWC-67**				
92490942006	**DGWC-68A**				
92490942007	**DGWC-69**				
92490942001	**DGWC-37**	EPA 3005A	560481	EPA 6020B	560487
92490942002	**DGWC-38**	EPA 3005A	560481	EPA 6020B	560487
92490942003	**DGWC-39**	EPA 3005A	560481	EPA 6020B	560487
92490942004	**DGWC-40**	EPA 3005A	560481	EPA 6020B	560487
92490942005	**DGWC-67**	EPA 3005A	560481	EPA 6020B	560487
92490942006	**DGWC-68A**	EPA 3005A	560739	EPA 6020B	560802
92490942007	**DGWC-69**	EPA 3005A	560739	EPA 6020B	560802
92490942008	**EB-2**	EPA 3005A	560739	EPA 6020B	560802
92490942001	**DGWC-37**	EPA 7470A	560634	EPA 7470A	560773
92490942002	**DGWC-38**	EPA 7470A	560634	EPA 7470A	560773
92490942003	**DGWC-39**	EPA 7470A	560634	EPA 7470A	560773
92490942004	**DGWC-40**	EPA 7470A	560634	EPA 7470A	560773
92490942005	**DGWC-67**	EPA 7470A	560634	EPA 7470A	560773
92490942006	**DGWC-68A**	EPA 7470A	560634	EPA 7470A	560773
92490942007	**DGWC-69**	EPA 7470A	560634	EPA 7470A	560773
92490942008	**EB-2**	EPA 7470A	560634	EPA 7470A	560773
92490942001	**DGWC-37**	EPA 9315	411372		
92490942002	**DGWC-38**	EPA 9315	411372		
92490942003	**DGWC-39**	EPA 9315	411372		
92490942004	**DGWC-40**	EPA 9315	411372		
92490942005	**DGWC-67**	EPA 9315	411372		
92490942006	**DGWC-68A**	EPA 9315	411372		
92490942007	**DGWC-69**	EPA 9315	411372		
92490942008	**EB-2**	EPA 9315	411372		
92490942001	**DGWC-37**	EPA 9320	411433		
92490942002	**DGWC-38**	EPA 9320	411433		
92490942003	**DGWC-39**	EPA 9320	411433		
92490942004	**DGWC-40**	EPA 9320	411433		
92490942005	**DGWC-67**	EPA 9320	411433		
92490942006	**DGWC-68A**	EPA 9320	411433		
92490942007	**DGWC-69**	EPA 9320	411433		
92490942008	**EB-2**	EPA 9320	411433		
92490942001	**DGWC-37**	Total Radium Calculation	413004		
92490942002	**DGWC-38**	Total Radium Calculation	413004		
92490942003	**DGWC-39**	Total Radium Calculation	413004		
92490942004	**DGWC-40**	Total Radium Calculation	413004		
92490942005	**DGWC-67**	Total Radium Calculation	413004		
92490942006	**DGWC-68A**	Total Radium Calculation	413154		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92490942

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92490942007	**DGWC-69**	Total Radium Calculation	413154		
92490942008	**EB-2**	Total Radium Calculation	413154		
92490942001	**DGWC-37**	EPA 300.0 Rev 2.1 1993	560576		
92490942002	**DGWC-38**	EPA 300.0 Rev 2.1 1993	560576		
92490942003	**DGWC-39**	EPA 300.0 Rev 2.1 1993	560576		
92490942004	**DGWC-40**	EPA 300.0 Rev 2.1 1993	560576		
92490942005	**DGWC-67**	EPA 300.0 Rev 2.1 1993	560576		
92490942006	**DGWC-68A**	EPA 300.0 Rev 2.1 1993	560576		
92490942007	**DGWC-69**	EPA 300.0 Rev 2.1 1993	560576		
92490942008	**EB-2**	EPA 300.0 Rev 2.1 1993	560576		

WO# : 92490942

92490942

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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:	Joju Abraham	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Golder	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:		Pace Quote:	
Phone:	(404) 506-7239 Fax:	Project Name:	Plant McDonough AP-1	Pace Project Manager:	Kevin Herring
Requested Due Date:		Project #:	*56849618	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: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Analysis Test Y/N	Requested Analysis Filtered (Y/N): App IV Metals* N	Fluoride N	Radium 226/228 N	Residual Chlorine (Y/N)	92490942
1	DGWC 37	WT	G	8/13/2020	1100		4	1		3							X	X	X		pH: 6.34
2	DGWC-38	WT	G	8/13/2020	1200		4	1		3							X	X	X		pH: 6.05 ; see comment below
3	DGWC-39	WT	G	8/13/2020	1505		4	1		3							X	X	X		pH: 6.39
4	DGWC-40	WT	G	8/13/2020	1122		4	1		3							X	X	X		pH: 4.65
5	DGWC-67	WT	G	8/13/2020	1625		4	1		3							X	X	X		pH: 6.28
6	DGWC-68A	WT	G	8/13/2020	1525		4	1		3							X	X	X		pH: 6.63
7	DGWC-69	WT	G	8/13/2020	1435		4	1		3							X	X	X		pH: 6.26
8	EB-2	WT	G	8/13/2020	1730		4	1		3							X	X	X		
9																					
10																					

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)
App IV metals = Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl	JW/SAMPLER	08/14/20	1430	[signature]	8/14/20	1430	3.1	Y	N	Y
DGWC-38: Preservative flushed from (1) Radium bottle										

SAMPLER NAME AND SIGNATURE

SAMPLER NAME: JOE WOEVERSPACK

SAMPLER SIGNATURE: [signature] DATE Signed: 08/14/20

Pace Analytical	Document Name: Bottle Identification Form (BIF)	Document Issued: March 14, 2019 Page 1 of 1
	Document No.: F-CAR-CS-043-Rev.00	Issuing Authority: Pace Carolinas Quality Office

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

**Bottom half of box is to list number of bottle.

Project # **WO# : 92490942**

PM: KLH1 Due Date: 08/28/20

CLIENT: GA-GA Power

Matrix	Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass Jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	RPIN - RAD	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)
	1																									2		
	2																									2		
	3																									2		
	4																									2		
	5																									2		
	6																									2		
	7																									2		
	8																											
	9																											
	10																											
	11																											
	12																											

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	L

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 Out of hold, incorrect preservative, out of temp, incorrect containers

Quality Control Sample Performance Assessment

Test: Ra-226
Analyst: JJY
Date: 8/21/2020
Worklist: 55563
Matrix: DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1634358
MB concentration:	0.046
MB Counting Uncertainty:	0.101
MB MDC:	0.237
MB Numerical Performance Indicator:	0.93
MB Status vs Numerical Indicator:	N/A
MB Status vs MDC:	Pass

Laboratory Control Sample Assessment	LCS? (Y or N)?	Y
	LCS55663	LCSD55663
Count Date:	8/24/2020	8/24/2020
Spike ID:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.945	24.945
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, Fl:	0.505	0.503
Target Conc. (pCi/L, g, Fl:	4.760	4.776
Uncertainty (Calculated):	0.057	0.057
Result (pCi/L, g, Fl:	4.133	5.003
LCS/LCSD Counting Uncertainty (pCi/L, g, Fl:	0.579	0.603
Numerical Performance Indicator:	-2.12	0.74
Percent Recovery:	86.81%	104.76%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:		
Sample ID:		
Sample MS ID:		
Sample MSD ID:		
Spike ID:		
MS/MSD Decay Corrected Spike Concentration (pCi/mL):		
Spike Volume Used in MS (mL):		
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, Fl:		
MS Target Conc (pCi/L, g, Fl:		
MSD Aliquot (L, g, Fl:		
MSD Target Conc. (pCi/L, g, Fl:		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result Counting Uncertainty (pCi/L, g, Fl:		
Sample Matrix Spike Result:		
Matrix Spike Result Counting Uncertainty (pCi/L, g, Fl:		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, Fl:		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample ID.:	LCS55663	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample ID.:	LCSD55663	
Sample Result (pCi/L, g, Fl:	4.133	
Sample Result Counting Uncertainty (pCi/L, g, Fl:	0.579	
Sample Duplicate Result (pCi/L, g, Fl:	5.003	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, Fl:	0.603	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-2.043	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	19.74%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample ID:	
Sample MS ID:	
Sample MSD ID:	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, Fl:	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, Fl:	
Duplicate Numerical Performance Indicator:	
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:	
MS/MSD Duplicate Status vs Numerical Indicator:	
MS/MSD Duplicate Status vs RPD:	
% RPD Limit:	

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

Comments:

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	JJY
Date:	8/21/2020
Worklist:	55663
Matrix:	OW

Method Blank Assessment	
MB Sample ID	1964358
MB concentration:	0.043
MB Counting Uncertainty:	0.101
MB MDC:	0.237
MB Numerical Performance Indicator:	0.53
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS55663	LCSD55663
Count Date:	8/24/2020	
Spike I.D.:	19-833	
Decay Corrected Spike Concentration (pCi/mL):	24.045	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.505	
Target Conc. (pCi/L, g, F):	4.760	
Uncertainty (Calculated):	0.057	
Result (pCi/L, g, F):	4.133	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.579	
Numerical Performance Indicator:	-2.12	
Percent Recovery:	86.8%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

Sample Matrix Spike Control Assessment	MS-MSD 1	MS-MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	92490603014	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.:	92490603014DUP	
Sample Result (pCi/L, g, F):	0.670	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.276	
Sample Duplicate Result (pCi/L, g, F):	0.731	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.286	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	0.729	92490603014
Duplicate RPD:	17.09%	92490603014DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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:		
% RPD Limit:		

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

Comments:

8/24/2020

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	LAL
Date:	8/31/2020
Worklist:	55836
Matrix:	DW

Method Blank Assessment	
MB Sample ID	1989951
MB concentration:	-0.043
MB Counting Uncertainty:	0.080
MB MDC:	0.135
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
	LCS55836	LCSD55836
Count Date:	9/1/2020	
Spike I.D.:	19-032	
Decay Corrected Spike Concentration (pCi/mL):	24.045	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.501	
Target Conc. (pCi/L, g, F):	4.798	
Uncertainty (Calculated):	0.056	
Result (pCi/L, g, F):	4.493	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.750	
Numerical Performance Indicator:	-0.79	
Percent Recovery:	93.65%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

Duplicate Sample Assessment		
Sample I.D.:	92490500020	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	92490500020DUP	
Sample Result (pCi/L, g, F):	0.717	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.321	
Sample Duplicate Result (pCi/L, g, F):	0.626	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.314	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	0.399	92490500020
Duplicate RPD:	13.51%	92490500020DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):		
Sample 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:		
% RPD Limit:		

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

Comments:

VAM 9/1/2020

QA 9/1/20

Quality Control Sample Performance Assessment

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	LAL
Date:	8/31/2020
Worklist:	55836
Matrix:	DW

Method Blank Assessment	
MB Sample ID:	1285291
MB concentration:	-0.043
MB Counting Uncertainty:	0.068
MB MDC:	0.135
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)?	Y
	LCS55836	LCSD55836
Count Date:	9/1/2020	9/1/2020
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.045	24.045
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, Fl):	0.501	0.500
Target Conc. (pCi/L, g, Fl):	4.798	4.808
Uncertainty (Calculated):	0.858	0.858
Result (pCi/L, g, Fl):	4.493	5.168
LCS/LCSD Counting Uncertainty (pCi/L, g, Fl):	0.750	0.855
Numerical Performance Indicator:	-0.79	0.52
Percent Recovery:	93.65%	107.49%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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, Fl):		
MS Target Conc. (pCi/L, g, Fl):		
MSD Aliquot (L, g, Fl):		
MSD Target Conc. (pCi/L, g, Fl):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result Counting Uncertainty (pCi/L, g, Fl):		
Sample Matrix Spike Result:		
Matrix Spike Result Counting Uncertainty (pCi/L, g, Fl):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, Fl):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS55836	Enter Duplicate sample IDs if other than LCS/LCSD in the space below
Duplicate Sample I.D.:	LCSD55836	
Sample Result (pCi/L, g, Fl):	4.493	
Sample Result Counting Uncertainty (pCi/L, g, Fl):	0.750	
Sample Duplicate Result (pCi/L, g, Fl):	5.168	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, Fl):	0.855	
Are sample and/or duplicate results below RL?:	NO	
Duplicate Numerical Performance Indicator:	-1.163	924905030D10
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	13.75%	924905030CDUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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, Fl):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, Fl):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:		
MS/MSD Duplicate Status vs Numerical Indicator:		
MS/MSD Duplicate Status vs RPD:		
% RPD Limit:		

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

Comments:

VAM 9/1/2020

DW 9.1.20

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	LAL
Date:	9/1/2020
Work ID:	55637
Matrix:	DW

Method Blank Assessment	
MB Sample ID:	1985950
MB concentration:	0.067
MB Counting Uncertainty:	0.195
MB MDC:	0.431
MB Numerical Performance Indicator:	0.57
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS55937	LCSD55937
Count Date:	9/2/2020	
Spike I.D.:	19-003	
Decay Corrected Spike Concentration (pCi/mL):	24.345	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.908	
Target Conc. (pCi/L, g, F):	4.738	
Uncertainty (Calculated):	0.057	
Result (pCi/L, g, F):	5.256	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.868	
Numerical Performance Indicator:	1.24	
Percent Recovery:	111.58%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	92490953004	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.:	92490953004DUP	
Sample Result (pCi/L, g, F):	0.116	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.301	
Sample Duplicate Result (pCi/L, g, F):	0.448	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.277	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	-1.591	92490953004
Duplicate RPD:	117.70%	92490953004DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail	
% RPD Limit:	25%	

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:		
% RPD Limit:		

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

Comments:

~~***Batch must be re-prepped DOE for acceptable precision.~~ LAL 9/2/2020

LAL 9/2/2020

Quality Control Sample Performance Assessment

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	LAL
Date:	9/1/2020
Worklist:	55837
Matrix:	DW

Method Blank Assessment	
MB Sample ID	1929953
MB concentration:	0.067
MB Counting Uncertainty:	0.195
MB MDC:	0.461
MB Numerical Performance Indicator:	0.67
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCS (Y or N)?	Y
	LCS55837	LCSD55837
Count Date:	9/2/2020	9/2/2020
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.045	24.045
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.508	0.501
Target Conc. (pCi/L, g, F):	4.738	4.797
Uncertainty (Calculated):	0.067	0.068
Result (pCi/L, g, F):	5.286	4.329
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.858	0.805
Numerical Performance Indicator:	1.24	-1.13
Percent Recovery:	111.58%	90.26%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:		
Sample I.C.:		
Sample MS I.C.:		
Sample MSD I.C.:		
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS55837	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.:	LCSD55837	
Sample Result (pCi/L, g, F):	5.286	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.858	
Sample Duplicate Result (pCi/L, g, F):	4.329	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.805	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	1.564	92490383004
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	21.13%	92490983004DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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:	
% RPD Limit:	

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

Comments:

LAM 9/2/2020

Quality Control Sample Performance Assessment

Pace Analytical

Test:	Ra-226
Analyst:	VAL
Date:	8/24/2020
Worklist:	55667
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID:	1954702
MB concentration:	0.731
MB 2 Sigma CSU:	0.425
MB MDC:	0.762
MB Numerical Performance Indicator:	2.37
MB Status vs Numerical Indicator:	Fail*
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCS (Y or N)?	Y
	LCS55667	LCSD55667
Count Date:	8/27/2020	8/27/2020
Spike ID.:	20-030	20-030
Decay Corrected Spike Concentration (pCi/mL):	38.637	38.637
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.805	0.806
Target Conc. (pCi/L, g, F):	4.772	4.900
Uncertainty (Calculated):	0.234	0.235
Result (pCi/L, g, F):	6.454	5.781
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.448	1.295
Numerical Performance Indicator:	2.25	1.45
Percent Recovery:	135.21%	120.42%
Status vs Numerical Indicator:	Warning	N/A
Status vs Recovery:	Fail High**	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:		
Sample ID:		
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):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS55667	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD55667	
Sample Result (pCi/L, g, F):	6.454	
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.448	
Sample Duplicate Result (pCi/L, g, F):	5.781	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.295	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	0.678	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	11.57%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	35%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:		
MS/MSD Duplicate Status vs Numerical Indicator:		
MS/MSD Duplicate Status vs RPD:		
% RPD Limit:		

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

Comments:
*If the lowest activity sample in this batch is greater than ten times the blank value, the blank is acceptable; otherwise this batch must be re-prepped.
**If all sample results are below MDC, the batch is acceptable; otherwise this batch must be reprepped due to LCS failure.

LCS MPI 2.3 JJT 8-25-2020

Quality Control Sample Performance Assessment

Pace Analytical

Test:	Ra-228
Analyst:	VAL
Date:	9/2/2020
Worklist:	55850
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID:	1990338
MB concentration:	0.527
MB 2 Sigma CSU:	0.497
MB MDC:	0.796
MB Numerical Performance Indicator:	2.54
MB Status vs Numerical Indicator:	Warning
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS55850	LCSD55850
Count Date:	9/8/2020	9/8/2020
Spike I.D.:	20-030	20-030
Decay Corrected Spike Concentration (pCi/mL):	38.485	38.485
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.807	0.800
Target Conc. (pCi/L, g, F):	4.769	4.794
Uncertainty (Calculated):	0.234	0.235
Result (pCi/L, g, F):	4.545	4.330
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.130	1.059
Numerical Performance Indicator:	0.30	-0.82
Percent Recovery:	103.69%	90.37%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limit:	135%	135%
Lower % Recovery Limit:	60%	60%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS55850	Enter Duplicate sample I.D. and enter then LCS/LCSD in the space below
Duplicate Sample I.D.:	LCSD55850	
Sample Result (pCi/L, g, F):	4.345	
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.130	
Sample Duplicate Result (pCi/L, g, F):	4.330	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.089	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	0.769	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	13.79%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	30%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.:		
Sample MS I.D.:		
Sample MSD I.D.:		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:		
MS/MSD Duplicate Status vs Numerical Indicator:		
MS/MSD Duplicate Status vs RPD:		
% RPD Limit:		

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

Comments:

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-226
Analyst: LAL
Date: 8/31/2020
Worklist: 55836
Matrix: DW

Method Blank Assessment	
MB Sample ID:	1988961
MB concentration:	-0.043
MB Counting Uncertainty:	0.668
MB MDC:	0.186
MB Numerical Performance Indicator:	-1.08
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD [Y or N]?	N
	LCS55836	LCSD55835
Count Date:	9/1/2020	
Spike I.D.:	18-032	
Decay Corrected Spike Concentration (pCi/mL):	24.045	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.50	
Target Conc. (pCi/L, g, F):	4.798	
Uncertainty (Calculated):	0.058	
Result (pCi/L, g, F):	4.493	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.750	
Numerical Performance Indicator:	-0.73	
Percent Recovery:	93.65%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limit:	125%	
Lower % Recovery Limit:	75%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limit:		
MS/MSD Lower % Recovery Limit:		

Duplicate Sample Assessment		
Sample I.D.:	92490503026	Enter Duplicate
Duplicate Sample I.D:	92490503026DUP	sample IDs if
Sample Result (pCi/L, g, F):	0.717	other than
Sample Result Counting Uncertainty (pCi/L, g, F):	0.321	LCS/LCSD in
Sample Duplicate Result (pCi/L, g, F):	0.626	the space below
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.314	
Are sample and/or duplicate results below RL?:	See Below #*	
Duplicate Numerical Performance Indicator:	0.399	92490503026
Duplicate RPD:	13.51%	92490503026DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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:		
% RPD Limit:		

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

Comments:

vkm 9/1/2020

Quality Control Sample Performance Assessment

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	LAL
Date:	8/31/2020
Worklist:	55836
Matrix:	DW

Method Blank Assessment	
MB Sample ID:	1285291
MB concentration:	-0.043
MB Counting Uncertainty:	0.068
MB MDC:	0.135
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)?	Y
	LCS55836	LCSD55836
Count Date:	9/1/2020	9/1/2020
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.045	24.045
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.501	0.508
Target Conc. (pCi/L, g, F):	4.798	4.808
Uncertainty (Calculated):	0.958	0.958
Result (pCi/L, g, F):	4.493	5.168
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.750	0.855
Numerical Performance Indicator:	-0.79	0.52
Percent Recovery:	93.65%	107.49%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample ID.:	LCS55836	Enter Duplicate sample IDs if other than LCS/LCSD in the space below
Duplicate Sample ID.:	LCSD55836	
Sample Result (pCi/L, g, F):	4.493	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.750	
Sample Duplicate Result (pCi/L, g, F):	5.168	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.855	
Are sample and/or duplicate results below RL?:	NO	
Duplicate Numerical Performance Indicator:	-1.163	9249050030
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	13.75%	9249050030CDUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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:		
% RPD Limit:		

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

Comments:

VAM 9/1/2020

Quality Control Sample Performance Assessment

Pace Analytical

Test: Ra-226
Analyst: VAL
Date: 9/2/2020
Worklist: 55850
Matrix: WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1990338
MB concentration:	0.327
MB 2 Sigma CSU:	0.497
MB MDC:	0.796
MB Numerical Performance Indicator:	2.54
MB Status vs Numerical Indicator:	Warning
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS55850	LCSD55850
Count Date:	9/8/2020	9/8/2020
Spike I.D.:	20-030	20-030
Decay Corrected Spike Concentration (pCi/mL):	38.485	38.485
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.807	0.800
Target Conc. (pCi/L, g, F):	4.769	4.794
Uncertainty (Calculated):	0.234	0.235
Result (pCi/L, g, F):	4.545	4.330
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.130	1.059
Numerical Performance Indicator:	0.30	-0.82
Percent Recovery:	103.69%	90.37%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS55850	Enter Duplicate sample I.D. and enter then LCS/LCSD in the space below
Duplicate Sample I.D.:	LCSD55850	
Sample Result (pCi/L, g, F):	4.545	
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.130	
Sample Duplicate Result (pCi/L, g, F):	4.330	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.059	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	0.769	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	13.79%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	38%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.:		
Sample MS I.D.:		
Sample MSD I.D.:		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:		
MS/MSD Duplicate Status vs Numerical Indicator:		
MS/MSD Duplicate Status vs RPD:		
% RPD Limit:		

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

Comments:

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

September 14, 2020

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

RE: Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between August 14, 2020 and August 19, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

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

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
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

Pace Analytical Services Peachtree Corners
110 Technology Pkwy, Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Virginia Certification #: 460204

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92490963001	**B-62**	Water	08/13/20 17:06	08/14/20 14:30
92490963002	**B-77**	Water	08/13/20 16:55	08/14/20 14:30
92490963003	**B-74**	Water	08/14/20 11:34	08/14/20 14:30
92490963004	**B-89**	Water	08/14/20 10:03	08/14/20 14:30
92490963005	**FD-3**	Water	08/14/20 00:00	08/14/20 14:30
92490963006	**B-83**	Water	08/14/20 13:00	08/14/20 14:30
92490963007	**B-88**	Water	08/17/20 10:45	08/18/20 10:54
92490963008	**B-100**	Water	08/17/20 10:49	08/18/20 10:54
92490963009	**B-56**	Water	08/17/20 12:00	08/18/20 10:54
92490963010	**B-3**	Water	08/17/20 13:08	08/18/20 10:54
92490963011	**B-82**	Water	08/17/20 14:25	08/18/20 10:54
92490963012	**B-93**	Water	08/19/20 12:29	08/19/20 13:55

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

SAMPLE ANALYTE COUNT

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92490963001	**B-62**	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92490963002	**B-77**	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92490963003	**B-74**	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92490963004	**B-89**	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92490963005	**FD-3**	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92490963006	**B-83**	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92490963007	**B-88**	EPA 6020B	CW1	12	PASI-GA

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SAMPLE ANALYTE COUNT

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92490963008	**B-100**	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92490963009	**B-56**	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92490963010	**B-3**	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92490963011	**B-82**	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92490963012	**B-93**	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory

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

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

ANALYTICAL RESULTS

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Sample: B-62 **Lab ID: 92490963001** Collected: 08/13/20 17:06 Received: 08/14/20 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.40**	Std. Units			1		08/20/20 17:22		
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	08/18/20 18:30	08/19/20 20:08	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/18/20 18:30	08/19/20 20:08	7440-38-2	
Barium	**0.026**	mg/L	0.010	0.00071	1	08/18/20 18:30	08/19/20 20:08	7440-39-3	
Beryllium	**0.00011J**	mg/L	0.0030	0.000046	1	08/18/20 18:30	08/19/20 20:08	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/18/20 18:30	08/19/20 20:08	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/18/20 18:30	08/19/20 20:08	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/18/20 18:30	08/19/20 20:08	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/18/20 18:30	08/19/20 20:08	7439-92-1	
Lithium	**0.0087J**	mg/L	0.030	0.00081	1	08/18/20 18:30	08/19/20 20:08	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/18/20 18:30	08/19/20 20:08	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/18/20 18:30	08/19/20 20:08	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/18/20 18:30	08/19/20 20:08	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	08/18/20 12:00	08/19/20 13:09	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	**0.11**	mg/L	0.10	0.050	1		08/20/20 06:20	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Sample: B-77 **Lab ID: 92490963002** Collected: 08/13/20 16:55 Received: 08/14/20 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.14**	Std. Units			1		08/20/20 17:22		
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.00043J**	mg/L	0.0030	0.00028	1	08/18/20 18:30	08/19/20 20:14	7440-36-0	
Arsenic	**0.0020J**	mg/L	0.0050	0.00078	1	08/18/20 18:30	08/19/20 20:14	7440-38-2	
Barium	**0.11**	mg/L	0.010	0.00071	1	08/18/20 18:30	08/19/20 20:14	7440-39-3	
Beryllium	**0.00014J**	mg/L	0.0030	0.000046	1	08/18/20 18:30	08/19/20 20:14	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/18/20 18:30	08/19/20 20:14	7440-43-9	
Chromium	**0.0021J**	mg/L	0.010	0.00055	1	08/18/20 18:30	08/19/20 20:14	7440-47-3	
Cobalt	**0.0011J**	mg/L	0.0050	0.00038	1	08/18/20 18:30	08/19/20 20:14	7440-48-4	
Lead	**0.0016J**	mg/L	0.0050	0.000036	1	08/18/20 18:30	08/19/20 20:14	7439-92-1	
Lithium	**0.0018J**	mg/L	0.030	0.00081	1	08/18/20 18:30	08/19/20 20:14	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/18/20 18:30	08/19/20 20:14	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/18/20 18:30	08/19/20 20:14	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/18/20 18:30	08/19/20 20:14	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	08/18/20 12:00	08/19/20 13:11	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	ND	mg/L	0.10	0.050	1		08/20/20 06:34	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Sample: B-74 **Lab ID: 92490963003** Collected: 08/14/20 11:34 Received: 08/14/20 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.19**	Std. Units			1		08/20/20 17:22		
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	08/18/20 18:30	08/19/20 20:20	7440-36-0	
Arsenic	**0.010**	mg/L	0.0050	0.00078	1	08/18/20 18:30	08/19/20 20:20	7440-38-2	
Barium	**0.077**	mg/L	0.010	0.00071	1	08/18/20 18:30	08/19/20 20:20	7440-39-3	
Beryllium	**0.000076J**	mg/L	0.0030	0.000046	1	08/18/20 18:30	08/19/20 20:20	7440-41-7	
Cadmium	**0.00026J**	mg/L	0.0025	0.00012	1	08/18/20 18:30	08/19/20 20:20	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/18/20 18:30	08/19/20 20:20	7440-47-3	
Cobalt	**0.0023J**	mg/L	0.0050	0.00038	1	08/18/20 18:30	08/19/20 20:20	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/18/20 18:30	08/19/20 20:20	7439-92-1	
Lithium	**0.0011J**	mg/L	0.030	0.00081	1	08/18/20 18:30	08/19/20 20:20	7439-93-2	
Molybdenum	**0.052**	mg/L	0.010	0.00069	1	08/18/20 18:30	08/19/20 20:20	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/18/20 18:30	08/19/20 20:20	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/18/20 18:30	08/19/20 20:20	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	08/18/20 12:00	08/19/20 13:14	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	**0.16**	mg/L	0.10	0.050	1		08/20/20 07:16	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Sample: B-89 **Lab ID: 92490963004** Collected: 08/14/20 10:03 Received: 08/14/20 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**5.83**	Std. Units			1		08/20/20 17:22		
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	08/18/20 18:30	08/19/20 20:26	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/18/20 18:30	08/19/20 20:26	7440-38-2	
Barium	**0.031**	mg/L	0.010	0.00071	1	08/18/20 18:30	08/19/20 20:26	7440-39-3	
Beryllium	**0.000074J**	mg/L	0.0030	0.000046	1	08/18/20 18:30	08/19/20 20:26	7440-41-7	
Cadmium	**0.00063J**	mg/L	0.0025	0.00012	1	08/18/20 18:30	08/19/20 20:26	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/18/20 18:30	08/19/20 20:26	7440-47-3	
Cobalt	**0.0058**	mg/L	0.0050	0.00038	1	08/18/20 18:30	08/19/20 20:26	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/18/20 18:30	08/19/20 20:26	7439-92-1	
Lithium	**0.0055J**	mg/L	0.030	0.00081	1	08/18/20 18:30	08/19/20 20:26	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/18/20 18:30	08/19/20 20:26	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/18/20 18:30	08/19/20 20:26	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/18/20 18:30	08/19/20 20:26	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	**0.00014J**	mg/L	0.00020	0.000078	1	08/18/20 12:00	08/19/20 13:16	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	ND	mg/L	0.10	0.050	1		08/20/20 07:30	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Sample: FD-3 **Lab ID: 92490963005** Collected: 08/14/20 00:00 Received: 08/14/20 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	08/18/20 18:30	08/19/20 20:31	7440-36-0	
Arsenic	**0.0099**	mg/L	0.0050	0.00078	1	08/18/20 18:30	08/19/20 20:31	7440-38-2	
Barium	**0.074**	mg/L	0.010	0.00071	1	08/18/20 18:30	08/19/20 20:31	7440-39-3	
Beryllium	**0.000066J**	mg/L	0.0030	0.000046	1	08/18/20 18:30	08/19/20 20:31	7440-41-7	
Cadmium	**0.00021J**	mg/L	0.0025	0.00012	1	08/18/20 18:30	08/19/20 20:31	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/18/20 18:30	08/19/20 20:31	7440-47-3	
Cobalt	**0.0023J**	mg/L	0.0050	0.00038	1	08/18/20 18:30	08/19/20 20:31	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/18/20 18:30	08/19/20 20:31	7439-92-1	
Lithium	**0.0011J**	mg/L	0.030	0.00081	1	08/18/20 18:30	08/19/20 20:31	7439-93-2	
Molybdenum	**0.052**	mg/L	0.010	0.00069	1	08/18/20 18:30	08/19/20 20:31	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/18/20 18:30	08/19/20 20:31	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/18/20 18:30	08/19/20 20:31	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	08/18/20 12:00	08/19/20 13:18	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	**0.15**	mg/L	0.10	0.050	1		08/20/20 07:44	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Sample: B-83 **Lab ID: 92490963006** Collected: 08/14/20 13:00 Received: 08/14/20 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**5.59**	Std. Units			1		08/20/20 17:22		
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	08/18/20 18:26	08/20/20 18:20	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/18/20 18:26	08/20/20 18:20	7440-38-2	
Barium	**0.056**	mg/L	0.010	0.00071	1	08/18/20 18:26	08/20/20 18:20	7440-39-3	
Beryllium	**0.00070J**	mg/L	0.0030	0.000046	1	08/18/20 18:26	08/21/20 15:22	7440-41-7	
Cadmium	**0.00037J**	mg/L	0.0025	0.00012	1	08/18/20 18:26	08/20/20 18:20	7440-43-9	
Chromium	**0.0050J**	mg/L	0.010	0.00055	1	08/18/20 18:26	08/20/20 18:20	7440-47-3	
Cobalt	**0.021**	mg/L	0.0050	0.00038	1	08/18/20 18:26	08/20/20 18:20	7440-48-4	
Lead	**0.00092J**	mg/L	0.0050	0.000036	1	08/18/20 18:26	08/20/20 18:20	7439-92-1	
Lithium	**0.0045J**	mg/L	0.030	0.00081	1	08/18/20 18:26	08/20/20 18:20	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/18/20 18:26	08/20/20 18:20	7439-98-7	
Selenium	**0.015**	mg/L	0.010	0.0016	1	08/18/20 18:26	08/20/20 18:20	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/18/20 18:26	08/20/20 18:20	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	08/18/20 12:00	08/19/20 13:21	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	**0.050J**	mg/L	0.10	0.050	1		08/20/20 07:58	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Sample: B-88 **Lab ID: 92490963007** Collected: 08/17/20 10:45 Received: 08/18/20 10:54 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**5.76**	Std. Units			1		08/20/20 17:22		
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	08/18/20 18:26	08/20/20 18:26	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/18/20 18:26	08/20/20 18:26	7440-38-2	
Barium	**0.022**	mg/L	0.010	0.00071	1	08/18/20 18:26	08/20/20 18:26	7440-39-3	
Beryllium	**0.0014J**	mg/L	0.0030	0.000046	1	08/18/20 18:26	08/21/20 15:28	7440-41-7	
Cadmium	**0.0018J**	mg/L	0.0025	0.00012	1	08/18/20 18:26	08/20/20 18:26	7440-43-9	
Chromium	**0.0014J**	mg/L	0.010	0.00055	1	08/18/20 18:26	08/20/20 18:26	7440-47-3	
Cobalt	**0.0031J**	mg/L	0.0050	0.00038	1	08/18/20 18:26	08/20/20 18:26	7440-48-4	
Lead	**0.00081J**	mg/L	0.0050	0.000036	1	08/18/20 18:26	08/20/20 18:26	7439-92-1	
Lithium	**0.0060J**	mg/L	0.030	0.00081	1	08/18/20 18:26	08/20/20 18:26	7439-93-2	
Molybdenum	**0.0012J**	mg/L	0.010	0.00069	1	08/18/20 18:26	08/20/20 18:26	7439-98-7	
Selenium	**0.0017J**	mg/L	0.010	0.0016	1	08/18/20 18:26	08/20/20 18:26	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/18/20 18:26	08/20/20 18:26	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	**0.00011J**	mg/L	0.00020	0.000078	1	08/19/20 12:30	08/20/20 15:05	7439-97-6	B
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	ND	mg/L	0.10	0.050	1		08/20/20 16:15	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Sample: B-100 **Lab ID: 92490963008** Collected: 08/17/20 10:49 Received: 08/18/20 10:54 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**5.02**	Std. Units			1		08/20/20 17:22		
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.0013J**	mg/L	0.0030	0.00028	1	08/18/20 18:26	08/20/20 19:00	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/18/20 18:26	08/20/20 19:00	7440-38-2	
Barium	**0.015**	mg/L	0.010	0.00071	1	08/18/20 18:26	08/20/20 19:00	7440-39-3	
Beryllium	**0.00040J**	mg/L	0.0030	0.000046	1	08/18/20 18:26	08/21/20 15:45	7440-41-7	
Cadmium	**0.00059J**	mg/L	0.0025	0.00012	1	08/18/20 18:26	08/20/20 19:00	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/18/20 18:26	08/20/20 19:00	7440-47-3	
Cobalt	**0.077**	mg/L	0.0050	0.00038	1	08/18/20 18:26	08/20/20 19:00	7440-48-4	
Lead	**0.000088J**	mg/L	0.0050	0.000036	1	08/18/20 18:26	08/20/20 19:00	7439-92-1	
Lithium	**0.0013J**	mg/L	0.030	0.00081	1	08/18/20 18:26	08/20/20 19:00	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/18/20 18:26	08/20/20 19:00	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/18/20 18:26	08/20/20 19:00	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/18/20 18:26	08/20/20 19:00	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	**0.00011J**	mg/L	0.00020	0.000078	1	08/19/20 12:30	08/20/20 15:07	7439-97-6	B
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	ND	mg/L	0.10	0.050	1		08/20/20 16:59	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Sample: B-56 **Lab ID: 92490963009** Collected: 08/17/20 12:00 Received: 08/18/20 10:54 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**4.82**	Std. Units			1		08/20/20 17:22		
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	08/18/20 18:26	08/20/20 19:06	7440-36-0	
Arsenic	**0.0032J**	mg/L	0.0050	0.00078	1	08/18/20 18:26	08/20/20 19:06	7440-38-2	
Barium	**0.030**	mg/L	0.010	0.00071	1	08/18/20 18:26	08/20/20 19:06	7440-39-3	
Beryllium	**0.0013J**	mg/L	0.0030	0.000046	1	08/18/20 18:26	08/21/20 15:50	7440-41-7	
Cadmium	**0.00029J**	mg/L	0.0025	0.00012	1	08/18/20 18:26	08/20/20 19:06	7440-43-9	
Chromium	**0.0014J**	mg/L	0.010	0.00055	1	08/18/20 18:26	08/20/20 19:06	7440-47-3	
Cobalt	**0.042**	mg/L	0.0050	0.00038	1	08/18/20 18:26	08/20/20 19:06	7440-48-4	
Lead	**0.00022J**	mg/L	0.0050	0.000036	1	08/18/20 18:26	08/20/20 19:06	7439-92-1	
Lithium	**0.0056J**	mg/L	0.030	0.00081	1	08/18/20 18:26	08/20/20 19:06	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/18/20 18:26	08/20/20 19:06	7439-98-7	
Selenium	**0.011**	mg/L	0.010	0.0016	1	08/18/20 18:26	08/20/20 19:06	7782-49-2	
Thallium	**0.00016J**	mg/L	0.0010	0.00014	1	08/18/20 18:26	08/20/20 19:06	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	**0.00016J**	mg/L	0.00020	0.000078	1	08/19/20 12:30	08/20/20 15:10	7439-97-6	B
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	**0.19**	mg/L	0.10	0.050	1		08/20/20 17:14	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Sample: B-3 **Lab ID: 92490963010** Collected: 08/17/20 13:08 Received: 08/18/20 10:54 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**5.51**	Std. Units			1		08/20/20 17:22		
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	08/18/20 18:26	08/20/20 19:12	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/18/20 18:26	08/20/20 19:12	7440-38-2	
Barium	**0.026**	mg/L	0.010	0.00071	1	08/18/20 18:26	08/20/20 19:12	7440-39-3	
Beryllium	**0.0035**	mg/L	0.0030	0.000046	1	08/18/20 18:26	08/21/20 15:56	7440-41-7	
Cadmium	**0.00077J**	mg/L	0.0025	0.00012	1	08/18/20 18:26	08/20/20 19:12	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/18/20 18:26	08/20/20 19:12	7440-47-3	
Cobalt	**0.061**	mg/L	0.0050	0.00038	1	08/18/20 18:26	08/20/20 19:12	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/18/20 18:26	08/20/20 19:12	7439-92-1	
Lithium	**0.58**	mg/L	0.030	0.00081	1	08/18/20 18:26	08/20/20 19:12	7439-93-2	
Molybdenum	**0.0015J**	mg/L	0.010	0.00069	1	08/18/20 18:26	08/20/20 19:12	7439-98-7	
Selenium	**0.0021J**	mg/L	0.010	0.0016	1	08/18/20 18:26	08/20/20 19:12	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/18/20 18:26	08/20/20 19:12	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	**0.00010J**	mg/L	0.00020	0.000078	1	08/19/20 12:30	08/20/20 15:12	7439-97-6	B
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	**0.077J**	mg/L	0.10	0.050	1		08/20/20 17:29	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Sample: B-82 **Lab ID: 92490963011** Collected: 08/17/20 14:25 Received: 08/18/20 10:54 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**5.48**	Std. Units			1		08/20/20 17:22		
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	08/18/20 18:26	08/20/20 19:17	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/18/20 18:26	08/20/20 19:17	7440-38-2	
Barium	**0.024**	mg/L	0.010	0.00071	1	08/18/20 18:26	08/20/20 19:17	7440-39-3	
Beryllium	**0.0014J**	mg/L	0.0030	0.000046	1	08/18/20 18:26	08/21/20 16:24	7440-41-7	
Cadmium	**0.00058J**	mg/L	0.0025	0.00012	1	08/18/20 18:26	08/20/20 19:17	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/18/20 18:26	08/20/20 19:17	7440-47-3	
Cobalt	**0.0028J**	mg/L	0.0050	0.00038	1	08/18/20 18:26	08/20/20 19:17	7440-48-4	
Lead	**0.000059J**	mg/L	0.0050	0.000036	1	08/18/20 18:26	08/20/20 19:17	7439-92-1	
Lithium	**0.0016J**	mg/L	0.030	0.00081	1	08/18/20 18:26	08/20/20 19:17	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/18/20 18:26	08/20/20 19:17	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/18/20 18:26	08/20/20 19:17	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/18/20 18:26	08/20/20 19:17	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	**0.00011J**	mg/L	0.00020	0.000078	1	08/19/20 12:30	08/20/20 15:14	7439-97-6	B
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	ND	mg/L	0.10	0.050	1		08/20/20 17:44	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Sample: B-93 **Lab ID: 92490963012** Collected: 08/19/20 12:29 Received: 08/19/20 13:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**4.78**	Std. Units			1		08/20/20 17:22		
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	08/24/20 15:05	08/25/20 17:00	7440-36-0	
Arsenic	**0.0013J**	mg/L	0.0050	0.00078	1	08/24/20 15:05	08/25/20 17:00	7440-38-2	
Barium	**0.018**	mg/L	0.010	0.00071	1	08/24/20 15:05	08/25/20 17:00	7440-39-3	
Beryllium	**0.015**	mg/L	0.0030	0.000046	1	08/24/20 15:05	08/25/20 17:00	7440-41-7	
Cadmium	**0.00077J**	mg/L	0.0025	0.00012	1	08/24/20 15:05	08/25/20 17:00	7440-43-9	
Chromium	**0.00057J**	mg/L	0.010	0.00055	1	08/24/20 15:05	08/25/20 17:00	7440-47-3	
Cobalt	**0.068**	mg/L	0.0050	0.00038	1	08/24/20 15:05	08/25/20 17:00	7440-48-4	
Lead	**0.00012J**	mg/L	0.0050	0.000036	1	08/24/20 15:05	08/26/20 17:06	7439-92-1	
Lithium	**0.011J**	mg/L	0.030	0.00081	1	08/24/20 15:05	08/25/20 17:00	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/24/20 15:05	08/25/20 17:00	7439-98-7	
Selenium	**0.018**	mg/L	0.010	0.0016	1	08/24/20 15:05	08/25/20 17:00	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:05	08/26/20 17:06	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	**0.00026**	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 08:52	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	**0.32**	mg/L	0.10	0.050	1		08/21/20 03:44	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

QC Batch: 560739
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92490963001, 92490963002, 92490963003, 92490963004, 92490963005

METHOD BLANK: 2974806 Matrix: Water
Associated Lab Samples: 92490963001, 92490963002, 92490963003, 92490963004, 92490963005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	08/19/20 17:51	
Arsenic	mg/L	ND	0.0050	0.00078	08/19/20 17:51	
Barium	mg/L	ND	0.010	0.00071	08/19/20 17:51	
Beryllium	mg/L	ND	0.0030	0.000046	08/19/20 17:51	
Cadmium	mg/L	ND	0.0025	0.00012	08/19/20 17:51	
Chromium	mg/L	ND	0.010	0.00055	08/19/20 17:51	
Cobalt	mg/L	ND	0.0050	0.00038	08/19/20 17:51	
Lead	mg/L	ND	0.0050	0.000036	08/19/20 17:51	
Lithium	mg/L	ND	0.030	0.00081	08/19/20 17:51	
Molybdenum	mg/L	ND	0.010	0.00069	08/19/20 17:51	
Selenium	mg/L	ND	0.010	0.0016	08/19/20 17:51	
Thallium	mg/L	ND	0.0010	0.00014	08/19/20 17:51	

LABORATORY CONTROL SAMPLE: 2974807

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.11	111	80-120	
Arsenic	mg/L	0.1	0.099	99	80-120	
Barium	mg/L	0.1	0.10	102	80-120	
Beryllium	mg/L	0.1	0.099	99	80-120	
Cadmium	mg/L	0.1	0.10	100	80-120	
Chromium	mg/L	0.1	0.10	103	80-120	
Cobalt	mg/L	0.1	0.10	101	80-120	
Lead	mg/L	0.1	0.10	100	80-120	
Lithium	mg/L	0.1	0.10	104	80-120	
Molybdenum	mg/L	0.1	0.11	106	80-120	
Selenium	mg/L	0.1	0.10	102	80-120	
Thallium	mg/L	0.1	0.099	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2974808 2974809

Parameter	Units	92490942006 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	114	109	75-125	5	20	
Arsenic	mg/L	ND	0.1	0.1	0.10	0.099	100	99	75-125	2	20	
Barium	mg/L	0.088	0.1	0.1	0.22	0.21	131	119	75-125	6	20	M1
Beryllium	mg/L	ND	0.1	0.1	0.099	0.096	99	96	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 MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2974808 2974809

Parameter	Units	92490942006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	mg/L	0.00021J	0.1	0.1	0.10	0.098	99	98	75-125	1	20	
Chromium	mg/L	ND	0.1	0.1	0.10	0.10	102	101	75-125	1	20	
Cobalt	mg/L	ND	0.1	0.1	0.099	0.098	99	98	75-125	1	20	
Lead	mg/L	ND	0.1	0.1	0.098	0.097	98	97	75-125	0	20	
Lithium	mg/L	ND	0.1	0.1	0.10	0.098	102	97	75-125	4	20	
Molybdenum	mg/L	0.19	0.1	0.1	0.31	0.29	122	105	75-125	5	20	
Selenium	mg/L	ND	0.1	0.1	0.10	0.093	99	92	75-125	7	20	
Thallium	mg/L	ND	0.1	0.1	0.097	0.096	97	96	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

QC Batch: 560791
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92490963006, 92490963007, 92490963008, 92490963009, 92490963010, 92490963011

METHOD BLANK: 2975067 Matrix: Water
Associated Lab Samples: 92490963006, 92490963007, 92490963008, 92490963009, 92490963010, 92490963011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	08/20/20 16:30	
Arsenic	mg/L	ND	0.0050	0.00078	08/20/20 16:30	
Barium	mg/L	ND	0.010	0.00071	08/20/20 16:30	
Beryllium	mg/L	ND	0.0030	0.000046	08/20/20 16:30	
Cadmium	mg/L	ND	0.0025	0.00012	08/20/20 16:30	
Chromium	mg/L	ND	0.010	0.00055	08/20/20 16:30	
Cobalt	mg/L	ND	0.0050	0.00038	08/20/20 16:30	
Lead	mg/L	ND	0.0050	0.000036	08/20/20 16:30	
Lithium	mg/L	ND	0.030	0.00081	08/20/20 16:30	
Molybdenum	mg/L	ND	0.010	0.00069	08/20/20 16:30	
Selenium	mg/L	ND	0.010	0.0016	08/20/20 16:30	
Thallium	mg/L	ND	0.0010	0.00014	08/20/20 16:30	

LABORATORY CONTROL SAMPLE: 2975068

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	103	80-120	
Arsenic	mg/L	0.1	0.099	99	80-120	
Barium	mg/L	0.1	0.10	101	80-120	
Beryllium	mg/L	0.1	0.11	109	80-120	
Cadmium	mg/L	0.1	0.098	98	80-120	
Chromium	mg/L	0.1	0.10	103	80-120	
Cobalt	mg/L	0.1	0.10	102	80-120	
Lead	mg/L	0.1	0.10	101	80-120	
Lithium	mg/L	0.1	0.11	113	80-120	
Molybdenum	mg/L	0.1	0.10	100	80-120	
Selenium	mg/L	0.1	0.099	99	80-120	
Thallium	mg/L	0.1	0.099	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2975069 2975070

Parameter	Units	92490963007 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	0.099	0.10	99	102	75-125	3	20	
Arsenic	mg/L	ND	0.1	0.1	0.10	0.10	100	103	75-125	3	20	
Barium	mg/L	0.022	0.1	0.1	0.12	0.12	99	99	75-125	0	20	
Beryllium	mg/L	0.0014J	0.1	0.1	0.094	0.095	92	93	75-125	1	20	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2975069 2975070

Parameter	Units	92490963007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	mg/L	0.0018J	0.1	0.1	0.10	0.10	99	98	75-125	1	20	
Chromium	mg/L	0.0014J	0.1	0.1	0.10	0.10	102	101	75-125	1	20	
Cobalt	mg/L	0.0031J	0.1	0.1	0.10	0.099	97	96	75-125	1	20	
Lead	mg/L	0.00081J	0.1	0.1	0.088	0.095	87	94	75-125	8	20	
Lithium	mg/L	0.0060J	0.1	0.1	0.095	0.096	89	90	75-125	1	20	
Molybdenum	mg/L	0.0012J	0.1	0.1	0.098	0.10	97	101	75-125	4	20	
Selenium	mg/L	0.0017J	0.1	0.1	0.098	0.10	96	100	75-125	4	20	
Thallium	mg/L	ND	0.1	0.1	0.085	0.094	85	94	75-125	10	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 MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

QC Batch: 561963
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92490963012

METHOD BLANK: 2980652 Matrix: Water
Associated Lab Samples: 92490963012

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

LABORATORY CONTROL SAMPLE: 2980653

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2980654 2980655

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

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2980654 2980655

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

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

QC Batch: 560634 | Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A | Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92490963001, 92490963002, 92490963003, 92490963004, 92490963005, 92490963006

METHOD BLANK: 2974354 Matrix: Water
Associated Lab Samples: 92490963001, 92490963002, 92490963003, 92490963004, 92490963005, 92490963006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.000078	08/19/20 12:33	

LABORATORY CONTROL SAMPLE: 2974355

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0023	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2974356 2974357

Parameter	Units	92490942001 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	0.0022	0.0025	86	98	75-125	13	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

QC Batch: 560972
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92490963007, 92490963008, 92490963009, 92490963010, 92490963011

METHOD BLANK: 2975790 Matrix: Water
Associated Lab Samples: 92490963007, 92490963008, 92490963009, 92490963010, 92490963011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	0.00012J	0.00020	0.000078	08/20/20 14:39	

LABORATORY CONTROL SAMPLE: 2975791

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0024	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2975792 2975793

Parameter	Units	92491341001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	0.51 ug/L	0.0025	0.0025	0.0030	0.0025	101	81	75-125	18	20	M1,R1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

QC Batch: 561894
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92490963012

METHOD BLANK: 2980088 Matrix: Water
Associated Lab Samples: 92490963012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.000078	08/25/20 08:19	

LABORATORY CONTROL SAMPLE: 2980089

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0026	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2980090 2980091

Parameter	Units	92491616002 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	0.0026	90	102	75-125	12	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

QC Batch: 561129
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92490963001, 92490963002, 92490963003, 92490963004, 92490963005, 92490963006

METHOD BLANK: 2976672 Matrix: Water
Associated Lab Samples: 92490963001, 92490963002, 92490963003, 92490963004, 92490963005, 92490963006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	0.050	08/20/20 00:59	

LABORATORY CONTROL SAMPLE: 2976673

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.4	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2976674 2976675

Parameter	Units	92491362001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	ND	2.5	2.5	2.9	2.9	113	115	90-110	1	10	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2976676 2976677

Parameter	Units	92491256001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.28	2.5	2.5	2.8	2.8	99	99	90-110	0	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

QC Batch: 561131
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92490963007, 92490963008, 92490963009, 92490963010, 92490963011

METHOD BLANK: 2976682 Matrix: Water
Associated Lab Samples: 92490963007, 92490963008, 92490963009, 92490963010, 92490963011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	0.050	08/20/20 15:45	

LABORATORY CONTROL SAMPLE: 2976683

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.7	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2976684 2976685

Parameter	Units	92490963007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	ND	2.5	2.5	2.6	2.6	104	102	90-110	2	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2976686 2976687

Parameter	Units	92490847002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	ND	2.5	2.5	2.7	2.7	105	105	90-110	0	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

QC Batch: 561238
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92490963012

METHOD BLANK: 2977016 Matrix: Water
Associated Lab Samples: 92490963012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	0.050	08/21/20 01:16	

LABORATORY CONTROL SAMPLE: 2977017

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.7	109	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2977018 2977019

Parameter	Units	92491455012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	ND	2.5	2.5	2.5	2.5	98	99	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2977020 2977021

Parameter	Units	92490037060 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	ND	2.5	2.5	2.5	2.5	97	100	90-110	3	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Sample: B-62 **Lab ID: 92490963001** Collected: 08/13/20 17:06 Received: 08/14/20 14:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.647 ± 0.395 (0.610) C:75% T:NA**	pCi/L	09/02/20 07:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.986 ± 0.474 (0.809) C:65% T:85%**	pCi/L	09/09/20 12:03	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.63 ± 0.869 (1.42)**	pCi/L	09/10/20 13:16	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
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(770)734-4200

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Sample: B-77 **Lab ID: 92490963002** Collected: 08/13/20 16:55 Received: 08/14/20 14:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.782 ± 0.417 (0.602) C:81% T:NA**	pCi/L	09/02/20 07:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.39 ± 0.593 (0.977) C:66% T:78%**	pCi/L	09/09/20 12:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.17 ± 1.01 (1.58)**	pCi/L	09/10/20 13:16	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 MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Sample: B-74 **Lab ID: 92490963003** Collected: 08/14/20 11:34 Received: 08/14/20 14:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.678 ± 0.362 (0.450) C:79% T:NA**	pCi/L	09/02/20 08:26	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.989 ± 0.494 (0.872) C:66% T:84%**	pCi/L	09/09/20 12:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.67 ± 0.856 (1.32)**	pCi/L	09/10/20 13:16	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Sample: B-89 **Lab ID: 92490963004** Collected: 08/14/20 10:03 Received: 08/14/20 14:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.116 ± 0.302 (0.720) C:79% T:NA**	pCi/L	09/02/20 07:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.37 ± 0.567 (0.907) C:64% T:82%**	pCi/L	09/09/20 12:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.49 ± 0.869 (1.63)**	pCi/L	09/10/20 13:16	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Sample: FD-3 **Lab ID: 92490963005** Collected: 08/14/20 00:00 Received: 08/14/20 14:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.113 ± 0.250 (0.588) C:86% T:NA**	pCi/L	09/02/20 07:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.881 ± 0.508 (0.942) C:61% T:88%**	pCi/L	09/09/20 12:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.994 ± 0.758 (1.53)**	pCi/L	09/10/20 13:16	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Sample: B-83 **Lab ID: 92490963006** Collected: 08/14/20 13:00 Received: 08/14/20 14:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.367 ± 0.263 (0.414) C:91% T:NA**	pCi/L	09/02/20 07:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.583 ± 0.517 (1.05) C:66% T:71%**	pCi/L	09/09/20 12:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.950 ± 0.780 (1.46)**	pCi/L	09/10/20 13:16	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Sample: B-88 **Lab ID: 92490963007** Collected: 08/17/20 10:45 Received: 08/18/20 10:54 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.556 ± 0.309 (0.385) C:93% T:NA**	pCi/L	09/02/20 07:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.91 ± 0.689 (1.02) C:66% T:71%**	pCi/L	09/09/20 12:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.47 ± 0.998 (1.41)**	pCi/L	09/10/20 13:23	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Sample: B-100 **Lab ID: 92490963008** Collected: 08/17/20 10:49 Received: 08/18/20 10:54 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.277 ± 0.266 (0.509) C:92% T:NA**	pCi/L	09/02/20 07:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.12 ± 0.565 (0.994) C:62% T:77%**	pCi/L	09/09/20 12:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.40 ± 0.831 (1.50)**	pCi/L	09/10/20 13:23	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Sample: B-56 **Lab ID: 92490963009** Collected: 08/17/20 12:00 Received: 08/18/20 10:54 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.436 ± 0.307 (0.501) C:89% T:NA**	pCi/L	09/02/20 07:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.712 ± 0.484 (0.933) C:61% T:86%**	pCi/L	09/09/20 12:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.15 ± 0.791 (1.43)**	pCi/L	09/10/20 13:23	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Sample: B-3 **Lab ID: 92490963010** Collected: 08/17/20 13:08 Received: 08/18/20 10:54 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.992 ± 0.457 (0.654) C:94% T:NA**	pCi/L	09/02/20 07:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.784 ± 0.970 (2.06) C:34% T:74%**	pCi/L	09/09/20 12:05	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.78 ± 1.43 (2.71)**	pCi/L	09/10/20 13:23	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Sample: B-82 **Lab ID: 92490963011** Collected: 08/17/20 14:25 Received: 08/18/20 10:54 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.119 ± 0.187 (0.404) C:91% T:NA**	pCi/L	09/02/20 07:40	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.543 ± 0.463 (0.930) C:61% T:78%**	pCi/L	09/09/20 12:05	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.662 ± 0.650 (1.33)**	pCi/L	09/10/20 13:23	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Sample: B-93 **Lab ID: 92490963012** Collected: 08/19/20 12:29 Received: 08/19/20 13:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.725 ± 0.347 (0.405) C:96% T:NA**	pCi/L	09/02/20 07:42	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.467 ± 0.517 (1.09) C:63% T:83%**	pCi/L	09/09/20 12:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.19 ± 0.864 (1.50)**	pCi/L	09/10/20 13:18	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 MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

QC Batch: 411435 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92490963001, 92490963002, 92490963003, 92490963004, 92490963005, 92490963006, 92490963007, 92490963008, 92490963009, 92490963010, 92490963011, 92490963012

METHOD BLANK: 1990342 Matrix: Water
Associated Lab Samples: 92490963001, 92490963002, 92490963003, 92490963004, 92490963005, 92490963006, 92490963007, 92490963008, 92490963009, 92490963010, 92490963011, 92490963012

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.664 ± 0.374 (0.672) C:70% T:89%	pCi/L	09/09/20 12:03	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

QC Batch: 411373 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92490963001, 92490963002, 92490963003, 92490963004, 92490963005, 92490963006, 92490963007, 92490963008, 92490963009, 92490963010, 92490963011, 92490963012

METHOD BLANK: 1989993 Matrix: Water
Associated Lab Samples: 92490963001, 92490963002, 92490963003, 92490963004, 92490963005, 92490963006, 92490963007, 92490963008, 92490963009, 92490963010, 92490963011, 92490963012

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0671 ± 0.195 (0.481) C:88% T:NA	pCi/L	09/02/20 07:31	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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.
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 MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92490963001	**B-62**				
92490963002	**B-77**				
92490963003	**B-74**				
92490963004	**B-89**				
92490963006	**B-83**				
92490963007	**B-88**				
92490963008	**B-100**				
92490963009	**B-56**				
92490963010	**B-3**				
92490963011	**B-82**				
92490963012	**B-93**				
92490963001	**B-62**	EPA 3005A	560739	EPA 6020B	560802
92490963002	**B-77**	EPA 3005A	560739	EPA 6020B	560802
92490963003	**B-74**	EPA 3005A	560739	EPA 6020B	560802
92490963004	**B-89**	EPA 3005A	560739	EPA 6020B	560802
92490963005	**FD-3**	EPA 3005A	560739	EPA 6020B	560802
92490963006	**B-83**	EPA 3005A	560791	EPA 6020B	560801
92490963007	**B-88**	EPA 3005A	560791	EPA 6020B	560801
92490963008	**B-100**	EPA 3005A	560791	EPA 6020B	560801
92490963009	**B-56**	EPA 3005A	560791	EPA 6020B	560801
92490963010	**B-3**	EPA 3005A	560791	EPA 6020B	560801
92490963011	**B-82**	EPA 3005A	560791	EPA 6020B	560801
92490963012	**B-93**	EPA 3005A	561963	EPA 6020B	562039
92490963001	**B-62**	EPA 7470A	560634	EPA 7470A	560773
92490963002	**B-77**	EPA 7470A	560634	EPA 7470A	560773
92490963003	**B-74**	EPA 7470A	560634	EPA 7470A	560773
92490963004	**B-89**	EPA 7470A	560634	EPA 7470A	560773
92490963005	**FD-3**	EPA 7470A	560634	EPA 7470A	560773
92490963006	**B-83**	EPA 7470A	560634	EPA 7470A	560773
92490963007	**B-88**	EPA 7470A	560972	EPA 7470A	561213
92490963008	**B-100**	EPA 7470A	560972	EPA 7470A	561213
92490963009	**B-56**	EPA 7470A	560972	EPA 7470A	561213
92490963010	**B-3**	EPA 7470A	560972	EPA 7470A	561213
92490963011	**B-82**	EPA 7470A	560972	EPA 7470A	561213
92490963012	**B-93**	EPA 7470A	561894	EPA 7470A	562048
92490963001	**B-62**	EPA 9315	411373		
92490963002	**B-77**	EPA 9315	411373		
92490963003	**B-74**	EPA 9315	411373		
92490963004	**B-89**	EPA 9315	411373		
92490963005	**FD-3**	EPA 9315	411373		
92490963006	**B-83**	EPA 9315	411373		
92490963007	**B-88**	EPA 9315	411373		
92490963008	**B-100**	EPA 9315	411373		
92490963009	**B-56**	EPA 9315	411373		
92490963010	**B-3**	EPA 9315	411373		

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PLANT MCDONOUGH ASSESSMENT
Pace Project No.: 92490963

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92490963011	**B-82**	EPA 9315	411373		
92490963012	**B-93**	EPA 9315	411373		
92490963001	**B-62**	EPA 9320	411435		
92490963002	**B-77**	EPA 9320	411435		
92490963003	**B-74**	EPA 9320	411435		
92490963004	**B-89**	EPA 9320	411435		
92490963005	**FD-3**	EPA 9320	411435		
92490963006	**B-83**	EPA 9320	411435		
92490963007	**B-88**	EPA 9320	411435		
92490963008	**B-100**	EPA 9320	411435		
92490963009	**B-56**	EPA 9320	411435		
92490963010	**B-3**	EPA 9320	411435		
92490963011	**B-82**	EPA 9320	411435		
92490963012	**B-93**	EPA 9320	411435		
92490963001	**B-62**	Total Radium Calculation	413340		
92490963002	**B-77**	Total Radium Calculation	413340		
92490963003	**B-74**	Total Radium Calculation	413340		
92490963004	**B-89**	Total Radium Calculation	413340		
92490963005	**FD-3**	Total Radium Calculation	413340		
92490963006	**B-83**	Total Radium Calculation	413340		
92490963007	**B-88**	Total Radium Calculation	413341		
92490963008	**B-100**	Total Radium Calculation	413341		
92490963009	**B-56**	Total Radium Calculation	413341		
92490963010	**B-3**	Total Radium Calculation	413341		
92490963011	**B-82**	Total Radium Calculation	413341		
92490963012	**B-93**	Total Radium Calculation	413342		
92490963001	**B-62**	EPA 300.0 Rev 2.1 1993	561129		
92490963002	**B-77**	EPA 300.0 Rev 2.1 1993	561129		
92490963003	**B-74**	EPA 300.0 Rev 2.1 1993	561129		
92490963004	**B-89**	EPA 300.0 Rev 2.1 1993	561129		
92490963005	**FD-3**	EPA 300.0 Rev 2.1 1993	561129		
92490963006	**B-83**	EPA 300.0 Rev 2.1 1993	561129		
92490963007	**B-88**	EPA 300.0 Rev 2.1 1993	561131		
92490963008	**B-100**	EPA 300.0 Rev 2.1 1993	561131		
92490963009	**B-56**	EPA 300.0 Rev 2.1 1993	561131		
92490963010	**B-3**	EPA 300.0 Rev 2.1 1993	561131		
92490963011	**B-82**	EPA 300.0 Rev 2.1 1993	561131		
92490963012	**B-93**	EPA 300.0 Rev 2.1 1993	561238		

WO# : 92490963

92490963

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accura

Page : 1 Of

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Georgia Power - Coal Combustion Residuals	Report To:	Joju Abraham	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Golder	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:		Pace Quote:	
Phone:	(404) 506-7239 Fax:	Project Name:	Plant McDonough Assessment	Pace Project Manager:	Kevin Herring
Requested Due Date:		Project #:	166849618	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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Analysis Test Y/N	App IV Metals*	Fluoride	Radium 226/228	Residual Chlorine (Y/N)	
	MATRIX: Drinking Water CODE DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS															Requested Analysis Filtered (Y/N)	N	N	N		92490963
1	B-62	WT	G	8/13/2020	1706		4	1		3							X	X	X		pH: 6.40
2	B-77	WT	G	8/13/2020	1655		4	1		3							X	X	X		pH: 6.14
3	B-74			8/13/20	1134		4	1		3							X	X	X		pH: 6.19
4	B-89			"	1007		6	1		5							X	X	X		pH: 5.83, extra vials
5	FD-3			"	—		4	1		3							X	X	X		
6	B-83			"	1300		4	1		3							X	X	X		pH: 5.59
7																					
8																					
9																					
10																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
App IV metals - Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl	JW/SAMPLER	08/14/20	14:30	[signature]	8/14/20	1430	

SAMPLER NAME AND SIGNATURE

SAMPLER NAME: JUDE WAGUESPACK

SAMPLER SIGNATURE: [signature] DATE Signed: 08/14/20

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

WO#: 92490963

PM: KLH1 Due Date: 08/28/20

CLIENT: GA-GA Power

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

Tracking #: _____

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

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☑ Other Ziploc

Thermometer Used THR214 Type of Ice: ☑ Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 3.8 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Comments:

Date and Initials of person examining contents: KRW 8/18/20

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: WT		
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

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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: Jake Abraham	Attention: acc-nwc-cee@southernco.com
Address: 2480 Maner Road	Copy To: Golder	Company Name:
Atlanta, GA 30339		Address:
Email: jabraham@southernco.com	Purchase Order #:	Pace Quote
Phone: (404) 506-7239 Fax:	Project Name: Plant McDonough Assessment	Pace Project Manager: Kevin Herring
Requested Due Date:	Project #: 166849618	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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved - Ice	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N): Y/N	Analyses Test: App IV Metals*	Fluoride	Radium 226/228	Residual Chlorine (Y/N)	9245963
1	B-88	WT	G	8/17/2020	10:45		4	1		3						N	X	X	X		pH=5.76
2	B-100	WT	G	8/17/2020	10:49		4	1		3						N	X	X	X		pH=5.02
3	B-56	WT	G	8/17/2020	12:00		4	1		3						N	X	X	X		pH=4.82
4	B-3	WT	G	8/17/2020	13:08		4	1		3						N	X	X	X		pH=5.51
5	B-82	WT	G	8/17/2020	14:25		4	1		3						N	X	X	X		pH= 5.48
6																					
7																					
8																					
9																					
10																					

007
008
009
010
011

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)
App IV metals = Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl	JN / SAMPLER	08/18/20	1054	K. Wellington / Pace	8/18/20	1054	3.8	Y	N	Y

SAMPLER NAME AND SIGNATURE

SAMPLER NAME: JUDE WAGNESPACK

SAMPLER SIGNATURE: JW

DATE Signed: 08/18/20

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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: Jolu Abraham	Attention: scservices@southernco.com DAWN_PRELL @GOLDER.COM
Address: 2480 Maner Road Atlanta, GA 30339	Copy To: Golder	Company Name:
Email: jabraham@southernco.com	Purchase Order #:	Address:
Phone: (404) 506-7239 Fax:	Project Name: Plant McDonough Assessment	Pace Quote:
Requested Due Date:	Project #: 156849618	Pace Project Manager: Kevin Herring
		Pace Profile #:

Regulatory Agency

State / Location: GA

Requested Analysis Filtered (Y/N)

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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Analyses Test: App IV Metals*	Fluoride	Radium 226/228	Residual Chlorine (Y/N)	
																Y/N	N	N	N	9240963
1	B-93	WT	G	8/18/2020	12:29		4	1		3						X	X	X		pH= 4.78 012
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
App IV metals = Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl	JW / SAMPLER	08/19/20	1355	K. Williams	08/19/20	1355	AD	Y	Y	Y

SAMPLER NAME AND SIGNATURE

SAMPLER NAME: JOE WOGUESPACK

SAMPLER SIGNATURE: JW

DATE Signed: 08/19/20

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	LAL
Date:	9/1/2020
Work ID:	55637
Matrix:	DW

Method Blank Assessment	
MB Sample ID:	1985950
MB concentration:	0.067
MB Counting Uncertainty:	0.195
MB MDC:	0.431
MB Numerical Performance Indicator:	0.57
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS55937	LCSD55937
Count Date:	9/2/2020	
Spike I.D.:	19-003	
Decay Corrected Spike Concentration (pCi/mL):	24.345	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.908	
Target Conc. (pCi/L, g, F):	4.738	
Uncertainty (Calculated):	0.057	
Result (pCi/L, g, F):	5.256	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.868	
Numerical Performance Indicator:	1.24	
Percent Recovery:	111.58%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	9249095304	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.:	9249095304DUP	
Sample Result (pCi/L, g, F):	0.116	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.301	
Sample Duplicate Result (pCi/L, g, F):	0.448	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.277	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	-1.591	9249095304
Duplicate RPD:	117.70%	9249095304DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail	
% RPD Limit:	25%	

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:		
% RPD Limit:		

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

Comments:

~~**Batch must be re-prepped and ran for acceptable precision.~~ LAM 9/2/2020

LAM 9/2/2020

Quality Control Sample Performance Assessment

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	LAL
Date:	9/1/2020
Worklist:	55837
Matrix:	DW

Method Blank Assessment	
MB Sample ID	1989953
MB concentration:	0.067
MB Counting Uncertainty:	0.195
MB MDC:	0.461
MB Numerical Performance Indicator:	0.67
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCS (Y or N)?	Y
	LCS55837	LCSD55837
Count Date:	9/2/2020	9/2/2020
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.045	24.045
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.508	0.501
Target Conc. (pCi/L, g, F):	4.738	4.797
Uncertainty (Calculated):	0.457	0.558
Result (pCi/L, g, F):	5.286	4.329
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.858	0.805
Numerical Performance Indicator:	1.24	-1.13
Percent Recovery:	111.58%	90.26%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:		
Sample I.C.:		
Sample MS I.C.:		
Sample MSD I.C.:		
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS55837	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.:	LCSD55837	
Sample Result (pCi/L, g, F):	5.286	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.858	
Sample Duplicate Result (pCi/L, g, F):	4.329	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.805	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	1.564	92490383004
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	21.13%	92490983004DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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:	
% RPD Limit:	

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

Comments:

LAM 9/2/2020

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-228
Analyst:	VAL
Date:	9/2/2020
Worklist:	55851
Matrix:	WT

Method Blank Assessment	
MB Sample ID	1990042
MB concentration:	0.584
MB 2 Sigma CSU:	0.374
MB MDC:	0.672
MB Numerical Performance Indicator:	3.42
MB Status vs Numerical Indicator:	Fail*
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS55851	LCSD55851
Count Date:	9/5/2020	9/9/2020
Spike I.D.:	20-030	20-030
Decay Corrected Spike Concentration (pCi/mL):	38.472	38.472
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.812	0.803
Target Conc. (pCi/L, g, F):	4.737	4.789
Uncertainty (Calculated):	0.232	0.235
Result (pCi/L, g, F):	5.598	4.322
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.288	1.030
Numerical Performance Indicator:	1.29	-0.87
Percent Recovery:	118.17%	90.24%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	80%	80%

Duplicate Sample Assessment		
Sample I.D.:	LCS55851	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD55851	
Sample Result (pCi/L, g, F):	5.598	
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.288	
Sample Duplicate Result (pCi/L, g, F):	4.322	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.030	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	1.515	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	26.80%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	30%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit:		

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

Comments:

*If the lowest activity sample in this batch is greater than ten times the blank value, the blank is acceptable, otherwise this batch must be re-prepped.

TT 9-10-20

AA 9-10-20

APPENDIX A

Laboratory Analytical Data September 2020

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

October 16, 2020

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

RE: Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92496940

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 23, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

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

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

CERTIFICATIONS

Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92496940

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
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

Pace Analytical Services Peachtree Corners
110 Technology Pkwy, Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Virginia Certification #: 460204

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SAMPLE SUMMARY

Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92496940

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92496940001	**DGWA-53**	Water	09/22/20 12:40	09/23/20 09:35
92496940002	**DGWA-70A**	Water	09/22/20 10:20	09/23/20 09:35
92496940003	**DGWA-71**	Water	09/22/20 11:45	09/23/20 09:35
92496940004	**EB-1**	Water	09/22/20 11:45	09/23/20 09:35

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Peachtree Corners, GA 30092
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SAMPLE ANALYTE COUNT

Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92496940

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92496940001	**DGWA-53**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92496940002	**DGWA-70A**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92496940003	**DGWA-71**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92496940004	**EB-1**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	BRJ	3

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte
PASI-GA = Pace Analytical Services - Peachtree Corners, GA

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

ANALYTICAL RESULTS

Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92496940

Sample: DGWA-53 **Lab ID: 92496940001** Collected: 09/22/20 12:40 Received: 09/23/20 09:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.43**	Std. Units			1		10/08/20 08:14		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**15.5**	mg/L	1.0	0.070	1	09/24/20 14:20	09/25/20 22:29	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/28/20 15:08	09/29/20 18:55	7440-36-0	
Arsenic	**0.00093J**	mg/L	0.0050	0.00078	1	09/28/20 15:08	09/29/20 18:55	7440-38-2	
Barium	**0.070**	mg/L	0.010	0.00071	1	09/28/20 15:08	09/29/20 18:55	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/28/20 15:08	09/29/20 18:55	7440-41-7	
Boron	**0.056J**	mg/L	0.10	0.0052	1	09/28/20 15:08	09/29/20 18:55	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/28/20 15:08	09/29/20 18:55	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/28/20 15:08	09/29/20 18:55	7440-47-3	
Cobalt	**0.011**	mg/L	0.0050	0.00038	1	09/28/20 15:08	09/29/20 18:55	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/28/20 15:08	09/29/20 18:55	7439-92-1	
Lithium	**0.0089J**	mg/L	0.030	0.00081	1	09/28/20 15:08	09/29/20 18:55	7439-93-2	
Molybdenum	**0.039**	mg/L	0.010	0.00069	1	09/28/20 15:08	09/29/20 18:55	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/28/20 15:08	09/29/20 18:55	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/28/20 15:08	09/29/20 18:55	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00050	0.000078	1	09/28/20 09:15	09/29/20 09:13	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**142**	mg/L	10.0	10.0	1		09/24/20 10:30		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**1.6**	mg/L	1.0	0.60	1		09/27/20 03:05	16887-00-6	M1
Fluoride	**0.099J**	mg/L	0.10	0.050	1		09/27/20 03:05	16984-48-8	M1
Sulfate	**13.5**	mg/L	1.0	0.50	1		09/27/20 03:05	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: MCDONOUGH UPGRADIENT
Pace Project No.: 92496940

Sample: DGWA-70A **Lab ID: 92496940002** Collected: 09/22/20 10:20 Received: 09/23/20 09:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.01**	Std. Units			1		10/08/20 08:14		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**5.0**	mg/L	1.0	0.070	1	09/24/20 14:20	09/25/20 22:33	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/28/20 15:08	09/29/20 19:12	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/28/20 15:08	09/29/20 19:12	7440-38-2	
Barium	**0.038**	mg/L	0.010	0.00071	1	09/28/20 15:08	09/29/20 19:12	7440-39-3	
Beryllium	**0.000068J**	mg/L	0.0030	0.000046	1	09/28/20 15:08	09/29/20 19:12	7440-41-7	
Boron	ND	mg/L	0.10	0.0052	1	09/28/20 15:08	09/29/20 19:12	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/28/20 15:08	09/29/20 19:12	7440-43-9	
Chromium	**0.00089J**	mg/L	0.010	0.00055	1	09/28/20 15:08	09/29/20 19:12	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/28/20 15:08	09/29/20 19:12	7440-48-4	
Lead	**0.000078J**	mg/L	0.0050	0.000036	1	09/28/20 15:08	09/29/20 19:12	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/28/20 15:08	09/29/20 19:12	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/28/20 15:08	09/29/20 19:12	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/28/20 15:08	09/29/20 19:12	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/28/20 15:08	09/29/20 19:12	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00050	0.000078	1	09/28/20 09:15	09/29/20 09:15	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**46.0**	mg/L	10.0	10.0	1		09/24/20 10:30		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**1.9**	mg/L	1.0	0.60	1		09/27/20 03:48	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/27/20 03:48	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		09/27/20 03:48	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92496940

Sample: DGWA-71 **Lab ID: 92496940003** Collected: 09/22/20 11:45 Received: 09/23/20 09:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.06**	Std. Units			1		10/08/20 08:14		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**5.4**	mg/L	1.0	0.070	1	09/24/20 14:20	09/25/20 22:37	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/28/20 15:08	09/29/20 19:18	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/28/20 15:08	09/29/20 19:18	7440-38-2	
Barium	**0.024**	mg/L	0.010	0.00071	1	09/28/20 15:08	09/29/20 19:18	7440-39-3	
Beryllium	**0.000069J**	mg/L	0.0030	0.000046	1	09/28/20 15:08	09/29/20 19:18	7440-41-7	
Boron	ND	mg/L	0.10	0.0052	1	09/28/20 15:08	09/29/20 19:18	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/28/20 15:08	09/29/20 19:18	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/28/20 15:08	09/29/20 19:18	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/28/20 15:08	09/29/20 19:18	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/28/20 15:08	09/29/20 19:18	7439-92-1	
Lithium	**0.0012J**	mg/L	0.030	0.00081	1	09/28/20 15:08	09/29/20 19:18	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/28/20 15:08	09/29/20 19:18	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/28/20 15:08	09/29/20 19:18	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/28/20 15:08	09/29/20 19:18	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00050	0.000078	1	09/28/20 09:15	09/29/20 09:17	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**74.0**	mg/L	10.0	10.0	1		09/24/20 10:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5.2**	mg/L	1.0	0.60	1		09/27/20 04:02	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/27/20 04:02	16984-48-8	
Sulfate	**6.5**	mg/L	1.0	0.50	1		09/27/20 04:02	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92496940

Sample: EB-1 **Lab ID: 92496940004** Collected: 09/22/20 11:45 Received: 09/23/20 09:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	ND	mg/L	1.0	0.070	1	09/24/20 14:20	09/25/20 22:42	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/28/20 15:08	09/29/20 19:24	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/28/20 15:08	09/29/20 19:24	7440-38-2	
Barium	ND	mg/L	0.010	0.00071	1	09/28/20 15:08	09/29/20 19:24	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/28/20 15:08	09/29/20 19:24	7440-41-7	
Boron	ND	mg/L	0.10	0.0052	1	09/28/20 15:08	09/29/20 19:24	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/28/20 15:08	09/29/20 19:24	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/28/20 15:08	09/29/20 19:24	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/28/20 15:08	09/29/20 19:24	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/28/20 15:08	09/29/20 19:24	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/28/20 15:08	09/29/20 19:24	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/28/20 15:08	09/29/20 19:24	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/28/20 15:08	09/29/20 19:24	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/28/20 15:08	09/29/20 19:24	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00050	0.000078	1	09/28/20 09:15	09/29/20 09:20	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		09/24/20 10:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		09/27/20 22:22	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/27/20 22:22	16984-48-8	
Sulfate	**0.64J**	mg/L	1.0	0.50	1		09/27/20 22:22	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: MCDONOUGH UPGRADIENT
Pace Project No.: 92496940

QC Batch: 568748
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92496940001, 92496940002, 92496940003, 92496940004

METHOD BLANK: 3013298 Matrix: Water
Associated Lab Samples: 92496940001, 92496940002, 92496940003, 92496940004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	09/25/20 20:40	

LABORATORY CONTROL SAMPLE: 3013299

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	0.95J	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3013300 3013301

Parameter	Units	92495894022 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	75.3	1	1	79.7	76.2	438	83	75-125	5	20	M1

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92496940

QC Batch: 569382
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92496940001, 92496940002, 92496940003, 92496940004

METHOD BLANK: 3016873 Matrix: Water
Associated Lab Samples: 92496940001, 92496940002, 92496940003, 92496940004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	09/29/20 18:03	
Arsenic	mg/L	ND	0.0050	0.00078	09/29/20 18:03	
Barium	mg/L	ND	0.010	0.00071	09/29/20 18:03	
Beryllium	mg/L	ND	0.0030	0.000046	09/29/20 18:03	
Boron	mg/L	ND	0.10	0.0052	09/29/20 18:03	
Cadmium	mg/L	ND	0.0025	0.00012	09/29/20 18:03	
Chromium	mg/L	ND	0.010	0.00055	09/29/20 18:03	
Cobalt	mg/L	ND	0.0050	0.00038	09/29/20 18:03	
Lead	mg/L	ND	0.0050	0.000036	09/29/20 18:03	
Lithium	mg/L	ND	0.030	0.00081	09/29/20 18:03	
Molybdenum	mg/L	ND	0.010	0.00069	09/29/20 18:03	
Selenium	mg/L	ND	0.010	0.0016	09/29/20 18:03	
Thallium	mg/L	ND	0.0010	0.00014	09/29/20 18:03	

LABORATORY CONTROL SAMPLE: 3016874

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	102	80-120	
Arsenic	mg/L	0.1	0.095	95	80-120	
Barium	mg/L	0.1	0.098	98	80-120	
Beryllium	mg/L	0.1	0.095	95	80-120	
Boron	mg/L	1	0.94	94	80-120	
Cadmium	mg/L	0.1	0.097	97	80-120	
Chromium	mg/L	0.1	0.094	94	80-120	
Cobalt	mg/L	0.1	0.094	94	80-120	
Lead	mg/L	0.1	0.098	98	80-120	
Lithium	mg/L	0.1	0.091	91	80-120	
Molybdenum	mg/L	0.1	0.095	95	80-120	
Selenium	mg/L	0.1	0.096	96	80-120	
Thallium	mg/L	0.1	0.098	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3016875 3016876

Parameter	Units	92495870024 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	0.10	0.099	101	99	75-125	2	20	
Arsenic	mg/L	ND	0.1	0.1	0.097	0.094	97	94	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: MCDONOUGH UPGRADIENT
Pace Project No.: 92496940

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3016875 3016876

Parameter	Units	92495870024 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.013	0.1	0.1	0.11	0.11	98	95	75-125	3	20	
Beryllium	mg/L	ND	0.1	0.1	0.096	0.094	96	94	75-125	1	20	
Boron	mg/L	ND	1	1	0.97	0.93	96	93	75-125	4	20	
Cadmium	mg/L	ND	0.1	0.1	0.098	0.095	98	95	75-125	3	20	
Chromium	mg/L	0.00089J	0.1	0.1	0.098	0.095	98	94	75-125	4	20	
Cobalt	mg/L	ND	0.1	0.1	0.097	0.094	97	94	75-125	3	20	
Lead	mg/L	0.000075J	0.1	0.1	0.095	0.094	95	94	75-125	1	20	
Lithium	mg/L	ND	0.1	0.1	0.094	0.092	94	92	75-125	2	20	
Molybdenum	mg/L	ND	0.1	0.1	0.099	0.096	98	96	75-125	3	20	
Selenium	mg/L	ND	0.1	0.1	0.092	0.093	91	91	75-125	1	20	
Thallium	mg/L	ND	0.1	0.1	0.096	0.096	96	96	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: MCDONOUGH UPGRADIENT
Pace Project No.: 92496940

QC Batch: 569298
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92496940001, 92496940002, 92496940003, 92496940004

METHOD BLANK: 3016185 Matrix: Water
Associated Lab Samples: 92496940001, 92496940002, 92496940003, 92496940004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.000078	09/29/20 08:13	

LABORATORY CONTROL SAMPLE: 3016186

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0026	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3016187 3016188

Parameter	Units	92497302002 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	0.0026	0.0024	102	96	75-125	6	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: MCDONOUGH UPGRADIENT
Pace Project No.: 92496940

QC Batch: 568649
QC Batch Method: SM 2450C-2011
Analysis Method: SM 2450C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92496940001, 92496940002, 92496940003, 92496940004

METHOD BLANK: 3012742 Matrix: Water
Associated Lab Samples: 92496940001, 92496940002, 92496940003, 92496940004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	09/24/20 10:30	

LABORATORY CONTROL SAMPLE: 3012743

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	407	102	84-108	

SAMPLE DUPLICATE: 3012744

Parameter	Units	92496914002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	107	113	5	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: MCDONOUGH UPGRADIENT
Pace Project No.: 92496940

QC Batch: 569206
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92496940001, 92496940002, 92496940003, 92496940004

METHOD BLANK: 3015927 Matrix: Water
Associated Lab Samples: 92496940001, 92496940002, 92496940003, 92496940004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/27/20 02:07	
Fluoride	mg/L	ND	0.10	0.050	09/27/20 02:07	
Sulfate	mg/L	ND	1.0	0.50	09/27/20 02:07	

LABORATORY CONTROL SAMPLE: 3015928

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	53.4	107	90-110	
Fluoride	mg/L	2.5	2.7	109	90-110	
Sulfate	mg/L	50	52.9	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3015931 3015932

Parameter	Units	92496941006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.2	50	50	57.3	57.2	108	108	90-110	0	10	
Fluoride	mg/L	ND	2.5	2.5	2.5	2.5	99	99	90-110	0	10	
Sulfate	mg/L	40.2	50	50	93.6	93.5	107	106	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3015973 3015974

Parameter	Units	92496940001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.6	50	50	64.7	63.0	126	123	90-110	3	10	M1
Fluoride	mg/L	0.099J	2.5	2.5	3.3	3.2	130	126	90-110	3	10	M1
Sulfate	mg/L	13.5	50	50	78.6	76.7	130	126	90-110	2	10	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: MCDONOUGH UPGRADIENT
Pace Project No.: 92496940

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92496940

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92496940001	**DGWA-53**				
92496940002	**DGWA-70A**				
92496940003	**DGWA-71**				
92496940001	**DGWA-53**	EPA 3010A	568748	EPA 6010D	568812
92496940002	**DGWA-70A**	EPA 3010A	568748	EPA 6010D	568812
92496940003	**DGWA-71**	EPA 3010A	568748	EPA 6010D	568812
92496940004	**EB-1**	EPA 3010A	568748	EPA 6010D	568812
92496940001	**DGWA-53**	EPA 3005A	569382	EPA 6020B	569504
92496940002	**DGWA-70A**	EPA 3005A	569382	EPA 6020B	569504
92496940003	**DGWA-71**	EPA 3005A	569382	EPA 6020B	569504
92496940004	**EB-1**	EPA 3005A	569382	EPA 6020B	569504
92496940001	**DGWA-53**	EPA 7470A	569298	EPA 7470A	569454
92496940002	**DGWA-70A**	EPA 7470A	569298	EPA 7470A	569454
92496940003	**DGWA-71**	EPA 7470A	569298	EPA 7470A	569454
92496940004	**EB-1**	EPA 7470A	569298	EPA 7470A	569454
92496940001	**DGWA-53**	SM 2450C-2011	568649		
92496940002	**DGWA-70A**	SM 2450C-2011	568649		
92496940003	**DGWA-71**	SM 2450C-2011	568649		
92496940004	**EB-1**	SM 2450C-2011	568649		
92496940001	**DGWA-53**	EPA 300.0 Rev 2.1 1993	569206		
92496940002	**DGWA-70A**	EPA 300.0 Rev 2.1 1993	569206		
92496940003	**DGWA-71**	EPA 300.0 Rev 2.1 1993	569206		
92496940004	**EB-1**	EPA 300.0 Rev 2.1 1993	569206		

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power - Coal (

WO#: 92496940

92496940

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

Tracking #: _____

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

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☑ Other Ziplock

Thermometer Used 230 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 3.5 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: CO

		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: WT		
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	Initial when completed: CO — Lot # of added preservative:
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	
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):		

Field Data Required? Y / N

Client Notification/ Resolution:

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-ALLC003rev.3, 11September2006

Pace Analytical	Document Name: Bottle Identification Form (BIF)	Document Issued: March 14, 2019 Page 1 of 1
	Document No.: F-CAR-CS-043-Rev.00	Issuing Authority: Pace Carolinas Quality Office

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

**Bottom half of box is to list number of bottle

Project # **WO# : 92496940**

PM: KLH1 Due Date: 10/07/20

CLIENT: GA-GA Power

Matrix	Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass Jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	BP1N	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)
	1	X	—	—																									
	2	X	—	—																									
	3	X	—	—																									
	4																												
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	11																												
	12																												

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot

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 O

Out of hold, incorrect preservative, out of temp, incorrect containers.

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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:	Joju Abraham	Attention:	scainvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Golder	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:		Pace Quote:	
Phone:	(404) 506-7239 Fax:	Project Name:	Plant McDonough Upgradient	Pace Project Manager:	Kevin Herring
Requested Due Date:	10 Day TAT	Project #:	186849618	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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Y/N	Analyses Test: Metals App III and App IV Total	Cl, F, SO4	Radium 226/228	TDS	Residual Chlorine (Y/N)	G24J640
1	DGWA-53	WT	G	9/22/2020	12:40		5	2		3							X	X	X	X			pH= 6.44
2	DGWA-70A	WT	G	9/22/2020	10:20		5	2		3							X	X	X	X			pH= 6.01
3	DGWA-71	WT	G	9/22/2020	11:45		5	2		3							X	X	X	X			pH= 6.06
4	EB-1	WT	G	9/22/2020	10:40		5	2		3							X	X	X	X			-
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							
13																							
14																							

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)
*App III / IV Metals = As, Sb, B, Ba, Be, Ca, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl	T. Trowell/Golder	9/23/20	09:05	M. BAH	9-23-20	9:05				
	M. BAH	9-23-20	9:35	K. Wellington/Pace	9/23/20	0935	3.5	Y	Y	Y

Sampled by: Marc Trowell DATE Signed: 9/23/20

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

October 14, 2020

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

RE: Project: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92496907

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 23, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Greensburg

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

Sincerely,

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

Enclosures

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

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

CERTIFICATIONS

Project: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92496907

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

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

SAMPLE SUMMARY

Project: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92496907

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92496907001	**DGWA-53**	Water	09/22/20 12:40	09/23/20 09:35
92496907002	**DGWA-70A**	Water	09/22/20 10:20	09/23/20 09:35
92496907003	**DGWA-71**	Water	09/22/20 11:45	09/23/20 09:35
92496907004	**EB-1**	Water	09/22/20 10:40	09/23/20 09:35

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92496907

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92496907001	**DGWA-53**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92496907002	**DGWA-70A**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92496907003	**DGWA-71**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92496907004	**EB-1**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92496907

Sample: DGWA-53 **Lab ID: 92496907001** Collected: 09/22/20 12:40 Received: 09/23/20 09:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.950 ± 0.407 (0.455) C:79% T:NA**	pCi/L	10/08/20 07:22	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.32 ± 0.588 (0.987) C:61% T:85%**	pCi/L	10/12/20 11:46	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.27 ± 0.995 (1.44)**	pCi/L	10/14/20 09:21	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: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92496907

Sample: DGWA-70A **Lab ID: 92496907002** Collected: 09/22/20 10:20 Received: 09/23/20 09:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.178 ± 0.200 (0.398) C:96% T:NA**	pCi/L	10/08/20 07:22	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.272 ± 0.423 (0.915) C:63% T:86%**	pCi/L	10/12/20 11:46	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.450 ± 0.623 (1.31)**	pCi/L	10/14/20 09:21	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: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92496907

Sample: DGWA-71 **Lab ID: 92496907003** Collected: 09/22/20 11:45 Received: 09/23/20 09:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.216 ± 0.243 (0.484) C:83% T:NA**	pCi/L	10/08/20 07:22	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**-0.365 ± 0.384 (0.955) C:67% T:84%**	pCi/L	10/12/20 11:46	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.216 ± 0.627 (1.44)**	pCi/L	10/14/20 09:21	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: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92496907

Sample: EB-1 **Lab ID: 92496907004** Collected: 09/22/20 10:40 Received: 09/23/20 09:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**-0.0348 ± 0.133 (0.424) C:80% T:NA**	pCi/L	10/08/20 07:22	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.962 ± 0.578 (1.09) C:66% T:76%**	pCi/L	10/12/20 11:46	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.962 ± 0.711 (1.51)**	pCi/L	10/14/20 09:21	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: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92496907

QC Batch: 415887
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92496907001, 92496907002, 92496907003, 92496907004

METHOD BLANK: 2010984 Matrix: Water
Associated Lab Samples: 92496907001, 92496907002, 92496907003, 92496907004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.452 ± 0.429 (0.882) C:72% T:83%	pCi/L	10/12/20 11:46	

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: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92496907

QC Batch: 415889
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92496907001, 92496907002, 92496907003, 92496907004

METHOD BLANK: 2010986
Matrix: Water
Associated Lab Samples: 92496907001, 92496907002, 92496907003, 92496907004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.196 ± 0.238 (0.495) C:89% T:NA	pCi/L	10/08/20 07:29	

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: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92496907

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92496907

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92496907001	**DGWA-53**	EPA 9315	415889		
92496907002	**DGWA-70A**	EPA 9315	415889		
92496907003	**DGWA-71**	EPA 9315	415889		
92496907004	**EB-1**	EPA 9315	415889		
92496907001	**DGWA-53**	EPA 9320	415887		
92496907002	**DGWA-70A**	EPA 9320	415887		
92496907003	**DGWA-71**	EPA 9320	415887		
92496907004	**EB-1**	EPA 9320	415887		
92496907001	**DGWA-53**	Total Radium Calculation	418329		
92496907002	**DGWA-70A**	Total Radium Calculation	418329		
92496907003	**DGWA-71**	Total Radium Calculation	418329		
92496907004	**EB-1**	Total Radium Calculation	418329		

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power - Coal Coml

WO#: 92496907

92496907

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☑ Commercial ☐ Pace Oth

Tracking #: _____

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

Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☑ Other Ziplock

Thermometer Used 230 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 3.5 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Comments:

Date and Initials of person examining contents: CO

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: WT		
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 CO / 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-ALLC003rev.3, 11September2006

Pace Analytical	Document Name: Bottle Identification Form (BIF)	Document Issued: March 14, 2019 Page 1 of 1
	Document No.: F-CAR-CS-043-Rev.00	Issuing Authority: Pace Carolinas Quality Office

•Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

••Bottom half of box is to list number of bottle

Project # **WO#: 92496907**

PM: KLH1 Due Date: 10/14/20

CLIENT: GA-GA Power

Matrix	Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	RPLN	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)
	1																											
	2																											
	3																											
	4																											
	5																											
	6																											
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pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot

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 O

Out of hold, incorrect preservative, out of temp, incorrect containers.

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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: Jojo Abraham	Attention: scsinvoices@southernco.com	
Address: 2480 Maner Road Atlanta, GA 30339	Copy To: Golder	Company Name:	Regulatory Agency
Email: jabraham@southernco.com	Purchase Order #:	Address: Pace Quote:	
Phone: (404) 506-7239 Fax:	Project Name: Plant McDonough Upgradient	Pace Project Manager: Kevin Herring	State / Location
Requested Due Date: 10 Day TAT	Project #: 168649618	Pace Profile #:	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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved - tot	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): Y/N	Metals App III and App IV Total	Cl, F, SO4	Radium 226/228	TDS	Residual Chlorine (Y/N)	9246487
1	DGWA-53	WT	G	9/22/2020	12:40		5	2		3							N	X	X	X	X		pH= 6.44
2	DGWA-70A	WT	G	9/22/2020	10:29		5	2		3							N	X	X	X	X		pH= 6.01
3	DGWA-71	WT	G	9/22/2020	11:45		5	2		3							N	X	X	X	X		pH= 6.06
4	EB-1	WT	G	9/22/2020	10:40		5	2		3							N	X	X	X	X		-
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							
13																							
14																							

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)
*App III/IV Metals = As, Sb, B, Ba, Be, Ca, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl	K. Trowell/Golder	9/23/20	09:05	M. BAH	9-23-20	9:05				
	M. BAH	9-23-20	9:35	K. Wellington/Pace	9/23/20	0935	3.5	Y	Y	Y

Sampled by: K. Trowell

DATE Signed: 9/23/20

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-228
Analyst:	LAL
Date:	10/7/2020
Worklist:	56441
Matrix:	DW

Method Blank Assessment	
MB Sample ID:	2810986
MB concentration:	0.156
MB Counting Uncertainty:	0.236
MB MDC:	0.495
MB Numerical Performance Indicator:	1.62
MB Status vs Numerical Indicator:	N/A
MB Status vs MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS56441	LCSD56441
Count Date:	10/6/2020	
Spike I.D.:	19-053	
Decay Corrected Spike Concentration (pCi/mL):	24.044	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.524	
Target Conc. (pCi/L, g, F):	4.587	
Uncertainty (Calculated):	0.055	
Result (pCi/L, g, F):	4.928	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.804	
Numerical Performance Indicator:	0.80	
Percent Recovery:	107.44%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	92496807001	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.:	92496907001DUP	
Sample Result (pCi/L, g, F):	0.850	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.363	
Sample Duplicate Result (pCi/L, g, F):	1.227	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.451	
Are sample and/or duplicate results below RL?	See Below as	
Duplicate Numerical Performance Indicator:	-0.896	92496907001
Duplicate RPD:	25.43%	92496907001DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail*	
% RPD Limit:	25%	

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:	
% RPD Limit:	

#: 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~~ N/A LAM 10/8/2020

LAM 10/8/2020

LAM 10/8/2020

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	LAL
Date:	10/7/2020
Worklist:	56441
Matrix:	DW

Method Blank Assessment	
MB Sample ID:	2010908
MB concentration:	0.196
MB Counting Uncertainty:	0.236
MB MDC:	0.495
MB Numerical Performance Indicator:	1.52
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS56441	LCSD56441
Count Date:	10/8/2020	10/8/2020
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.044	24.044
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.524	0.512
Target Conc. (pCi/L, g, F):	4.587	4.700
Uncertainty (Calculated):	0.055	0.056
Result (pCi/L, g, F):	4.928	4.118
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.804	0.734
Numerical Performance Indicator:	0.83	-1.58
Percent Recovery:	107.44%	87.66%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSC 2
Sample Collection Date:		
Sample I.C.		
Sample MS I.C.		
Sample MSD I.C.		
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):		
MSC Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS56441	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD56441	
Sample Result (pCi/L, g, F):	4.928	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.804	
Sample Duplicate Result (pCi/L, g, F):	4.118	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.734	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	1.459	324959C7001
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	20.34%	324959C7001D_P
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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:		
% RPD Limit:		

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

Comments:

LAM 10/8/2020

Quality Control Sample Performance Assessment

Test: Ra-228
Analyst: VAL
Date: 10/6/2020
Worklist: 55439
Matrix: WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2010564
MB concentration:	0.452
MB 2 Sigma CSU:	0.429
MB MDC:	0.882
MB Numerical Performance Indicator:	2.07
MB Status vs Numerical Indicator:	Warning
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS55439	LCSD55439
Count Date:	10/12/2020	10/12/2020
Spike I.D.:	20-030	20-030
Decay Corrected Spike Concentration (pCi/mL):	38.355	38.355
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.825	0.809
Target Conc. (pCi/L, g, F):	4.730	4.702
Uncertainty (Calculated):	0.232	0.233
Result (pCi/L, g, F):	5.342	4.934
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.236	1.013
Numerical Performance Indicator:	0.95	-1.26
Percent Recovery:	112.95%	85.75%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	65%	65%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS55439	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.:	LCSD55439	
Sample Result (pCi/L, g, F):	5.342	
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.236	
Sample Duplicate Result (pCi/L, g, F):	4.934	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.013	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	1.607	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	27.34%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	35%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.:		
Sample MS I.D.:		
Sample MSD I.D.:		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:		
MS/MSD Duplicate Status vs Numerical Indicator:		
MS/MSD Duplicate Status vs RPD:		
% RPD Limit:		

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

Comments:

10-13-20

10-13-20

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

October 16, 2020

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

RE: Project: MCDONOUGH AP-1
Pace Project No.: 92497129

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between September 24, 2020 and September 25, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

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

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: MCDONOUGH AP-1
Pace Project No.: 92497129

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
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

Pace Analytical Services Peachtree Corners
110 Technology Pkwy, Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Virginia Certification #: 460204

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

SAMPLE SUMMARY

Project: MCDONOUGH AP-1
Pace Project No.: 92497129

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92497129001	**DGWC-40**	Water	09/23/20 14:15	09/24/20 09:25
92497129002	**DGWC-67**	Water	09/23/20 15:10	09/24/20 09:25
92497129003	**DGWC-68A**	Water	09/23/20 14:00	09/24/20 09:25
92497129004	**DGWC-69**	Water	09/23/20 11:50	09/24/20 09:25
92497129005	**FD-2**	Water	09/23/20 00:00	09/24/20 09:25
92497129006	**DGWC-37**	Water	09/24/20 10:00	09/25/20 13:30
92497129007	**DGWC-38**	Water	09/24/20 14:15	09/25/20 13:30
92497129008	**DGWC-39**	Water	09/25/20 11:05	09/25/20 13:30

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: MCDONOUGH AP-1
Pace Project No.: 92497129

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92497129001	**DGWC-40**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	JRS	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92497129002	**DGWC-67**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	JRS	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92497129003	**DGWC-68A**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	JRS	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92497129004	**DGWC-69**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	JRS	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92497129005	**FD-2**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	JRS	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92497129006	**DGWC-37**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	JRS	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92497129007	**DGWC-38**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	JRS	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92497129008	**DGWC-39**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13

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

SAMPLE ANALYTE COUNT

Project: MCDONOUGH AP-1
Pace Project No.: 92497129

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	BRJ	3

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte
PASI-GA = Pace Analytical Services - Peachtree Corners, GA

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

ANALYTICAL RESULTS

Project: MCDONOUGH AP-1
Pace Project No.: 92497129

Sample: DGWC-40 **Lab ID: 92497129001** Collected: 09/23/20 14:15 Received: 09/24/20 09:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**4.78**	Std. Units			1		10/09/20 15:26		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**41.9**	mg/L	1.0	0.070	1	09/29/20 14:17	09/29/20 21:10	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/29/20 18:39	10/01/20 11:52	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/29/20 18:39	10/01/20 11:52	7440-38-2	
Barium	**0.019**	mg/L	0.010	0.00071	1	09/29/20 18:39	10/01/20 11:52	7440-39-3	
Beryllium	**0.0031**	mg/L	0.0030	0.000046	1	09/29/20 18:39	10/01/20 11:52	7440-41-7	
Boron	**0.76**	mg/L	0.10	0.0052	1	09/29/20 18:39	10/01/20 11:52	7440-42-8	
Cadmium	**0.00080J**	mg/L	0.0025	0.00012	1	09/29/20 18:39	10/01/20 11:52	7440-43-9	
Chromium	**0.0011J**	mg/L	0.010	0.00055	1	09/29/20 18:39	10/01/20 11:52	7440-47-3	
Cobalt	**0.046**	mg/L	0.0050	0.00038	1	09/29/20 18:39	10/01/20 11:52	7440-48-4	
Lead	**0.00028J**	mg/L	0.0050	0.000036	1	09/29/20 18:39	10/01/20 11:52	7439-92-1	
Lithium	**0.0022J**	mg/L	0.030	0.00081	1	09/29/20 18:39	10/01/20 11:52	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/29/20 18:39	10/01/20 11:52	7439-98-7	
Selenium	**0.0067J**	mg/L	0.010	0.0016	1	09/29/20 18:39	10/01/20 11:52	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/29/20 18:39	10/01/20 11:52	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00050	0.000078	1	09/28/20 09:15	09/29/20 10:10	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**357**	mg/L	10.0	10.0	1		09/28/20 14:19		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**19.7**	mg/L	1.0	0.60	1		09/29/20 12:52	16887-00-6	
Fluoride	**0.054J**	mg/L	0.10	0.050	1		09/29/20 12:52	16984-48-8	
Sulfate	**190**	mg/L	3.0	1.5	3		09/29/20 21:06	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH AP-1
Pace Project No.: 92497129

Sample: DGWC-67 **Lab ID: 92497129002** Collected: 09/23/20 15:10 Received: 09/24/20 09:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.23**	Std. Units			1		10/09/20 15:26		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**42.0**	mg/L	1.0	0.070	1	09/29/20 14:17	09/29/20 21:14	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/29/20 18:39	10/01/20 11:58	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/29/20 18:39	10/01/20 11:58	7440-38-2	
Barium	**0.10**	mg/L	0.010	0.00071	1	09/29/20 18:39	10/01/20 11:58	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/29/20 18:39	10/01/20 11:58	7440-41-7	
Boron	**3.2**	mg/L	0.10	0.0052	1	09/29/20 18:39	10/01/20 11:58	7440-42-8	
Cadmium	**0.00018J**	mg/L	0.0025	0.00012	1	09/29/20 18:39	10/01/20 11:58	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/29/20 18:39	10/01/20 11:58	7440-47-3	
Cobalt	**0.0011J**	mg/L	0.0050	0.00038	1	09/29/20 18:39	10/01/20 11:58	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/29/20 18:39	10/01/20 11:58	7439-92-1	
Lithium	**0.0043J**	mg/L	0.030	0.00081	1	09/29/20 18:39	10/01/20 11:58	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/29/20 18:39	10/01/20 11:58	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/29/20 18:39	10/01/20 11:58	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/29/20 18:39	10/01/20 11:58	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00050	0.000078	1	09/28/20 09:15	09/29/20 10:12	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**296**	mg/L	10.0	10.0	1		09/28/20 14:19		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**7.1**	mg/L	1.0	0.60	1		09/29/20 13:07	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/29/20 13:07	16984-48-8	
Sulfate	**99.8**	mg/L	2.0	1.0	2		09/29/20 21:21	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH AP-1
Pace Project No.: 92497129

Sample: DGWC-68A **Lab ID: 92497129003** Collected: 09/23/20 14:00 Received: 09/24/20 09:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.60**	Std. Units			1		10/09/20 15:26		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**50.2**	mg/L	1.0	0.070	1	09/29/20 14:17	09/29/20 21:18	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/29/20 18:39	10/01/20 12:03	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/29/20 18:39	10/01/20 12:03	7440-38-2	
Barium	**0.094**	mg/L	0.010	0.00071	1	09/29/20 18:39	10/01/20 12:03	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/29/20 18:39	10/01/20 12:03	7440-41-7	
Boron	**1.7**	mg/L	0.10	0.0052	1	09/29/20 18:39	10/01/20 12:03	7440-42-8	
Cadmium	**0.00024J**	mg/L	0.0025	0.00012	1	09/29/20 18:39	10/01/20 12:03	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/29/20 18:39	10/01/20 12:03	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/29/20 18:39	10/01/20 12:03	7440-48-4	
Lead	**0.00035J**	mg/L	0.0050	0.000036	1	09/29/20 18:39	10/01/20 12:03	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/29/20 18:39	10/01/20 12:03	7439-93-2	
Molybdenum	**0.20**	mg/L	0.010	0.00069	1	09/29/20 18:39	10/01/20 12:03	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/29/20 18:39	10/01/20 12:03	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/29/20 18:39	10/01/20 12:03	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00050	0.000078	1	09/28/20 09:15	09/29/20 10:14	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**251**	mg/L	10.0	10.0	1		09/28/20 14:26		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**3.6**	mg/L	1.0	0.60	1		09/29/20 13:21	16887-00-6	
Fluoride	**0.070J**	mg/L	0.10	0.050	1		09/29/20 13:21	16984-48-8	
Sulfate	**38.7**	mg/L	1.0	0.50	1		09/29/20 13:21	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH AP-1
Pace Project No.: 92497129

Sample: DGWC-69 **Lab ID: 92497129004** Collected: 09/23/20 11:50 Received: 09/24/20 09:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.08**	Std. Units			1		10/09/20 15:26		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**8.0**	mg/L	1.0	0.070	1	09/29/20 14:17	09/29/20 21:23	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/29/20 18:39	10/01/20 12:22	7440-36-0	
Arsenic	**0.032**	mg/L	0.0050	0.00078	1	09/29/20 18:39	10/01/20 12:22	7440-38-2	
Barium	**0.055**	mg/L	0.010	0.00071	1	09/29/20 18:39	10/01/20 12:22	7440-39-3	
Beryllium	**0.000061J**	mg/L	0.0030	0.000046	1	09/29/20 18:39	10/01/20 12:22	7440-41-7	
Boron	**0.041J**	mg/L	0.10	0.0052	1	09/29/20 18:39	10/01/20 12:22	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/29/20 18:39	10/01/20 12:22	7440-43-9	
Chromium	**0.0011J**	mg/L	0.010	0.00055	1	09/29/20 18:39	10/01/20 12:22	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/29/20 18:39	10/01/20 12:22	7440-48-4	
Lead	**0.00017J**	mg/L	0.0050	0.000036	1	09/29/20 18:39	10/01/20 12:22	7439-92-1	
Lithium	**0.0023J**	mg/L	0.030	0.00081	1	09/29/20 18:39	10/01/20 12:22	7439-93-2	
Molybdenum	**0.0056J**	mg/L	0.010	0.00069	1	09/29/20 18:39	10/01/20 12:22	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/29/20 18:39	10/01/20 12:22	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/29/20 18:39	10/01/20 12:22	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00050	0.000078	1	09/28/20 09:15	09/29/20 10:17	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**102**	mg/L	10.0	10.0	1		09/28/20 14:27		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**4.7**	mg/L	1.0	0.60	1		09/29/20 13:36	16887-00-6	
Fluoride	**0.064J**	mg/L	0.10	0.050	1		09/29/20 13:36	16984-48-8	
Sulfate	**5.9**	mg/L	1.0	0.50	1		09/29/20 13:36	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH AP-1
Pace Project No.: 92497129

Sample: FD-2 **Lab ID: 92497129005** Collected: 09/23/20 00:00 Received: 09/24/20 09:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**48.0**	mg/L	1.0	0.070	1	09/29/20 14:17	09/29/20 21:27	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/29/20 18:39	10/01/20 12:28	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/29/20 18:39	10/01/20 12:28	7440-38-2	
Barium	**0.092**	mg/L	0.010	0.00071	1	09/29/20 18:39	10/01/20 12:28	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/29/20 18:39	10/01/20 12:28	7440-41-7	
Boron	**1.8**	mg/L	0.10	0.0052	1	09/29/20 18:39	10/01/20 12:28	7440-42-8	
Cadmium	**0.00024J**	mg/L	0.0025	0.00012	1	09/29/20 18:39	10/01/20 12:28	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/29/20 18:39	10/01/20 12:28	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/29/20 18:39	10/01/20 12:28	7440-48-4	
Lead	**0.000038J**	mg/L	0.0050	0.000036	1	09/29/20 18:39	10/01/20 12:28	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/29/20 18:39	10/01/20 12:28	7439-93-2	
Molybdenum	**0.18**	mg/L	0.010	0.00069	1	09/29/20 18:39	10/01/20 12:28	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/29/20 18:39	10/01/20 12:28	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/29/20 18:39	10/01/20 12:28	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00050	0.000078	1	09/28/20 09:15	09/29/20 10:19	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**241**	mg/L	10.0	10.0	1		09/28/20 14:27		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**3.6**	mg/L	1.0	0.60	1		09/29/20 14:19	16887-00-6	
Fluoride	**0.071J**	mg/L	0.10	0.050	1		09/29/20 14:19	16984-48-8	
Sulfate	**38.4**	mg/L	1.0	0.50	1		09/29/20 14:19	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: MCDONOUGH AP-1
Pace Project No.: 92497129

Sample: DGWC-37 **Lab ID: 92497129006** Collected: 09/24/20 10:00 Received: 09/25/20 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/09/20 15:26		
pH	**6.30**	Std. Units			1		10/09/20 15:26		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**55.9**	mg/L	1.0	0.070	1	09/30/20 14:57	10/01/20 21:02	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/30/20 17:48	10/03/20 19:11	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/30/20 17:48	10/03/20 19:11	7440-38-2	
Barium	**0.094**	mg/L	0.010	0.00071	1	09/30/20 17:48	10/03/20 19:11	7440-39-3	
Beryllium	**0.000088J**	mg/L	0.0030	0.000046	1	09/30/20 17:48	10/03/20 19:11	7440-41-7	
Boron	**1.6**	mg/L	0.10	0.0052	1	09/30/20 17:48	10/03/20 19:11	7440-42-8	
Cadmium	**0.00027J**	mg/L	0.0025	0.00012	1	09/30/20 17:48	10/03/20 19:11	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/30/20 17:48	10/03/20 19:11	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/30/20 17:48	10/03/20 19:11	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/30/20 17:48	10/03/20 19:11	7439-92-1	
Lithium	**0.0021J**	mg/L	0.030	0.00081	1	09/30/20 17:48	10/03/20 19:11	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/30/20 17:48	10/03/20 19:11	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/30/20 17:48	10/03/20 19:11	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/30/20 17:48	10/03/20 19:11	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	**0.000091J**	mg/L	0.00050	0.000078	1	09/29/20 13:30	09/30/20 11:45	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**280**	mg/L	10.0	10.0	1		09/29/20 19:05		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5.6**	mg/L	1.0	0.60	1		09/30/20 04:05	16887-00-6	
Fluoride	**0.061J**	mg/L	0.10	0.050	1		09/30/20 04:05	16984-48-8	
Sulfate	**84.1**	mg/L	1.0	0.50	1		09/30/20 04:05	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH AP-1
Pace Project No.: 92497129

Sample: DGWC-38 **Lab ID: 92497129007** Collected: 09/24/20 14:15 Received: 09/25/20 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.05**	Std. Units			1		10/16/20 09:34		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**84.1**	mg/L	1.0	0.070	1	09/30/20 14:57	10/01/20 21:06	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/30/20 17:48	10/03/20 19:17	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/30/20 17:48	10/03/20 19:17	7440-38-2	
Barium	**0.032**	mg/L	0.010	0.00071	1	09/30/20 17:48	10/03/20 19:17	7440-39-3	
Beryllium	**0.000058J**	mg/L	0.0030	0.000046	1	09/30/20 17:48	10/03/20 19:17	7440-41-7	
Boron	**2.9**	mg/L	0.10	0.0052	1	09/30/20 17:48	10/03/20 19:17	7440-42-8	
Cadmium	**0.00081J**	mg/L	0.0025	0.00012	1	09/30/20 17:48	10/03/20 19:17	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/30/20 17:48	10/03/20 19:17	7440-47-3	
Cobalt	**0.0013J**	mg/L	0.0050	0.00038	1	09/30/20 17:48	10/03/20 19:17	7440-48-4	
Lead	**0.00014J**	mg/L	0.0050	0.000036	1	09/30/20 17:48	10/03/20 19:17	7439-92-1	
Lithium	**0.0029J**	mg/L	0.030	0.00081	1	09/30/20 17:48	10/03/20 19:17	7439-93-2	
Molybdenum	**0.0010J**	mg/L	0.010	0.00069	1	09/30/20 17:48	10/03/20 19:17	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/30/20 17:48	10/03/20 19:17	7782-49-2	
Thallium	**0.00015J**	mg/L	0.0010	0.00014	1	09/30/20 17:48	10/03/20 19:17	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	**0.000085J**	mg/L	0.00050	0.000078	1	09/29/20 13:30	09/30/20 11:48	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**489**	mg/L	10.0	10.0	1		09/29/20 19:24		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**8.2**	mg/L	1.0	0.60	1		09/30/20 04:20	16887-00-6	
Fluoride	**0.057J**	mg/L	0.10	0.050	1		09/30/20 04:20	16984-48-8	
Sulfate	**240**	mg/L	5.0	2.5	5		09/30/20 18:38	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH AP-1
Pace Project No.: 92497129

Sample: DGWC-39 **Lab ID: 92497129008** Collected: 09/25/20 11:05 Received: 09/25/20 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/09/20 15:26		
pH	**6.38**	Std. Units			1		10/09/20 15:26		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**92.5**	mg/L	1.0	0.070	1	09/30/20 14:57	10/01/20 21:11	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/30/20 17:48	10/03/20 19:23	7440-36-0	
Arsenic	**0.00087J**	mg/L	0.0050	0.00078	1	09/30/20 17:48	10/03/20 19:23	7440-38-2	
Barium	**0.10**	mg/L	0.010	0.00071	1	09/30/20 17:48	10/03/20 19:23	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/30/20 17:48	10/03/20 19:23	7440-41-7	
Boron	**3.3**	mg/L	0.10	0.0052	1	09/30/20 17:48	10/03/20 19:23	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/30/20 17:48	10/03/20 19:23	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/30/20 17:48	10/03/20 19:23	7440-47-3	
Cobalt	**0.0061**	mg/L	0.0050	0.00038	1	09/30/20 17:48	10/03/20 19:23	7440-48-4	
Lead	**0.00022J**	mg/L	0.0050	0.000036	1	09/30/20 17:48	10/03/20 19:23	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/30/20 17:48	10/03/20 19:23	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/30/20 17:48	10/03/20 19:23	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/30/20 17:48	10/03/20 19:23	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/30/20 17:48	10/03/20 19:23	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00050	0.000078	1	09/29/20 13:30	09/30/20 11:50	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**460**	mg/L	10.0	10.0	1		10/01/20 15:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**7.9**	mg/L	1.0	0.60	1		09/30/20 04:34	16887-00-6	
Fluoride	**0.086J**	mg/L	0.10	0.050	1		09/30/20 04:34	16984-48-8	
Sulfate	**153**	mg/L	3.0	1.5	3		09/30/20 18:53	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: MCDONOUGH AP-1
Pace Project No.: 92497129

QC Batch: 569672
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92497129001, 92497129002, 92497129003, 92497129004, 92497129005

METHOD BLANK: 3017857 Matrix: Water
Associated Lab Samples: 92497129001, 92497129002, 92497129003, 92497129004, 92497129005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	09/29/20 19:56	

LABORATORY CONTROL SAMPLE: 3017858

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	0.97J	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017859 3017860

Parameter	Units	92496847006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	2510 ug/L	1	1	3.4	3.4	93	92	75-125	0	20	

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Pace Analytical Services, LLC
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(770)734-4200

QUALITY CONTROL DATA

Project: MCDONOUGH AP-1
Pace Project No.: 92497129

QC Batch: 570008
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92497129006, 92497129007, 92497129008

METHOD BLANK: 3019452 Matrix: Water
Associated Lab Samples: 92497129006, 92497129007, 92497129008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	10/01/20 19:24	

LABORATORY CONTROL SAMPLE: 3019453

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	0.96J	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3019454 3019455

Parameter	Units	92496941020 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	53.1	1	1	55.5	54.3	237	115	75-125	2	20	M1

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

QUALITY CONTROL DATA

Project: MCDONOUGH AP-1
Pace Project No.: 92497129

QC Batch: 569774
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92497129001, 92497129002, 92497129003, 92497129004, 92497129005

METHOD BLANK: 3018372 Matrix: Water
Associated Lab Samples: 92497129001, 92497129002, 92497129003, 92497129004, 92497129005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	10/01/20 09:53	
Arsenic	mg/L	ND	0.0050	0.00078	10/01/20 09:53	
Barium	mg/L	ND	0.010	0.00071	10/01/20 09:53	
Beryllium	mg/L	ND	0.0030	0.000046	10/01/20 09:53	
Boron	mg/L	ND	0.10	0.0052	10/01/20 09:53	
Cadmium	mg/L	ND	0.0025	0.00012	10/01/20 09:53	
Chromium	mg/L	ND	0.010	0.00055	10/01/20 09:53	
Cobalt	mg/L	ND	0.0050	0.00038	10/01/20 09:53	
Lead	mg/L	ND	0.0050	0.000036	10/01/20 09:53	
Lithium	mg/L	ND	0.030	0.00081	10/01/20 09:53	
Molybdenum	mg/L	ND	0.010	0.00069	10/01/20 09:53	
Selenium	mg/L	ND	0.010	0.0016	10/01/20 09:53	
Thallium	mg/L	ND	0.0010	0.00014	10/01/20 09:53	

LABORATORY CONTROL SAMPLE: 3018373

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	103	80-120	
Arsenic	mg/L	0.1	0.097	97	80-120	
Barium	mg/L	0.1	0.10	101	80-120	
Beryllium	mg/L	0.1	0.093	93	80-120	
Boron	mg/L	1	0.91	91	80-120	
Cadmium	mg/L	0.1	0.095	95	80-120	
Chromium	mg/L	0.1	0.092	92	80-120	
Cobalt	mg/L	0.1	0.092	92	80-120	
Lead	mg/L	0.1	0.096	96	80-120	
Lithium	mg/L	0.1	0.092	92	80-120	
Molybdenum	mg/L	0.1	0.098	98	80-120	
Selenium	mg/L	0.1	0.097	97	80-120	
Thallium	mg/L	0.1	0.095	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3018374 3018375

Parameter	Units	92497149004 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	0.10	0.10	101	102	75-125	0	20	
Arsenic	mg/L	ND	0.1	0.1	0.099	0.099	99	99	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MCDONOUGH AP-1
Pace Project No.: 92497129

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3018374 3018375

Parameter	Units	92497149004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.0039J	0.1	0.1	0.10	0.10	99	100	75-125	1	20	
Beryllium	mg/L	0.000059J	0.1	0.1	0.090	0.091	90	91	75-125	1	20	
Boron	mg/L	0.0073J	1	1	0.88	0.90	87	89	75-125	2	20	
Cadmium	mg/L	ND	0.1	0.1	0.097	0.096	97	96	75-125	1	20	
Chromium	mg/L	ND	0.1	0.1	0.095	0.095	94	94	75-125	0	20	
Cobalt	mg/L	ND	0.1	0.1	0.095	0.095	95	95	75-125	0	20	
Lead	mg/L	0.00015J	0.1	0.1	0.093	0.094	92	94	75-125	1	20	
Lithium	mg/L	0.013J	0.1	0.1	0.10	0.10	91	91	75-125	0	20	
Molybdenum	mg/L	0.010	0.1	0.1	0.11	0.11	96	97	75-125	1	20	
Selenium	mg/L	ND	0.1	0.1	0.099	0.096	98	95	75-125	3	20	
Thallium	mg/L	0.00016J	0.1	0.1	0.094	0.095	94	95	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: MCDONOUGH AP-1
Pace Project No.: 92497129

QC Batch: 570089
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92497129006, 92497129007, 92497129008

METHOD BLANK: 3020046 Matrix: Water
Associated Lab Samples: 92497129006, 92497129007, 92497129008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	10/03/20 17:40	
Arsenic	mg/L	ND	0.0050	0.00078	10/03/20 17:40	
Barium	mg/L	ND	0.010	0.00071	10/03/20 17:40	
Beryllium	mg/L	ND	0.0030	0.000046	10/03/20 17:40	
Boron	mg/L	ND	0.10	0.0052	10/03/20 17:40	
Cadmium	mg/L	ND	0.0025	0.00012	10/03/20 17:40	
Chromium	mg/L	ND	0.010	0.00055	10/03/20 17:40	
Cobalt	mg/L	ND	0.0050	0.00038	10/03/20 17:40	
Lead	mg/L	ND	0.0050	0.000036	10/03/20 17:40	
Lithium	mg/L	ND	0.030	0.00081	10/03/20 17:40	
Molybdenum	mg/L	ND	0.010	0.00069	10/03/20 17:40	
Selenium	mg/L	ND	0.010	0.0016	10/03/20 17:40	
Thallium	mg/L	ND	0.0010	0.00014	10/03/20 17:40	

LABORATORY CONTROL SAMPLE: 3020047

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	100	80-120	
Arsenic	mg/L	0.1	0.092	92	80-120	
Barium	mg/L	0.1	0.097	97	80-120	
Beryllium	mg/L	0.1	0.096	96	80-120	
Boron	mg/L	1	0.97	97	80-120	
Cadmium	mg/L	0.1	0.098	98	80-120	
Chromium	mg/L	0.1	0.099	99	80-120	
Cobalt	mg/L	0.1	0.097	97	80-120	
Lead	mg/L	0.1	0.099	99	80-120	
Lithium	mg/L	0.1	0.097	97	80-120	
Molybdenum	mg/L	0.1	0.096	96	80-120	
Selenium	mg/L	0.1	0.096	96	80-120	
Thallium	mg/L	0.1	0.099	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3020048 3020049

Parameter	Units	92496941025 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	0.095	0.10	95	100	75-125	6	20	
Arsenic	mg/L	0.00088J	0.1	0.1	0.095	0.095	94	94	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: MCDONOUGH AP-1
Pace Project No.: 92497129

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3020048 3020049

Parameter	Units	92496941025 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.032	0.1	0.1	0.13	0.13	95	98	75-125	3	20	
Beryllium	mg/L	0.00070J	0.1	0.1	0.099	0.097	98	97	75-125	1	20	
Boron	mg/L	0.84	1	1	2.0	1.9	112	107	75-125	3	20	
Cadmium	mg/L	0.00028J	0.1	0.1	0.097	0.097	97	97	75-125	0	20	
Chromium	mg/L	0.0028J	0.1	0.1	0.10	0.10	100	100	75-125	1	20	
Cobalt	mg/L	0.027	0.1	0.1	0.13	0.13	99	98	75-125	1	20	
Lead	mg/L	0.00022J	0.1	0.1	0.087	0.094	86	93	75-125	8	20	
Lithium	mg/L	0.0012J	0.1	0.1	0.10	0.10	102	100	75-125	2	20	
Molybdenum	mg/L	ND	0.1	0.1	0.098	0.10	98	102	75-125	4	20	
Selenium	mg/L	0.012	0.1	0.1	0.11	0.11	96	95	75-125	1	20	
Thallium	mg/L	0.00034J	0.1	0.1	0.093	0.094	93	94	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: MCDONOUGH AP-1
Pace Project No.: 92497129

QC Batch: 569299
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92497129001, 92497129002, 92497129003, 92497129004, 92497129005

METHOD BLANK: 3016189 Matrix: Water
Associated Lab Samples: 92497129001, 92497129002, 92497129003, 92497129004, 92497129005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.000078	09/29/20 09:22	

LABORATORY CONTROL SAMPLE: 3016190

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0025	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3016191 3016192

Parameter	Units	92495870020 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	0.0025	0.0027	99	108	75-125	8	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: MCDONOUGH AP-1
Pace Project No.: 92497129

QC Batch: 569680
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92497129006, 92497129007, 92497129008

METHOD BLANK: 3017897 Matrix: Water
Associated Lab Samples: 92497129006, 92497129007, 92497129008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.000078	09/30/20 10:46	

LABORATORY CONTROL SAMPLE: 3017898

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0025	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017899 3017900

Parameter	Units	92497149005 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	0.0026	0.0025	103	98	75-125	4	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: MCDONOUGH AP-1
Pace Project No.: 92497129

QC Batch: 569386 | Analysis Method: SM 2450C-2011
QC Batch Method: SM 2450C-2011 | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92497129001, 92497129002, 92497129003, 92497129004, 92497129005

METHOD BLANK: 3016890 Matrix: Water
Associated Lab Samples: 92497129001, 92497129002, 92497129003, 92497129004, 92497129005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	09/28/20 14:18	

LABORATORY CONTROL SAMPLE: 3016891

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	429	107	84-108	

SAMPLE DUPLICATE: 3016892

Parameter	Units	92497125001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	260	295	13	10	D6

SAMPLE DUPLICATE: 3016893

Parameter	Units	92497141008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	81.0	59.0	31	10	D6

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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: MCDONOUGH AP-1
Pace Project No.: 92497129

QC Batch: 569806
QC Batch Method: SM 2450C-2011
Analysis Method: SM 2450C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92497129006, 92497129007

METHOD BLANK: 3018686 Matrix: Water
Associated Lab Samples: 92497129006, 92497129007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	09/29/20 18:54	

LABORATORY CONTROL SAMPLE: 3018687

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	402	100	84-108	

SAMPLE DUPLICATE: 3018688

Parameter	Units	92497721002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	386	353	9	10	

SAMPLE DUPLICATE: 3018689

Parameter	Units	92497141012 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	69.0	74.0	7	10	

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

QUALITY CONTROL DATA

Project: MCDONOUGH AP-1
Pace Project No.: 92497129

QC Batch: 570219
QC Batch Method: SM 2450C-2011
Analysis Method: SM 2450C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92497129008

METHOD BLANK: 3020458 Matrix: Water
Associated Lab Samples: 92497129008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	10/01/20 15:22	

LABORATORY CONTROL SAMPLE: 3020459

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	412	103	84-108	

SAMPLE DUPLICATE: 3020460

Parameter	Units	92497125005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	134	142	6	10	

SAMPLE DUPLICATE: 3020461

Parameter	Units	92497146006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	878	918	4	10	

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

QUALITY CONTROL DATA

Project: MCDONOUGH AP-1
Pace Project No.: 92497129

QC Batch: 569514
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92497129001, 92497129002, 92497129003, 92497129004, 92497129005

METHOD BLANK: 3017398 Matrix: Water
Associated Lab Samples: 92497129001, 92497129002, 92497129003, 92497129004, 92497129005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/29/20 11:26	
Fluoride	mg/L	ND	0.10	0.050	09/29/20 11:26	
Sulfate	mg/L	ND	1.0	0.50	09/29/20 11:26	

LABORATORY CONTROL SAMPLE: 3017399

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	53.9	108	90-110	
Fluoride	mg/L	2.5	2.6	103	90-110	
Sulfate	mg/L	50	52.6	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017400 3017401

Parameter	Units	92496941018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	52.4	51.8	105	104	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.3	2.4	93	94	90-110	0	10	
Sulfate	mg/L	ND	50	50	51.0	50.1	101	100	90-110	2	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017402 3017403

Parameter	Units	92496941019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	51.7	51.7	103	103	90-110	0	10	
Fluoride	mg/L	ND	2.5	2.5	2.3	2.4	91	95	90-110	5	10	
Sulfate	mg/L	ND	50	50	50.0	49.9	100	100	90-110	0	10	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MCDONOUGH AP-1
Pace Project No.: 92497129

QC Batch: 569830
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92497129006, 92497129007, 92497129008

METHOD BLANK: 3018757 Matrix: Water
Associated Lab Samples: 92497129006, 92497129007, 92497129008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/30/20 03:36	
Fluoride	mg/L	ND	0.10	0.050	09/30/20 03:36	
Sulfate	mg/L	ND	1.0	0.50	09/30/20 03:36	

LABORATORY CONTROL SAMPLE: 3018758

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	53.0	106	90-110	
Fluoride	mg/L	2.5	2.7	108	90-110	
Sulfate	mg/L	50	52.7	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3018759 3018760

Parameter	Units	92497149012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	51.5	51.6	103	103	90-110	0	10	
Fluoride	mg/L	ND	2.5	2.5	2.6	2.6	102	103	90-110	1	10	
Sulfate	mg/L	ND	50	50	50.5	50.6	101	101	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3018761 3018762

Parameter	Units	92497149013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	51.9	51.6	104	103	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.6	2.6	104	103	90-110	1	10	
Sulfate	mg/L	ND	50	50	50.9	50.6	102	101	90-110	1	10	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: MCDONOUGH AP-1
Pace Project No.: 92497129

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCDONOUGH AP-1
Pace Project No.: 92497129

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92497129001	**DGWC-40**				
92497129002	**DGWC-67**				
92497129003	**DGWC-68A**				
92497129004	**DGWC-69**				
92497129006	**DGWC-37**				
92497129007	**DGWC-38**				
92497129008	**DGWC-39**				
92497129001	**DGWC-40**	EPA 3010A	569672	EPA 6010D	569722
92497129002	**DGWC-67**	EPA 3010A	569672	EPA 6010D	569722
92497129003	**DGWC-68A**	EPA 3010A	569672	EPA 6010D	569722
92497129004	**DGWC-69**	EPA 3010A	569672	EPA 6010D	569722
92497129005	**FD-2**	EPA 3010A	569672	EPA 6010D	569722
92497129006	**DGWC-37**	EPA 3010A	570008	EPA 6010D	570053
92497129007	**DGWC-38**	EPA 3010A	570008	EPA 6010D	570053
92497129008	**DGWC-39**	EPA 3010A	570008	EPA 6010D	570053
92497129001	**DGWC-40**	EPA 3005A	569774	EPA 6020B	569814
92497129002	**DGWC-67**	EPA 3005A	569774	EPA 6020B	569814
92497129003	**DGWC-68A**	EPA 3005A	569774	EPA 6020B	569814
92497129004	**DGWC-69**	EPA 3005A	569774	EPA 6020B	569814
92497129005	**FD-2**	EPA 3005A	569774	EPA 6020B	569814
92497129006	**DGWC-37**	EPA 3005A	570089	EPA 6020B	570110
92497129007	**DGWC-38**	EPA 3005A	570089	EPA 6020B	570110
92497129008	**DGWC-39**	EPA 3005A	570089	EPA 6020B	570110
92497129001	**DGWC-40**	EPA 7470A	569299	EPA 7470A	569455
92497129002	**DGWC-67**	EPA 7470A	569299	EPA 7470A	569455
92497129003	**DGWC-68A**	EPA 7470A	569299	EPA 7470A	569455
92497129004	**DGWC-69**	EPA 7470A	569299	EPA 7470A	569455
92497129005	**FD-2**	EPA 7470A	569299	EPA 7470A	569455
92497129006	**DGWC-37**	EPA 7470A	569680	EPA 7470A	569886
92497129007	**DGWC-38**	EPA 7470A	569680	EPA 7470A	569886
92497129008	**DGWC-39**	EPA 7470A	569680	EPA 7470A	569886
92497129001	**DGWC-40**	SM 2450C-2011	569386		
92497129002	**DGWC-67**	SM 2450C-2011	569386		
92497129003	**DGWC-68A**	SM 2450C-2011	569386		
92497129004	**DGWC-69**	SM 2450C-2011	569386		
92497129005	**FD-2**	SM 2450C-2011	569386		
92497129006	**DGWC-37**	SM 2450C-2011	569806		
92497129007	**DGWC-38**	SM 2450C-2011	569806		
92497129008	**DGWC-39**	SM 2450C-2011	570219		
92497129001	**DGWC-40**	EPA 300.0 Rev 2.1 1993	569514		
92497129002	**DGWC-67**	EPA 300.0 Rev 2.1 1993	569514		
92497129003	**DGWC-68A**	EPA 300.0 Rev 2.1 1993	569514		
92497129004	**DGWC-69**	EPA 300.0 Rev 2.1 1993	569514		
92497129005	**FD-2**	EPA 300.0 Rev 2.1 1993	569514		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCDONOUGH AP-1
Pace Project No.: 92497129

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92497129006	**DGWC-37**	EPA 300.0 Rev 2.1 1993	569830		
92497129007	**DGWC-38**	EPA 300.0 Rev 2.1 1993	569830		
92497129008	**DGWC-39**	EPA 300.0 Rev 2.1 1993	569830		

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

WO#: 92497129

92497129

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

Tracking #: _____

Proj. Name:

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

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☑ Other Ziploc

Thermometer Used THR214 Type of Ice: ~~Wet~~ Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 1.9 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: KDW 9/24/20

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: WT				
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	Document Name: Bottle Identification Form (BIF)	Document Issued: March 14, 2019 Page 1 of 1
	Document No.: F-CAR-CS-043-Rev.00	Issuing Authority: Pace Carolinas Quality Office

•Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg
••Bottom half of box is to list number of bottle

Project # **WO#: 92497129**

PM: KLH1 Due Date: 10/08/20

CLIENT: GA-GA Power

Matrix	Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A - lab)	SP2T-250 mL Sterile Plastic (N/A - lab)	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AGDU-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation Vials (N/A)
	1																										
	2																										
	3																										
	4																										
	5																										
	6																										
	7																										
	8																										
	9																										
	10																										
	11																										
	12																										

BPIN - Radium

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot

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 O
Out of hold, incorrect preservative, out of temp, incorrect containers.

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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: Joju Abraham	Attention: scsinvoices@southernco.com
Address: 2480 Maner Road Atlanta, GA 30339	Copy To: Golder	Company Name:
Email: jabraham@southernco.com	Purchase Order #:	Address:
Phone: (404) 506-7239 Fax:	Project Name: Plant McDonough AP-1	Pace Quote:
Requested Due Date: 10 Day TAT	Project #: 165849618	Pace Project Manager: Kevin Herring
		Pace Profile #:

Regulatory Agency

State / Location: GA

Requested Analysis Filtered (Y/N)

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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Y/N	Analyses Test: *Metals App III and App IV Total	CLF, SO4	Radium 226/228	TDS	Residual Chlorine (Y/N)	6249129
1	DGWC-40	WT	G	9/23/2020	14:15		5	2		3							X	X	X	X		pH= 4.78
2	DGWC-47	WT	G	9/23/2020	15:10		5	2		3							X	X	X	X		pH= 6.23
3	DGWC-55A	WT	G	9/23/2020	14:00		5	2		3							X	X	X	X		pH= 6.80
4	DGWC-69	WT	G	9/23/2020	11:50		5	2		3							X	X	X	X		pH= 6.06
5	FD-2	WT	G	9/23/2020	-		5	2		3							X	X	X	X		
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
*App III / IV Metals = Ag, Ba, B, Be, Ba, Ca, Co, Cr, Cu, Pb, Li, Mo, Se, Tl	C. Tidwell Golder	9-24-20	08:55	T Elrod	9-24	465
	T Elrod	9-24	925	K. Herring/Pace	09/24/20	0925

Sampled by: Chris Tidwell

DATE Signed: 9-23-20

SAMPLE CONDITIONS			
TEMP in C	1.9	Y	N	Y
Received on Ice (Y/N)				
Custody Sealed Cooler (Y/N)				
Samples Intact (Y/N)				

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

October 20, 2020

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

RE: Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92497118

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between September 24, 2020 and September 25, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Greensburg

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

Sincerely,

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

Enclosures

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

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

CERTIFICATIONS

Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92497118

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

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

SAMPLE SUMMARY

Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92497118

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92497118001	**DGWC-40**	Water	09/23/20 14:15	09/24/20 09:25
92497118002	**DGWC-67**	Water	09/23/20 15:10	09/24/20 09:25
92497118003	**DGWC-68A**	Water	09/23/20 14:00	09/24/20 09:25
92497118004	**DGWC-69**	Water	09/23/20 11:50	09/24/20 09:25
92497118005	**FD-2**	Water	09/23/20 00:00	09/24/20 09:25
92497118006	**DGWC-37**	Water	09/24/20 10:00	09/25/20 13:30
92497118007	**DGWC-38**	Water	09/24/20 14:15	09/25/20 13:30
92497118008	**DGWC-39**	Water	09/25/20 11:05	09/25/20 13:30

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

SAMPLE ANALYTE COUNT

Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92497118

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92497118001	**DGWC-40**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92497118002	**DGWC-67**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92497118003	**DGWC-68A**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92497118004	**DGWC-69**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92497118005	**FD-2**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92497118006	**DGWC-37**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92497118007	**DGWC-38**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92497118008	**DGWC-39**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92497118

Sample: DGWC-40 **Lab ID: 92497118001** Collected: 09/23/20 14:15 Received: 09/24/20 09:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.414 ± 0.302 (0.493) C:79% T:NA**	pCi/L	10/09/20 09:55	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.869 ± 0.790 (1.60) C:64% T:73%**	pCi/L	10/12/20 19:08	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.28 ± 1.09 (2.09)**	pCi/L	10/14/20 09:27	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: MCDONOUGH AP-1 RADS
Pace Project No.: 92497118

Sample: DGWC-67 **Lab ID: 92497118002** Collected: 09/23/20 15:10 Received: 09/24/20 09:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.131 ± 0.225 (0.507) C:81% T:NA**	pCi/L	10/09/20 09:55	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**-0.234 ± 0.678 (1.68) C:64% T:60%**	pCi/L	10/12/20 19:08	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.131 ± 0.903 (2.19)**	pCi/L	10/14/20 09:27	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: MCDONOUGH AP-1 RADS
Pace Project No.: 92497118

Sample: DGWC-68A **Lab ID: 92497118003** Collected: 09/23/20 14:00 Received: 09/24/20 09:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.110 ± 0.212 (0.486) C:77% T:NA**	pCi/L	10/09/20 09:55	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.453 ± 0.657 (1.41) C:68% T:72%**	pCi/L	10/12/20 19:08	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.563 ± 0.869 (1.90)**	pCi/L	10/14/20 09:27	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: MCDONOUGH AP-1 RADS
Pace Project No.: 92497118

Sample: DGWC-69 **Lab ID: 92497118004** Collected: 09/23/20 11:50 Received: 09/24/20 09:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**1.20 ± 0.454 (0.482) C:95% T:NA**	pCi/L	10/07/20 07:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.596 ± 0.494 (0.990) C:65% T:76%**	pCi/L	10/05/20 15:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.80 ± 0.948 (1.47)**	pCi/L	10/09/20 14:09	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: MCDONOUGH AP-1 RADS
Pace Project No.: 92497118

Sample: FD-2 **Lab ID: 92497118005** Collected: 09/23/20 00:00 Received: 09/24/20 09:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.307 ± 0.244 (0.374) C:81% T:NA**	pCi/L	10/07/20 07:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.414 ± 0.467 (0.977) C:62% T:77%**	pCi/L	10/05/20 15:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.721 ± 0.711 (1.35)**	pCi/L	10/09/20 14:09	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: MCDONOUGH AP-1 RADS
Pace Project No.: 92497118

Sample: DGWC-37 **Lab ID: 92497118006** Collected: 09/24/20 10:00 Received: 09/25/20 13:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.280 ± 0.274 (0.533) C:82% T:NA**	pCi/L	10/14/20 06:26	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.746 ± 0.424 (0.777) C:81% T:87%**	pCi/L	10/15/20 14:16	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.03 ± 0.698 (1.31)**	pCi/L	10/19/20 11:01	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: MCDONOUGH AP-1 RADS
Pace Project No.: 92497118

Sample: DGWC-38 **Lab ID: 92497118007** Collected: 09/24/20 14:15 Received: 09/25/20 13:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.156 ± 0.207 (0.433) C:83% T:NA**	pCi/L	10/14/20 06:26	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.437 ± 0.425 (0.878) C:82% T:84%**	pCi/L	10/15/20 14:16	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.593 ± 0.632 (1.31)**	pCi/L	10/19/20 11:01	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: MCDONOUGH AP-1 RADS
Pace Project No.: 92497118

Sample: DGWC-39 **Lab ID: 92497118008** Collected: 09/25/20 11:05 Received: 09/25/20 13:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0807 ± 0.186 (0.444) C:77% T:NA**	pCi/L	10/14/20 06:26	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.0999 ± 0.405 (0.918) C:76% T:78%**	pCi/L	10/15/20 14:16	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.181 ± 0.591 (1.36)**	pCi/L	10/19/20 11:01	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: MCDONOUGH AP-1 RADS
Pace Project No.: 92497118

QC Batch: 415890
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92497118001, 92497118002, 92497118003

METHOD BLANK: 2010987
Matrix: Water
Associated Lab Samples: 92497118001, 92497118002, 92497118003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.214 ± 0.231 (0.446) C:86% T:NA	pCi/L	10/09/20 08:12	

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92497118

QC Batch: 416287
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92497118004, 92497118005

METHOD BLANK: 2012789 Matrix: Water
Associated Lab Samples: 92497118004, 92497118005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.286 ± 0.336 (0.704) C:68% T:81%	pCi/L	10/05/20 11:57	

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: MCDONOUGH AP-1 RADS
Pace Project No.: 92497118

QC Batch: 416276
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92497118004, 92497118005

METHOD BLANK: 2012761 Matrix: Water
Associated Lab Samples: 92497118004, 92497118005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.169 ± 0.216 (0.447) C:97% T:NA	pCi/L	10/07/20 07:50	

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: MCDONOUGH AP-1 RADS
Pace Project No.: 92497118

QC Batch: 417133
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92497118006, 92497118007, 92497118008

METHOD BLANK: 2016815 Matrix: Water
Associated Lab Samples: 92497118006, 92497118007, 92497118008

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.00961 ± 0.301 (0.708) C:79% T:84%	pCi/L	10/15/20 14:13	

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: MCDONOUGH AP-1 RADS
Pace Project No.: 92497118

QC Batch: 417132
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92497118006, 92497118007, 92497118008

METHOD BLANK: 2016814 Matrix: Water
Associated Lab Samples: 92497118006, 92497118007, 92497118008

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0977 ± 0.149 (0.503) C:90% T:NA	pCi/L	10/14/20 06:25	

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92497118

QC Batch: 415888
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92497118001, 92497118002, 92497118003

METHOD BLANK: 2010985 Matrix: Water
Associated Lab Samples: 92497118001, 92497118002, 92497118003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.197 ± 0.376 (0.826) C:67% T:78%	pCi/L	10/12/20 14:59	

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

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

QUALIFIERS

Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92497118

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92497118

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92497118001	**DGWC-40**	EPA 9315	415890		
92497118002	**DGWC-67**	EPA 9315	415890		
92497118003	**DGWC-68A**	EPA 9315	415890		
92497118004	**DGWC-69**	EPA 9315	416276		
92497118005	**FD-2**	EPA 9315	416276		
92497118006	**DGWC-37**	EPA 9315	417132		
92497118007	**DGWC-38**	EPA 9315	417132		
92497118008	**DGWC-39**	EPA 9315	417132		
92497118001	**DGWC-40**	EPA 9320	415888		
92497118002	**DGWC-67**	EPA 9320	415888		
92497118003	**DGWC-68A**	EPA 9320	415888		
92497118004	**DGWC-69**	EPA 9320	416287		
92497118005	**FD-2**	EPA 9320	416287		
92497118006	**DGWC-37**	EPA 9320	417133		
92497118007	**DGWC-38**	EPA 9320	417133		
92497118008	**DGWC-39**	EPA 9320	417133		
92497118001	**DGWC-40**	Total Radium Calculation	418331		
92497118002	**DGWC-67**	Total Radium Calculation	418331		
92497118003	**DGWC-68A**	Total Radium Calculation	418331		
92497118004	**DGWC-69**	Total Radium Calculation	417873		
92497118005	**FD-2**	Total Radium Calculation	417873		
92497118006	**DGWC-37**	Total Radium Calculation	419143		
92497118007	**DGWC-38**	Total Radium Calculation	419143		
92497118008	**DGWC-39**	Total Radium Calculation	419143		

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

WO#: 92497118

92497118

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☑ Commercial ☐ Pace Ot

Tracking #: _____

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

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☑ Other Ziploc

Thermometer Used THR214 Type of Ice: ~~Wet~~ Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 1.9 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Comments:

Date and Initials of person examining contents: KAW 9/24/20

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: WT		
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-ALLC003rev.3. 11September2006

Pace Analytical

Document Name: Bottle Identification Form (BIF)	Document Issued: March 14, 2019 Page 1 of 1
Document No.: F-CAR-CS-043-Rev.00	Issuing Authority:

Project #

WO#: 92497118

PM: KLH1 Due Date: 10/15/20

CLIENT: GA-GA Power

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

**Bottom half of box is to list number of bottle

Matrix	Items	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A - lab)	SP2T-250 mL Sterile Plastic (N/A - lab)	BIN - Radium	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)
	1		—	—			—																			2		
	2		—	—			—																			2		
	3		—	—			—																			2		
	4		—	—			—																			2		
	5		—	—																								
	6																											
	7																											
	8																											
	9																											
	10																											
	11																											
	12																											

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot

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 O

Out of hold, incorrect preservative, out of temp, incorrect containers.

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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:	Joju Abraham	Attention:	ssainvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Golder	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:		Pace Quote:	
Phone:	(404) 506-7239 Fax:	Project Name:	Plant McDonough AP-1	Pace Project Manager:	Kevin Herring
Requested Due Date:	10 Day TAT	Project #:	168848618	Pace ProSe #:	

Regulatory Agency: GA

Requested Analysis Filtered (Y/N)

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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	*Metals App III and App IV Total	ICL F, SO4	Radium 226/228	TDS	Residual Chlorine (Y/N)	42497118
																N	N	N	N			
1	DGWC-40	WT	G	9/23/2020	14:15		5	2		3						X	X	X	X			pH= 4.78
2	DGWC-67	WT	G	9/23/2020	13:10		5	2		3						X	X	X	X			pH= 6.23
3	DGWC-68A	WT	G	9/23/2020	14:00		5	2		3						X	X	X	X			pH= 6.80
4	DGWC-69	WT	G	9/23/2020	11:50		5	2		3						X	X	X	X			pH= 6.08
5	FD-2	WT	G	9/23/2020	-		5	2		3						X	X	X	X			
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*App III / IV Metals = As, Ba, B, Be, Ca, Cr, Co, Fe, Pb, Li, Mo, Se, Tl	C. Tidwell Golder	9-24-20	08:55	T Elrod	9-24	465	
	T Elrod	9-24	925	K. Herring/Pace	9/24/20	0925	1.9 Y N Y

Sampler by: Chris Tidwell

DATE Signed: 9-23-20

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-228
Analyst:	LAL
Date:	10/8/2020
Worklist:	56442
Matrix:	DW

Method Blank Assessment	
MB Sample ID:	2010957
MB concentration:	0.214
MB Counting Uncertainty:	0.229
MB MDC:	0.445
MB Numerical Performance Indicator:	1.23
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCS (Y or N)?	N
	LCS56442	LCSD56442
Count Date:	10/8/2020	
Spike I.D.:	18-228	
Decay Corrected Spike Concentration (pCi/mL):	24.044	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.507	
Target Conc. (pCi/L, g, F):	4.741	
Uncertainty (Calculated):	0.057	
Result (pCi/L, g, F):	4.940	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.794	
Numerical Performance Indicator:	0.49	
Percent Recovery:	104.19%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	9249711000*	Enter Duplicate sample ID's if other than LCS/LCSD in the space below.
Duplicate Sample I.D.:	9249711000* DUP	
Sample Result (pCi/L, g, F):	0.477	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.309	
Sample Duplicate Result (pCi/L, g, F):	0.448	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.340	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	0.121	9249711000*
Duplicate RPD:	6.12%	9249711000* DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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:	
% RPD Limit:	

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

Comments:

LAM 10/9/2020

CM 10/9/20

Quality Control Sample Performance Assessment

Pace Analytical

Test:	Ra-228
Analyst:	LAL
Date:	10/8/2020
Worklist:	56442
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID:	2010587
MB concentration:	0.214
MB Counting Uncertainty:	0.229
MB MDC:	0.445
MS Numerical Performance Indicator:	1.83
MB Status vs Numerical Indicator:	N/A
MB Status vs MDC:	Pass

Laboratory Control Sample Assessment	LCSC (Y or N)?	Y
	LCS56442	LCSD56442
Count Date:	10/6/2020	10/6/2020
Spike ID:	19-093	19-093
Decay Corrected Spike Concentration (pCi/mL):	24.044	24.044
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.557	0.514
Target Conc. (pCi/L, g, F):	4.741	4.677
Uncertainty (Calculated):	0.057	0.056
Result (pCi/L, g, F):	4.940	4.201
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.794	0.785
Numerical Performance Indicator:	0.45	-1.18
Percent Recovery:	104.19%	89.83%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS56442	Enter Duplicate sample ID's if other than LCS/LCSD in the space below
Duplicate Sample I.D.:	LCSD56442	
Sample Result (pCi/L, g, F):	4.940	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.794	
Sample Duplicate Result (pCi/L, g, F):	4.201	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.785	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	1.297	32497;10001
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	14.81%	32497;10001DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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:		
% RPD Limit:		

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

Comments:

LAM 10/9/2020

10/9/2020

Quality Control Sample Performance Assessment

Pace Analytical

Test:	Ra-226
Analyst:	JJY
Date:	10/6/2020
Worklist:	56467
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID:	2012760
MB concentration:	0.155
MB Counting Uncertainty:	0.215
MB MDC:	0.447
MB Numerical Performance Indicator:	1.54
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS56467	LCSD56467
Count Date:	10/7/2020	10/7/2020
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.344	24.344
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.503	0.512
Target Conc. (pCi/L, g, F):	4.730	4.564
Uncertainty (Calculated):	0.057	0.056
Result (pCi/L, g, F):	4.267	5.199
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.778	0.803
Numerical Performance Indicator:	-1.13	1.23
Percent Recovery:	90.06%	113.74%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Sample Matrix Spike Control Assessment	MS/MSD 1:	MS/MSD 2
Sample Collection Date:	9/22/2020	
Sample I.D.:	330845360 01	
Sample MS I.D.:	330845360 01MS	
Sample MSD I.D.:		
Spike I.D.:	19-033	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	24.044	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.494	
MS Target Conc. (pCi/L, g, F):	9.739	
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):	0.117	
MSD Spike Uncertainty (calculated):		
Sample Result:	0.047	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.218	
Sample Matrix Spike Result:	8.672	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.154	
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
MS Numerical Performance Indicator:	-1.650	
MSD Numerical Performance Indicator:		
MS Percent Recovery:	89.55%	
MSD Percent Recovery:		
MS Status vs Numerical Indicator:	N/A	
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:	125%	
MS/MSD Lower % Recovery Limits:	75%	

Duplicate Sample Assessment		
Sample I.D.:	LCS56467	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.:	LCSD56467	
Sample Result (pCi/L, g, F):	4.267	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.778	
Sample Duplicate Result (pCi/L, g, F):	5.199	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.803	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-1.644	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	20.57%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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:		
% RPD Limit:		

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

Comments:

10.8.20 JJY

10/8/2020

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-226
Analyst: LAL
Date: 10/13/2020
Worklist: 56589
Matrix: DW

Method Blank Assessment	
MB Sample ID	2015814
MB concentration:	-0.058
MB Counting Uncertainty:	0.148
MB MDC:	0.503
MB Numerical Performance Indicator:	-1.30
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS56589	LCSD56589
Count Date:	10/14/2020	
Spike I.D.:	18-033	
Decay Corrected Spike Concentration (pCi/mL):	24.044	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.506	
Target Conc. (pCi/L, g, F):	4.736	
Uncertainty (Calculated):	0.057	
Result (pCi/L, g, F):	4.957	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.812	
Numerical Performance Indicator:	0.53	
Percent Recovery:	104.66%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	924971140 05	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	924971140 05DUP	
Sample Result (pCi/L, g, F):	0.265	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.249	
Sample Duplicate Result (pCi/L, g, F):	-0.066	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.079	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	2.210	924971140 05
Duplicate RPD:	390.97%	924971140 05DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail	
% RPD Limit:	25%	

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:	
% RPD Limit:	

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

Comments:

~~Batch must be rejected due to unacceptable precision~~ N/A LAM 10/14/2020

LAM 10/14/2020

10-15-20

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-226
Analyst: LAL
Date: 10/13/2020
Worklist: 56589
Matrix: DW

Method Blank Assessment	
MB Sample ID	2316814
MB concentration:	-0.096
MB Counting Uncertainty:	0.143
MB MDC:	0.533
MB Numerical Performance Indicator:	-1.30
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCS (Y or N)?	N
	LCS56589	LCSD56589
Count Date:	10/14/2020	
Spike I.D.:	19-595	
Decay Corrected Spike Concentration (pCi/mL):	24.044	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.536	
Target Conc. (pCi/L, g, F):	4.736	
Uncertainty (Calculated):	0.057	
Result (pCi/L, g, F):	4.557	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.312	
Numerical Performance Indicator:	0.53	
Percent Recovery:	104.56%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	92497118006	Enter Duplicate sample IDs if other than LCS/LCSD in the space below
Duplicate Sample I.D.:	92497118005DUP	
Sample Result (pCi/L, g, F):	0.230	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.271	
Sample Duplicate Result (pCi/L, g, F):	0.399	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.250	
Are sample and/or duplicate results below RL?	See Below #9	
Duplicate Numerical Performance Indicator:	-0.63	92497118006
Duplicate RPD:	34.29%	92497118005DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail**	
% RPD Limit:	25%	

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:		
% RPD Limit:		

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

Comments:

**Batch rejected. Accepted due to acceptable precision. N/A LAM 10/14/2020

LAM 10/14/2020

TAR DW CC
Printed: 10/14/2020 9:39 AM

1 of 1

TAR_56589_W.xls
Total Alpha Radium (R134-3 1 Feb2019).xls

10.15.20

Quality Control Sample Performance Assessment

PaceAnalytical

Test:	Ra-228
Analyst:	VAL
Date:	10/13/2020
WorkList:	56590
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2016815
MB concentration:	-0.010
MB 2 Sigma CSU:	0.291
MB MDC:	0.758
MB Numerical Performance Indicator:	-0.06
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCS (Y or N)?	N
	LCS56590	LCSD56590
Count Date:	10/15/2020	
Spike ID:	20-030	
Decay Corrected Spike Concentration (pCi/mL):	85.016	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, Fr):	0.815	
Target Conc. (pCi/L, g, Fr):	4.665	
Uncertainty (Calculated):	0.229	
Result (pCi/L, g, Fr):	5.342	
LCS/LCSD 2 Sigma CSU (pCi/L, g, Fr):	0.875	
Numerical Performance Indicator:	2.97	
Percent Recovery:	71.56%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	135%	
Lower % Recovery Limits:	60%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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, Fr):		
MS Target Conc.(pCi/L, g, Fr):		
MSD Aliquot (L, g, Fr):		
MSD Target Conc. (pCi/L, g, Fr):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result 2 Sigma CSU (pCi/L, g, Fr):		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, Fr):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, Fr):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	924971180(6	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D:	924971180(6DUP	
Sample Result (pCi/L, g, Fr):	0.746	
Sample Result 2 Sigma CSU (pCi/L, g, Fr):	0.424	
Sample Duplicate Result (pCi/L, g, Fr):	0.204	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, Fr):	0.426	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	1.757	924971180(6
Duplicate RPD:	114.06%	924971180(6DUP
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Fail	
% RPD Limit:	36%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.:		
Sample MS I.D.:		
Sample MSD I.D.:		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, Fr):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, Fr):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:		
MS/MSD Duplicate Status vs Numerical Indicator:		
MS/MSD Duplicate Status vs RPD:		
% RPD Limit:		

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

Comments:

Chm 10/16/2020

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	VAL
Date:	10/2/2020
Worklist:	56476
Matrix:	WT

Method Blank Assessment	
MB Sample ID:	2012785
MB concentration:	0.289
MB 2 Sigma CSU:	0.336
MB MDC:	0.764
MB Numerical Performance Indicator:	1.57
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCS (Y or N)?	Y
	LCS56475	LCSD56476
Count Date:	10/5/2020	10/5/2020
Spike I.D.:	20-090	20-090
Decay Corrected Spike Concentration (pCi/mL):	38.143	38.143
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.828	0.823
Target Conc. (pCi/L, g, F):	4.719	4.636
Uncertainty (Calculated):	0.237	0.227
Result (pCi/L, g, F):	5.850	6.157
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.341	1.375
Numerical Performance Indicator:	1.57	2.14
Percent Recovery:	124.56%	132.81%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS56476	Enter Duplicate
Duplicate Sample I.D.:	LCSD56476	sample IDs if
Sample Result (pCi/L, g, F):	5.850	other than
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.341	LCS/LCSD in
Sample Duplicate Result (pCi/L, g, F):	6.157	the space below
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.375	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	0.283	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	6.95%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD*:	Pass	
% RPD Limit:	36%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.D.:	
Sample MS I.D.:	
Sample MSD I.D.:	
Sample Matrix Spike Result:	
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:	
MS/MSD Duplicate Status vs Numerical Indicator:	
MS/MSD Duplicate Status vs RPD:	
% RPD Limit:	

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

Comments:

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-226
Analyst: VAL
Date: 10/6/2020
Worklist: 56440
Matrix: WT

Method Blank Assessment	
MB Sample ID	2010685
MB concentration	0.197
MB 2 Sigma CSU	0.376
MB MDC	0.926
MB Numerical Performance Indicator	1.39
MB Status vs Numerical Indicator	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCS/LCSD 1 or N/A?	2
	LCS56440	LCSD56440
Count Date:	10/12/2020	10/12/2020
Spike I.D.:	20-030	20-030
Decay Corrected Spike Concentration (pCi/mL):	38.054	38.054
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.902	0.903
Target Conc. (pCi/L, g, F):	4.747	4.727
Uncertainty (Calculated):	0.232	0.232
Result (pCi/L, g, F):	3.863	4.161
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	0.955	1.023
Numerical Performance Indicator:	-1.73	-1.36
Percent Recovery:	81.40%	87.84%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS56440	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD56440	
Sample Result (pCi/L, g, F):	3.863	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.955	
Sample Duplicate Result (pCi/L, g, F):	4.161	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.023	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-0.415	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	7.51%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	36%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Sample Matrix Spike Result:	
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:	
MS/MSD Duplicate Status vs Numerical Indicator:	
MS/MSD Duplicate Status vs RPD:	
% RPD Limit:	

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

Comments:

VAL 10/13/20

KES 10-13-2020

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

October 09, 2020

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

RE: Project: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between September 24, 2020 and September 28, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

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

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
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

Pace Analytical Services Peachtree Corners
110 Technology Pkwy, Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Virginia Certification #: 460204

Pace Analytical Services, LLC
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SAMPLE SUMMARY

Project: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92497125001	**B-89**	Water	09/23/20 15:30	09/24/20 09:25
92497125002	**B-62**	Water	09/24/20 10:18	09/25/20 13:30
92497125003	**B-77**	Water	09/24/20 14:19	09/25/20 13:30
92497125004	**FB-3**	Water	09/24/20 11:00	09/25/20 13:30
92497125005	**B-74**	Water	09/25/20 10:05	09/25/20 13:30
92497125006	**B-83**	Water	09/25/20 09:10	09/25/20 13:30
92497125007	**B-88**	Water	09/25/20 10:15	09/25/20 13:30
92497125008	**B-100**	Water	09/25/20 10:50	09/25/20 13:30
92497125009	**B-56**	Water	09/28/20 11:14	09/28/20 14:21
92497125010	**B-82**	Water	09/28/20 10:14	09/28/20 14:21
92497125011	**B-93**	Water	09/28/20 09:50	09/28/20 14:21

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SAMPLE ANALYTE COUNT

Project: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92497125001	**B-89**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	JRS	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92497125002	**B-62**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92497125003	**B-77**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92497125004	**FB-3**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92497125005	**B-74**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92497125006	**B-83**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92497125007	**B-88**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92497125008	**B-100**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13

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SAMPLE ANALYTE COUNT

Project: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92497125009	**B-56**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92497125010	**B-82**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92497125011	**B-93**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	BRJ	3

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte
PASI-GA = Pace Analytical Services - Peachtree Corners, GA

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110 Technology Parkway
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ANALYTICAL RESULTS

Project: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

Sample: B-89 **Lab ID: 92497125001** Collected: 09/23/20 15:30 Received: 09/24/20 09:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**5.87**	Std. Units			1		09/29/20 15:24		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**31.4**	mg/L	1.0	0.070	1	09/29/20 14:17	09/29/20 21:06	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/29/20 18:39	10/01/20 11:46	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/29/20 18:39	10/01/20 11:46	7440-38-2	
Barium	**0.028**	mg/L	0.010	0.00071	1	09/29/20 18:39	10/01/20 11:46	7440-39-3	
Beryllium	**0.000054J**	mg/L	0.0030	0.000046	1	09/29/20 18:39	10/01/20 11:46	7440-41-7	
Boron	**0.76**	mg/L	0.10	0.0052	1	09/29/20 18:39	10/01/20 11:46	7440-42-8	
Cadmium	**0.00057J**	mg/L	0.0025	0.00012	1	09/29/20 18:39	10/01/20 11:46	7440-43-9	
Chromium	**0.00072J**	mg/L	0.010	0.00055	1	09/29/20 18:39	10/01/20 11:46	7440-47-3	
Cobalt	**0.0025J**	mg/L	0.0050	0.00038	1	09/29/20 18:39	10/01/20 11:46	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/29/20 18:39	10/01/20 11:46	7439-92-1	
Lithium	**0.0055J**	mg/L	0.030	0.00081	1	09/29/20 18:39	10/01/20 11:46	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/29/20 18:39	10/01/20 11:46	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/29/20 18:39	10/01/20 11:46	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/29/20 18:39	10/01/20 11:46	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	**0.000080J**	mg/L	0.00050	0.000078	1	09/28/20 09:15	09/29/20 08:11	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**260**	mg/L	10.0	10.0	1		09/28/20 14:18		D6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**9.1**	mg/L	1.0	0.60	1		09/29/20 12:38	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/29/20 12:38	16984-48-8	
Sulfate	**138**	mg/L	2.0	1.0	2		09/29/20 20:51	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

Sample: B-62 **Lab ID: 92497125002** Collected: 09/24/20 10:18 Received: 09/25/20 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/29/20 15:24		
pH	**6.55**	Std. Units			1		09/29/20 15:24		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**28.8**	mg/L	1.0	0.070	1	09/30/20 14:57	10/01/20 20:24	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.00046J**	mg/L	0.0030	0.00028	1	09/30/20 17:48	10/03/20 18:20	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/30/20 17:48	10/03/20 18:20	7440-38-2	
Barium	**0.025**	mg/L	0.010	0.00071	1	09/30/20 17:48	10/03/20 18:20	7440-39-3	
Beryllium	**0.00013J**	mg/L	0.0030	0.000046	1	09/30/20 17:48	10/03/20 18:20	7440-41-7	
Boron	**0.074J**	mg/L	0.10	0.0052	1	09/30/20 17:48	10/03/20 18:20	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/30/20 17:48	10/03/20 18:20	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/30/20 17:48	10/03/20 18:20	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/30/20 17:48	10/03/20 18:20	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/30/20 17:48	10/03/20 18:20	7439-92-1	
Lithium	**0.0084J**	mg/L	0.030	0.00081	1	09/30/20 17:48	10/03/20 18:20	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/30/20 17:48	10/03/20 18:20	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/30/20 17:48	10/03/20 18:20	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/30/20 17:48	10/03/20 18:20	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00050	0.000078	1	09/29/20 13:30	09/30/20 12:33	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**170**	mg/L	10.0	10.0	1		09/30/20 09:29		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5.7**	mg/L	1.0	0.60	1		09/30/20 20:53	16887-00-6	
Fluoride	**0.093J**	mg/L	0.10	0.050	1		09/30/20 20:53	16984-48-8	
Sulfate	**50.6**	mg/L	1.0	0.50	1		09/30/20 20:53	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

Sample: B-77 **Lab ID: 92497125003** Collected: 09/24/20 14:19 Received: 09/25/20 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/29/20 15:24		
pH	**6.46**	Std. Units			1		09/29/20 15:24		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**17.9**	mg/L	1.0	0.070	1	09/30/20 14:57	10/01/20 20:28	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.00036J**	mg/L	0.0030	0.00028	1	09/30/20 17:48	10/03/20 18:25	7440-36-0	
Arsenic	**0.0025J**	mg/L	0.0050	0.00078	1	09/30/20 17:48	10/03/20 18:25	7440-38-2	
Barium	**0.12**	mg/L	0.010	0.00071	1	09/30/20 17:48	10/03/20 18:25	7440-39-3	
Beryllium	**0.000053J**	mg/L	0.0030	0.000046	1	09/30/20 17:48	10/03/20 18:25	7440-41-7	
Boron	**0.27**	mg/L	0.10	0.0052	1	09/30/20 17:48	10/03/20 18:25	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/30/20 17:48	10/03/20 18:25	7440-43-9	
Chromium	**0.00070J**	mg/L	0.010	0.00055	1	09/30/20 17:48	10/03/20 18:25	7440-47-3	
Cobalt	**0.00040J**	mg/L	0.0050	0.00038	1	09/30/20 17:48	10/03/20 18:25	7440-48-4	
Lead	**0.00021J**	mg/L	0.0050	0.000036	1	09/30/20 17:48	10/03/20 18:25	7439-92-1	
Lithium	**0.00095J**	mg/L	0.030	0.00081	1	09/30/20 17:48	10/03/20 18:25	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/30/20 17:48	10/03/20 18:25	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/30/20 17:48	10/03/20 18:25	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/30/20 17:48	10/03/20 18:25	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00050	0.000078	1	09/29/20 13:30	09/30/20 12:40	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**124**	mg/L	10.0	10.0	1		09/30/20 09:30		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5.3**	mg/L	1.0	0.60	1		09/30/20 21:08	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/30/20 21:08	16984-48-8	
Sulfate	**2.9**	mg/L	1.0	0.50	1		09/30/20 21:08	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

Sample: FB-3 **Lab ID: 92497125004** Collected: 09/24/20 11:00 Received: 09/25/20 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	ND	mg/L	1.0	0.070	1	09/30/20 14:57	10/01/20 20:32	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/30/20 17:48	10/03/20 18:31	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/30/20 17:48	10/03/20 18:31	7440-38-2	
Barium	ND	mg/L	0.010	0.00071	1	09/30/20 17:48	10/03/20 18:31	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/30/20 17:48	10/03/20 18:31	7440-41-7	
Boron	ND	mg/L	0.10	0.0052	1	09/30/20 17:48	10/03/20 18:31	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/30/20 17:48	10/03/20 18:31	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/30/20 17:48	10/03/20 18:31	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/30/20 17:48	10/03/20 18:31	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/30/20 17:48	10/03/20 18:31	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/30/20 17:48	10/03/20 18:31	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/30/20 17:48	10/03/20 18:31	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/30/20 17:48	10/03/20 18:31	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/30/20 17:48	10/03/20 18:31	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00050	0.000078	1	09/29/20 13:30	09/30/20 12:42	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		09/30/20 09:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		09/30/20 21:22	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/30/20 21:22	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		09/30/20 21:22	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

Sample: B-74 **Lab ID: 92497125005** Collected: 09/25/20 10:05 Received: 09/25/20 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/29/20 15:24		
pH	**6.16**	Std. Units			1		09/29/20 15:24		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**18.6**	mg/L	1.0	0.070	1	09/30/20 14:57	10/01/20 20:37	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/30/20 17:48	10/03/20 18:48	7440-36-0	
Arsenic	**0.012**	mg/L	0.0050	0.00078	1	09/30/20 17:48	10/03/20 18:48	7440-38-2	
Barium	**0.066**	mg/L	0.010	0.00071	1	09/30/20 17:48	10/03/20 18:48	7440-39-3	
Beryllium	**0.000097J**	mg/L	0.0030	0.000046	1	09/30/20 17:48	10/03/20 18:48	7440-41-7	
Boron	**0.30**	mg/L	0.10	0.0052	1	09/30/20 17:48	10/03/20 18:48	7440-42-8	
Cadmium	**0.00017J**	mg/L	0.0025	0.00012	1	09/30/20 17:48	10/03/20 18:48	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/30/20 17:48	10/03/20 18:48	7440-47-3	
Cobalt	**0.0028J**	mg/L	0.0050	0.00038	1	09/30/20 17:48	10/03/20 18:48	7440-48-4	
Lead	**0.000041J**	mg/L	0.0050	0.000036	1	09/30/20 17:48	10/03/20 18:48	7439-92-1	
Lithium	**0.0014J**	mg/L	0.030	0.00081	1	09/30/20 17:48	10/03/20 18:48	7439-93-2	
Molybdenum	**0.049**	mg/L	0.010	0.00069	1	09/30/20 17:48	10/03/20 18:48	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/30/20 17:48	10/03/20 18:48	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/30/20 17:48	10/03/20 18:48	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00050	0.000078	1	09/29/20 13:30	09/30/20 12:45	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**134**	mg/L	10.0	10.0	1		10/01/20 15:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**6.0**	mg/L	1.0	0.60	1		09/30/20 22:05	16887-00-6	
Fluoride	**0.14**	mg/L	0.10	0.050	1		09/30/20 22:05	16984-48-8	
Sulfate	**20.1**	mg/L	1.0	0.50	1		09/30/20 22:05	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

Sample: B-83 **Lab ID: 92497125006** Collected: 09/25/20 09:10 Received: 09/25/20 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/29/20 15:24		
pH	**5.97**	Std. Units			1		09/29/20 15:24		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**39.8**	mg/L	1.0	0.070	1	09/30/20 14:57	10/01/20 20:41	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/30/20 17:48	10/03/20 18:54	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/30/20 17:48	10/03/20 18:54	7440-38-2	
Barium	**0.027**	mg/L	0.010	0.00071	1	09/30/20 17:48	10/03/20 18:54	7440-39-3	
Beryllium	**0.00028J**	mg/L	0.0030	0.000046	1	09/30/20 17:48	10/03/20 18:54	7440-41-7	
Boron	**0.35**	mg/L	0.10	0.0052	1	09/30/20 17:48	10/03/20 18:54	7440-42-8	
Cadmium	**0.00026J**	mg/L	0.0025	0.00012	1	09/30/20 17:48	10/03/20 18:54	7440-43-9	
Chromium	**0.0051J**	mg/L	0.010	0.00055	1	09/30/20 17:48	10/03/20 18:54	7440-47-3	
Cobalt	**0.0073**	mg/L	0.0050	0.00038	1	09/30/20 17:48	10/03/20 18:54	7440-48-4	
Lead	**0.000065J**	mg/L	0.0050	0.000036	1	09/30/20 17:48	10/03/20 18:54	7439-92-1	
Lithium	**0.0018J**	mg/L	0.030	0.00081	1	09/30/20 17:48	10/03/20 18:54	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/30/20 17:48	10/03/20 18:54	7439-98-7	
Selenium	**0.019**	mg/L	0.010	0.0016	1	09/30/20 17:48	10/03/20 18:54	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/30/20 17:48	10/03/20 18:54	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00050	0.000078	1	09/29/20 13:30	09/30/20 12:47	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**244**	mg/L	10.0	10.0	1		10/01/20 15:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**3.0**	mg/L	1.0	0.60	1		09/30/20 22:49	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/30/20 22:49	16984-48-8	
Sulfate	**107**	mg/L	2.0	1.0	2		10/01/20 04:52	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

Sample: B-88 **Lab ID: 92497125007** Collected: 09/25/20 10:15 Received: 09/25/20 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/29/20 15:24		
pH	**5.75**	Std. Units			1		09/29/20 15:24		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**79.8**	mg/L	1.0	0.070	1	09/30/20 14:57	10/01/20 20:45	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/30/20 17:48	10/03/20 19:00	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/30/20 17:48	10/03/20 19:00	7440-38-2	
Barium	**0.021**	mg/L	0.010	0.00071	1	09/30/20 17:48	10/03/20 19:00	7440-39-3	
Beryllium	**0.00063J**	mg/L	0.0030	0.000046	1	09/30/20 17:48	10/03/20 19:00	7440-41-7	
Boron	**1.8**	mg/L	0.10	0.0052	1	09/30/20 17:48	10/03/20 19:00	7440-42-8	
Cadmium	**0.00022J**	mg/L	0.0025	0.00012	1	09/30/20 17:48	10/03/20 19:00	7440-43-9	
Chromium	**0.00085J**	mg/L	0.010	0.00055	1	09/30/20 17:48	10/03/20 19:00	7440-47-3	
Cobalt	**0.0015J**	mg/L	0.0050	0.00038	1	09/30/20 17:48	10/03/20 19:00	7440-48-4	
Lead	**0.00035J**	mg/L	0.0050	0.000036	1	09/30/20 17:48	10/03/20 19:00	7439-92-1	
Lithium	**0.0016J**	mg/L	0.030	0.00081	1	09/30/20 17:48	10/03/20 19:00	7439-93-2	
Molybdenum	**0.0012J**	mg/L	0.010	0.00069	1	09/30/20 17:48	10/03/20 19:00	7439-98-7	
Selenium	**0.0033J**	mg/L	0.010	0.0016	1	09/30/20 17:48	10/03/20 19:00	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/30/20 17:48	10/03/20 19:00	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00050	0.000078	1	09/29/20 13:30	09/30/20 12:50	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**624**	mg/L	20.0	20.0	1		10/01/20 15:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**10**	mg/L	1.0	0.60	1		09/30/20 23:03	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/30/20 23:03	16984-48-8	
Sulfate	**344**	mg/L	7.0	3.5	7		10/01/20 05:06	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

Sample: B-100 **Lab ID: 92497125008** Collected: 09/25/20 10:50 Received: 09/25/20 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/29/20 15:24		
pH	**5.53**	Std. Units			1		09/29/20 15:24		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**44.7**	mg/L	1.0	0.070	1	09/30/20 14:57	10/01/20 20:58	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/30/20 17:48	10/03/20 19:06	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/30/20 17:48	10/03/20 19:06	7440-38-2	
Barium	**0.022**	mg/L	0.010	0.00071	1	09/30/20 17:48	10/03/20 19:06	7440-39-3	
Beryllium	**0.00035J**	mg/L	0.0030	0.000046	1	09/30/20 17:48	10/03/20 19:06	7440-41-7	
Boron	**0.27**	mg/L	0.10	0.0052	1	09/30/20 17:48	10/03/20 19:06	7440-42-8	
Cadmium	**0.00027J**	mg/L	0.0025	0.00012	1	09/30/20 17:48	10/03/20 19:06	7440-43-9	
Chromium	**0.00094J**	mg/L	0.010	0.00055	1	09/30/20 17:48	10/03/20 19:06	7440-47-3	
Cobalt	**0.034**	mg/L	0.0050	0.00038	1	09/30/20 17:48	10/03/20 19:06	7440-48-4	
Lead	**0.00021J**	mg/L	0.0050	0.000036	1	09/30/20 17:48	10/03/20 19:06	7439-92-1	
Lithium	**0.0027J**	mg/L	0.030	0.00081	1	09/30/20 17:48	10/03/20 19:06	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/30/20 17:48	10/03/20 19:06	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/30/20 17:48	10/03/20 19:06	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/30/20 17:48	10/03/20 19:06	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00050	0.000078	1	09/29/20 13:30	09/30/20 12:52	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**724**	mg/L	20.0	20.0	1		10/01/20 15:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**13.2**	mg/L	1.0	0.60	1		09/30/20 23:18	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/30/20 23:18	16984-48-8	
Sulfate	**385**	mg/L	8.0	4.0	8		10/01/20 05:20	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

Sample: B-56 **Lab ID: 92497125009** Collected: 09/28/20 11:14 Received: 09/28/20 14:21 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/29/20 15:24		
pH	**4.90**	Std. Units			1		09/29/20 15:24		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**15.1**	mg/L	1.0	0.070	1	10/01/20 15:00	10/02/20 19:50	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	10/01/20 15:24	10/02/20 19:51	7440-36-0	
Arsenic	**0.0047J**	mg/L	0.0050	0.00078	1	10/01/20 15:24	10/02/20 19:51	7440-38-2	
Barium	**0.026**	mg/L	0.010	0.00071	1	10/01/20 15:24	10/02/20 19:51	7440-39-3	
Beryllium	**0.0012J**	mg/L	0.0030	0.000046	1	10/01/20 15:24	10/02/20 19:51	7440-41-7	
Boron	**1.4**	mg/L	0.10	0.0052	1	10/01/20 15:24	10/02/20 19:51	7440-42-8	
Cadmium	**0.00024J**	mg/L	0.0025	0.00012	1	10/01/20 15:24	10/02/20 19:51	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	10/01/20 15:24	10/02/20 19:51	7440-47-3	
Cobalt	**0.042**	mg/L	0.0050	0.00038	1	10/01/20 15:24	10/02/20 19:51	7440-48-4	
Lead	**0.000091J**	mg/L	0.0050	0.000036	1	10/01/20 15:24	10/02/20 19:51	7439-92-1	
Lithium	**0.0050J**	mg/L	0.030	0.00081	1	10/01/20 15:24	10/02/20 19:51	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	10/01/20 15:24	10/02/20 19:51	7439-98-7	
Selenium	**0.029**	mg/L	0.010	0.0016	1	10/01/20 15:24	10/02/20 19:51	7782-49-2	
Thallium	**0.00023J**	mg/L	0.0010	0.00014	1	10/01/20 15:24	10/02/20 19:51	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00050	0.000078	1	09/29/20 13:30	09/30/20 12:54	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**320**	mg/L	10.0	10.0	1		10/01/20 15:26		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**8.7**	mg/L	1.0	0.60	1		09/30/20 18:20	16887-00-6	
Fluoride	**0.098J**	mg/L	0.10	0.050	1		09/30/20 18:20	16984-48-8	
Sulfate	**211**	mg/L	4.0	2.0	4		09/30/20 22:35	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

Sample: B-82 **Lab ID: 92497125010** Collected: 09/28/20 10:14 Received: 09/28/20 14:21 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/29/20 15:24		
pH	**5.54**	Std. Units			1		09/29/20 15:24		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**26.5**	mg/L	1.0	0.070	1	10/01/20 15:00	10/02/20 19:54	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	10/01/20 19:00	10/03/20 15:51	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	10/01/20 19:00	10/03/20 15:51	7440-38-2	
Barium	**0.023**	mg/L	0.010	0.00071	1	10/01/20 19:00	10/03/20 15:51	7440-39-3	
Beryllium	**0.0015J**	mg/L	0.0030	0.000046	1	10/01/20 19:00	10/03/20 15:51	7440-41-7	
Boron	**1.1**	mg/L	0.10	0.0052	1	10/01/20 19:00	10/03/20 15:51	7440-42-8	
Cadmium	**0.00066J**	mg/L	0.0025	0.00012	1	10/01/20 19:00	10/03/20 15:51	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	10/01/20 19:00	10/03/20 15:51	7440-47-3	
Cobalt	**0.0053**	mg/L	0.0050	0.00038	1	10/01/20 19:00	10/03/20 15:51	7440-48-4	
Lead	**0.00011J**	mg/L	0.0050	0.000036	1	10/01/20 19:00	10/03/20 15:51	7439-92-1	
Lithium	**0.0010J**	mg/L	0.030	0.00081	1	10/01/20 19:00	10/03/20 15:51	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	10/01/20 19:00	10/03/20 15:51	7439-98-7	
Selenium	**0.0021J**	mg/L	0.010	0.0016	1	10/01/20 19:00	10/03/20 15:51	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/01/20 19:00	10/03/20 15:51	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00050	0.000078	1	09/29/20 13:30	09/30/20 12:57	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**454**	mg/L	10.0	10.0	1		10/01/20 15:27		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**9.9**	mg/L	1.0	0.60	1		09/30/20 18:35	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/30/20 18:35	16984-48-8	
Sulfate	**287**	mg/L	6.0	3.0	6		09/30/20 22:56	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

Sample: B-93 **Lab ID: 92497125011** Collected: 09/28/20 09:50 Received: 09/28/20 14:21 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**4.67**	Std. Units			1		09/29/20 15:24		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**110**	mg/L	1.0	0.070	1	10/01/20 15:00	10/02/20 19:58	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.0014J**	mg/L	0.0030	0.00028	1	10/01/20 19:00	10/03/20 16:14	7440-36-0	
Arsenic	**0.0027J**	mg/L	0.0050	0.00078	1	10/01/20 19:00	10/03/20 16:14	7440-38-2	
Barium	**0.017**	mg/L	0.010	0.00071	1	10/01/20 19:00	10/03/20 16:14	7440-39-3	
Beryllium	**0.015**	mg/L	0.0030	0.000046	1	10/01/20 19:00	10/03/20 16:14	7440-41-7	
Boron	**3.0**	mg/L	0.10	0.0052	1	10/01/20 19:00	10/03/20 16:14	7440-42-8	
Cadmium	**0.00074J**	mg/L	0.0025	0.00012	1	10/01/20 19:00	10/03/20 16:14	7440-43-9	
Chromium	**0.00066J**	mg/L	0.010	0.00055	1	10/01/20 19:00	10/03/20 16:14	7440-47-3	
Cobalt	**0.064**	mg/L	0.0050	0.00038	1	10/01/20 19:00	10/03/20 16:14	7440-48-4	
Lead	**0.00012J**	mg/L	0.0050	0.000036	1	10/01/20 19:00	10/03/20 16:14	7439-92-1	
Lithium	**0.011J**	mg/L	0.030	0.00081	1	10/01/20 19:00	10/03/20 16:14	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	10/01/20 19:00	10/03/20 16:14	7439-98-7	
Selenium	**0.036**	mg/L	0.010	0.0016	1	10/01/20 19:00	10/03/20 16:14	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/01/20 19:00	10/03/20 16:14	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	**0.00024J**	mg/L	0.00050	0.000078	1	09/29/20 13:30	09/30/20 12:59	7439-97-6	B
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**686**	mg/L	20.0	20.0	1		10/01/20 15:27		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**10.8**	mg/L	1.0	0.60	1		10/01/20 14:53	16887-00-6	
Fluoride	**0.30**	mg/L	0.10	0.050	1		10/01/20 14:53	16984-48-8	
Sulfate	**419**	mg/L	9.0	4.5	9		10/01/20 20:35	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: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

QC Batch: 569672
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92497125001

METHOD BLANK: 3017857 Matrix: Water
Associated Lab Samples: 92497125001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	09/29/20 19:56	

LABORATORY CONTROL SAMPLE: 3017858

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	0.97J	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017859 3017860

Parameter	Units	92496847006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	2510 ug/L	1	1	3.4	3.4	93	92	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: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

QC Batch: 570008 — Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A — Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92497125002, 92497125003, 92497125004, 92497125005, 92497125006, 92497125007, 92497125008

METHOD BLANK: 3019452 — Matrix: Water
Associated Lab Samples: 92497125002, 92497125003, 92497125004, 92497125005, 92497125006, 92497125007, 92497125008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	10/01/20 19:24	

LABORATORY CONTROL SAMPLE: 3019453

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	0.96J	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3019454 3019455

Parameter	Units	92496941020 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	53.1	1	1	55.5	54.3	237	115	75-125	2	20	M1

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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: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

QC Batch: 570301 | Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A | Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92497125009, 92497125010, 92497125011

METHOD BLANK: 3020964 Matrix: Water
Associated Lab Samples: 92497125009, 92497125010, 92497125011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	10/02/20 18:13	

LABORATORY CONTROL SAMPLE: 3020965

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3020966 3020967

Parameter	Units	92497149010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	38.6	1	1	37.8	39.0	-77	45	75-125	3	20	M1

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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: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

QC Batch: 569774
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92497125001

METHOD BLANK: 3018372 Matrix: Water
Associated Lab Samples: 92497125001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	10/01/20 09:53	
Arsenic	mg/L	ND	0.0050	0.00078	10/01/20 09:53	
Barium	mg/L	ND	0.010	0.00071	10/01/20 09:53	
Beryllium	mg/L	ND	0.0030	0.000046	10/01/20 09:53	
Boron	mg/L	ND	0.10	0.0052	10/01/20 09:53	
Cadmium	mg/L	ND	0.0025	0.00012	10/01/20 09:53	
Chromium	mg/L	ND	0.010	0.00055	10/01/20 09:53	
Cobalt	mg/L	ND	0.0050	0.00038	10/01/20 09:53	
Lead	mg/L	ND	0.0050	0.000036	10/01/20 09:53	
Lithium	mg/L	ND	0.030	0.00081	10/01/20 09:53	
Molybdenum	mg/L	ND	0.010	0.00069	10/01/20 09:53	
Selenium	mg/L	ND	0.010	0.0016	10/01/20 09:53	
Thallium	mg/L	ND	0.0010	0.00014	10/01/20 09:53	

LABORATORY CONTROL SAMPLE: 3018373

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	103	80-120	
Arsenic	mg/L	0.1	0.097	97	80-120	
Barium	mg/L	0.1	0.10	101	80-120	
Beryllium	mg/L	0.1	0.093	93	80-120	
Boron	mg/L	1	0.91	91	80-120	
Cadmium	mg/L	0.1	0.095	95	80-120	
Chromium	mg/L	0.1	0.092	92	80-120	
Cobalt	mg/L	0.1	0.092	92	80-120	
Lead	mg/L	0.1	0.096	96	80-120	
Lithium	mg/L	0.1	0.092	92	80-120	
Molybdenum	mg/L	0.1	0.098	98	80-120	
Selenium	mg/L	0.1	0.097	97	80-120	
Thallium	mg/L	0.1	0.095	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3018374 3018375

Parameter	Units	92497149004 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	0.10	0.10	101	102	75-125	0	20	
Arsenic	mg/L	ND	0.1	0.1	0.099	0.099	99	99	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: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3018374 3018375

Parameter	Units	92497149004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.0039J	0.1	0.1	0.10	0.10	99	100	75-125	1	20	
Beryllium	mg/L	0.000059J	0.1	0.1	0.090	0.091	90	91	75-125	1	20	
Boron	mg/L	0.0073J	1	1	0.88	0.90	87	89	75-125	2	20	
Cadmium	mg/L	ND	0.1	0.1	0.097	0.096	97	96	75-125	1	20	
Chromium	mg/L	ND	0.1	0.1	0.095	0.095	94	94	75-125	0	20	
Cobalt	mg/L	ND	0.1	0.1	0.095	0.095	95	95	75-125	0	20	
Lead	mg/L	0.00015J	0.1	0.1	0.093	0.094	92	94	75-125	1	20	
Lithium	mg/L	0.013J	0.1	0.1	0.10	0.10	91	91	75-125	0	20	
Molybdenum	mg/L	0.010	0.1	0.1	0.11	0.11	96	97	75-125	1	20	
Selenium	mg/L	ND	0.1	0.1	0.099	0.096	98	95	75-125	3	20	
Thallium	mg/L	0.00016J	0.1	0.1	0.094	0.095	94	95	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: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

QC Batch: 570089
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92497125002, 92497125003, 92497125004, 92497125005, 92497125006, 92497125007, 92497125008

METHOD BLANK: 3020046 Matrix: Water
Associated Lab Samples: 92497125002, 92497125003, 92497125004, 92497125005, 92497125006, 92497125007, 92497125008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	10/03/20 17:40	
Arsenic	mg/L	ND	0.0050	0.00078	10/03/20 17:40	
Barium	mg/L	ND	0.010	0.00071	10/03/20 17:40	
Beryllium	mg/L	ND	0.0030	0.000046	10/03/20 17:40	
Boron	mg/L	ND	0.10	0.0052	10/03/20 17:40	
Cadmium	mg/L	ND	0.0025	0.00012	10/03/20 17:40	
Chromium	mg/L	ND	0.010	0.00055	10/03/20 17:40	
Cobalt	mg/L	ND	0.0050	0.00038	10/03/20 17:40	
Lead	mg/L	ND	0.0050	0.000036	10/03/20 17:40	
Lithium	mg/L	ND	0.030	0.00081	10/03/20 17:40	
Molybdenum	mg/L	ND	0.010	0.00069	10/03/20 17:40	
Selenium	mg/L	ND	0.010	0.0016	10/03/20 17:40	
Thallium	mg/L	ND	0.0010	0.00014	10/03/20 17:40	

LABORATORY CONTROL SAMPLE: 3020047

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	100	80-120	
Arsenic	mg/L	0.1	0.092	92	80-120	
Barium	mg/L	0.1	0.097	97	80-120	
Beryllium	mg/L	0.1	0.096	96	80-120	
Boron	mg/L	1	0.97	97	80-120	
Cadmium	mg/L	0.1	0.098	98	80-120	
Chromium	mg/L	0.1	0.099	99	80-120	
Cobalt	mg/L	0.1	0.097	97	80-120	
Lead	mg/L	0.1	0.099	99	80-120	
Lithium	mg/L	0.1	0.097	97	80-120	
Molybdenum	mg/L	0.1	0.096	96	80-120	
Selenium	mg/L	0.1	0.096	96	80-120	
Thallium	mg/L	0.1	0.099	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3020048 3020049

Parameter	Units	92496941025 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	0.095	0.10	95	100	75-125	6	20	
Arsenic	mg/L	0.00088J	0.1	0.1	0.095	0.095	94	94	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: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3020048 3020049

Parameter	Units	92496941025 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.032	0.1	0.1	0.13	0.13	95	98	75-125	3	20	
Beryllium	mg/L	0.00070J	0.1	0.1	0.099	0.097	98	97	75-125	1	20	
Boron	mg/L	0.84	1	1	2.0	1.9	112	107	75-125	3	20	
Cadmium	mg/L	0.00028J	0.1	0.1	0.097	0.097	97	97	75-125	0	20	
Chromium	mg/L	0.0028J	0.1	0.1	0.10	0.10	100	100	75-125	1	20	
Cobalt	mg/L	0.027	0.1	0.1	0.13	0.13	99	98	75-125	1	20	
Lead	mg/L	0.00022J	0.1	0.1	0.087	0.094	86	93	75-125	8	20	
Lithium	mg/L	0.0012J	0.1	0.1	0.10	0.10	102	100	75-125	2	20	
Molybdenum	mg/L	ND	0.1	0.1	0.098	0.10	98	102	75-125	4	20	
Selenium	mg/L	0.012	0.1	0.1	0.11	0.11	96	95	75-125	1	20	
Thallium	mg/L	0.00034J	0.1	0.1	0.093	0.094	93	94	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: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

QC Batch: 570307
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92497125009

METHOD BLANK: 3020982 Matrix: Water
Associated Lab Samples: 92497125009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	10/02/20 17:11	
Arsenic	mg/L	ND	0.0050	0.00078	10/02/20 17:11	
Barium	mg/L	ND	0.010	0.00071	10/02/20 17:11	
Beryllium	mg/L	ND	0.0030	0.000046	10/02/20 17:11	
Boron	mg/L	ND	0.10	0.0052	10/02/20 17:11	
Cadmium	mg/L	ND	0.0025	0.00012	10/02/20 17:11	
Chromium	mg/L	ND	0.010	0.00055	10/02/20 17:11	
Cobalt	mg/L	ND	0.0050	0.00038	10/02/20 17:11	
Lead	mg/L	ND	0.0050	0.000036	10/02/20 17:11	
Lithium	mg/L	ND	0.030	0.00081	10/02/20 17:11	
Molybdenum	mg/L	ND	0.010	0.00069	10/02/20 17:11	
Selenium	mg/L	ND	0.010	0.0016	10/02/20 17:11	
Thallium	mg/L	ND	0.0010	0.00014	10/02/20 17:11	

LABORATORY CONTROL SAMPLE: 3020983

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	100	80-120	
Arsenic	mg/L	0.1	0.098	98	80-120	
Barium	mg/L	0.1	0.10	100	80-120	
Beryllium	mg/L	0.1	0.099	99	80-120	
Boron	mg/L	1	1.0	101	80-120	
Cadmium	mg/L	0.1	0.097	97	80-120	
Chromium	mg/L	0.1	0.10	101	80-120	
Cobalt	mg/L	0.1	0.10	100	80-120	
Lead	mg/L	0.1	0.10	100	80-120	
Lithium	mg/L	0.1	0.098	98	80-120	
Molybdenum	mg/L	0.1	0.099	99	80-120	
Selenium	mg/L	0.1	0.095	95	80-120	
Thallium	mg/L	0.1	0.10	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3020984 3020985

Parameter	Units	92497149015 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	0.10	0.10	102	102	75-125	0	20	
Arsenic	mg/L	ND	0.1	0.1	0.098	0.099	98	98	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: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3020984 3020985

Parameter	Units	92497149015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.079	0.1	0.1	0.18	0.18	101	99	75-125	1	20	
Beryllium	mg/L	ND	0.1	0.1	0.096	0.096	96	96	75-125	0	20	
Boron	mg/L	2.1	1	1	3.1	3.1	99	97	75-125	1	20	
Cadmium	mg/L	0.00027J	0.1	0.1	0.098	0.098	98	98	75-125	0	20	
Chromium	mg/L	ND	0.1	0.1	0.10	0.10	101	102	75-125	1	20	
Cobalt	mg/L	ND	0.1	0.1	0.10	0.10	101	100	75-125	1	20	
Lead	mg/L	ND	0.1	0.1	0.097	0.097	97	97	75-125	0	20	
Lithium	mg/L	0.0065J	0.1	0.1	0.10	0.10	97	97	75-125	0	20	
Molybdenum	mg/L	0.0012J	0.1	0.1	0.10	0.10	101	100	75-125	1	20	
Selenium	mg/L	ND	0.1	0.1	0.095	0.094	95	94	75-125	0	20	
Thallium	mg/L	ND	0.1	0.1	0.10	0.10	101	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: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

QC Batch: 570375
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92497125010, 92497125011

METHOD BLANK: 3021668 Matrix: Water
Associated Lab Samples: 92497125010, 92497125011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	10/03/20 14:31	
Arsenic	mg/L	ND	0.0050	0.00078	10/03/20 14:31	
Barium	mg/L	ND	0.010	0.00071	10/03/20 14:31	
Beryllium	mg/L	ND	0.0030	0.000046	10/03/20 14:31	
Boron	mg/L	ND	0.10	0.0052	10/03/20 14:31	
Cadmium	mg/L	ND	0.0025	0.00012	10/03/20 14:31	
Chromium	mg/L	ND	0.010	0.00055	10/03/20 14:31	
Cobalt	mg/L	ND	0.0050	0.00038	10/03/20 14:31	
Lead	mg/L	ND	0.0050	0.000036	10/03/20 14:31	
Lithium	mg/L	ND	0.030	0.00081	10/03/20 14:31	
Molybdenum	mg/L	ND	0.010	0.00069	10/03/20 14:31	
Selenium	mg/L	ND	0.010	0.0016	10/03/20 14:31	
Thallium	mg/L	ND	0.0010	0.00014	10/03/20 14:31	

LABORATORY CONTROL SAMPLE: 3021669

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.097	97	80-120	
Arsenic	mg/L	0.1	0.092	92	80-120	
Barium	mg/L	0.1	0.098	98	80-120	
Beryllium	mg/L	0.1	0.10	101	80-120	
Boron	mg/L	1	1.0	104	80-120	
Cadmium	mg/L	0.1	0.096	96	80-120	
Chromium	mg/L	0.1	0.098	98	80-120	
Cobalt	mg/L	0.1	0.097	97	80-120	
Lead	mg/L	0.1	0.095	95	80-120	
Lithium	mg/L	0.1	0.10	101	80-120	
Molybdenum	mg/L	0.1	0.097	97	80-120	
Selenium	mg/L	0.1	0.092	92	80-120	
Thallium	mg/L	0.1	0.096	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3021670 3021671

Parameter	Units	92497125010 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	0.10	0.10	101	100	75-125	1	20	
Arsenic	mg/L	ND	0.1	0.1	0.095	0.094	94	94	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: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3021670 3021671

Parameter	Units	92497125010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.023	0.1	0.1	0.12	0.12	97	99	75-125	1	20	
Beryllium	mg/L	0.0015J	0.1	0.1	0.098	0.10	97	100	75-125	3	20	
Boron	mg/L	1.1	1	1	2.1	2.2	101	114	75-125	6	20	
Cadmium	mg/L	0.00066J	0.1	0.1	0.097	0.097	96	97	75-125	0	20	
Chromium	mg/L	ND	0.1	0.1	0.10	0.10	100	101	75-125	1	20	
Cobalt	mg/L	0.0053	0.1	0.1	0.10	0.10	98	99	75-125	1	20	
Lead	mg/L	0.00011J	0.1	0.1	0.095	0.095	95	95	75-125	1	20	
Lithium	mg/L	0.0010J	0.1	0.1	0.10	0.10	100	103	75-125	3	20	
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.10	102	102	75-125	0	20	
Selenium	mg/L	0.0021J	0.1	0.1	0.097	0.094	95	92	75-125	3	20	
Thallium	mg/L	ND	0.1	0.1	0.094	0.096	94	96	75-125	2	20	

SAMPLE DUPLICATE: 3021683

Parameter	Units	92497981001 Result	Dup Result	RPD	Max RPD	Qualifiers
Antimony	mg/L	ND	ND		20	
Arsenic	mg/L	ND	0.0078	4	20	
Barium	mg/L	ND	0.0046J		20	
Beryllium	mg/L	ND	ND		20	
Boron	mg/L	ND	0.018J		20	
Cadmium	mg/L	ND	ND		20	
Chromium	mg/L	ND	0.00061J		20	
Cobalt	mg/L	ND	0.00074J		20	
Lead	mg/L	ND	0.00016J		20	
Lithium	mg/L	ND	ND		20	
Molybdenum	mg/L	ND	ND		20	
Selenium	mg/L	ND	ND		20	
Thallium	mg/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: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

QC Batch: 569295
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92497125001

METHOD BLANK: 3016173 Matrix: Water
Associated Lab Samples: 92497125001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.000078	09/29/20 07:07	

LABORATORY CONTROL SAMPLE: 3016174

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0025	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3016175 3016176

Parameter	Units	92496847015 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	0.0025	0.0026	99	104	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: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

QC Batch: 569682
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92497125002, 92497125003, 92497125004, 92497125005, 92497125006, 92497125007, 92497125008, 92497125009, 92497125010, 92497125011

METHOD BLANK: 3017915 Matrix: Water
Associated Lab Samples: 92497125002, 92497125003, 92497125004, 92497125005, 92497125006, 92497125007, 92497125008, 92497125009, 92497125010, 92497125011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	0.000096J	0.00050	0.000078	09/30/20 11:53	

LABORATORY CONTROL SAMPLE: 3017916

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0025	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017917 3017918

Parameter	Units	92497141011 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	0.0025	0.0025	96	98	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: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

QC Batch: 569386
QC Batch Method: SM 2450C-2011
Analysis Method: SM 2450C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92497125001

METHOD BLANK: 3016890 Matrix: Water
Associated Lab Samples: 92497125001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	09/28/20 14:18	

LABORATORY CONTROL SAMPLE: 3016891

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	429	107	84-108	

SAMPLE DUPLICATE: 3016892

Parameter	Units	92497125001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	260	295	13	10	D6

SAMPLE DUPLICATE: 3016893

Parameter	Units	92497141008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	81.0	59.0	31	10	D6

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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: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

QC Batch: 569874
QC Batch Method: SM 2450C-2011
Analysis Method: SM 2450C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92497125002

METHOD BLANK: 3018862 Matrix: Water
Associated Lab Samples: 92497125002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	09/30/20 09:26	

LABORATORY CONTROL SAMPLE: 3018863

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	389	97	84-108	

SAMPLE DUPLICATE: 3018864

Parameter	Units	92497404001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	130	150	14	10	D6

SAMPLE DUPLICATE: 3018865

Parameter	Units	92495894026 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	790	774	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

QC Batch: 569876
QC Batch Method: SM 2450C-2011
Analysis Method: SM 2450C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92497125003, 92497125004

METHOD BLANK: 3018866 Matrix: Water
Associated Lab Samples: 92497125003, 92497125004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	09/30/20 09:30	

LABORATORY CONTROL SAMPLE: 3018867

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	403	101	84-108	

SAMPLE DUPLICATE: 3018868

Parameter	Units	92497125003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	124	118	5	10	

SAMPLE DUPLICATE: 3018869

Parameter	Units	92497149013 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	ND	ND		10	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

QC Batch: 570219 | Analysis Method: SM 2450C-2011
QC Batch Method: SM 2450C-2011 | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92497125005, 92497125006, 92497125007, 92497125008

METHOD BLANK: 3020458 Matrix: Water
Associated Lab Samples: 92497125005, 92497125006, 92497125007, 92497125008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	10/01/20 15:22	

LABORATORY CONTROL SAMPLE: 3020459

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	412	103	84-108	

SAMPLE DUPLICATE: 3020460

Parameter	Units	92497125005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	134	142	6	10	

SAMPLE DUPLICATE: 3020461

Parameter	Units	92497146006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	878	918	4	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: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

QC Batch: 570220 | Analysis Method: SM 2450C-2011
QC Batch Method: SM 2450C-2011 | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92497125009, 92497125010, 92497125011

METHOD BLANK: 3020462 Matrix: Water
Associated Lab Samples: 92497125009, 92497125010, 92497125011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	10/01/20 15:26	

LABORATORY CONTROL SAMPLE: 3020463

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	411	103	84-108	

SAMPLE DUPLICATE: 3020464

Parameter	Units	92496524014 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	188	205	9	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(770)734-4200

QUALITY CONTROL DATA

Project: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

QC Batch: 569514
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92497125001

METHOD BLANK: 3017398 Matrix: Water
Associated Lab Samples: 92497125001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/29/20 11:26	
Fluoride	mg/L	ND	0.10	0.050	09/29/20 11:26	
Sulfate	mg/L	ND	1.0	0.50	09/29/20 11:26	

LABORATORY CONTROL SAMPLE: 3017399

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	53.9	108	90-110	
Fluoride	mg/L	2.5	2.6	103	90-110	
Sulfate	mg/L	50	52.6	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017400 3017401

Parameter	Units	92496941018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	52.4	51.8	105	104	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.3	2.4	93	94	90-110	0	10	
Sulfate	mg/L	ND	50	50	51.0	50.1	101	100	90-110	2	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017402 3017403

Parameter	Units	92496941019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	51.7	51.7	103	103	90-110	0	10	
Fluoride	mg/L	ND	2.5	2.5	2.3	2.4	91	95	90-110	5	10	
Sulfate	mg/L	ND	50	50	50.0	49.9	100	100	90-110	0	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: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

QC Batch: 569832
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92497125002, 92497125003, 92497125004, 92497125005, 92497125006, 92497125007, 92497125008

METHOD BLANK: 3018769 Matrix: Water
Associated Lab Samples: 92497125002, 92497125003, 92497125004, 92497125005, 92497125006, 92497125007, 92497125008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/30/20 20:24	
Fluoride	mg/L	ND	0.10	0.050	09/30/20 20:24	
Sulfate	mg/L	ND	1.0	0.50	09/30/20 20:24	

LABORATORY CONTROL SAMPLE: 3018770

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	51.0	102	90-110	
Fluoride	mg/L	2.5	2.7	108	90-110	
Sulfate	mg/L	50	49.8	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3018771 3018772

Parameter	Units	92497125004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	51.9	51.4	104	103	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.6	2.6	105	103	90-110	2	10	
Sulfate	mg/L	ND	50	50	50.5	50.0	101	100	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3018773 3018774

Parameter	Units	92497141016 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	51.8	51.5	104	103	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.6	2.5	105	100	90-110	4	10	
Sulfate	mg/L	ND	50	50	50.5	50.1	101	100	90-110	1	10	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

QC Batch: 569922
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92497125009, 92497125010

METHOD BLANK: 3019036 Matrix: Water
Associated Lab Samples: 92497125009, 92497125010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/30/20 11:24	
Fluoride	mg/L	ND	0.10	0.050	09/30/20 11:24	
Sulfate	mg/L	ND	1.0	0.50	09/30/20 11:24	

LABORATORY CONTROL SAMPLE: 3019037

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.9	100	90-110	
Fluoride	mg/L	2.5	2.4	95	90-110	
Sulfate	mg/L	50	50.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3019038 3019039

Parameter	Units	92497713005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	25.7	50	50	75.8	77.8	100	104	90-110	3	10	
Fluoride	mg/L	ND	2.5	2.5	2.3	2.9	92	116	90-110	23	10	M1,R1
Sulfate	mg/L	1.3	50	50	53.1	55.8	104	109	90-110	5	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3019040 3019041

Parameter	Units	92497146005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	7.5	50	50	59.7	61.3	104	108	90-110	3	10	
Fluoride	mg/L	ND	2.5	2.5	1.8	2.0	71	81	90-110	13	10	M1,R1
Sulfate	mg/L	7.2	50	50	59.9	61.2	105	108	90-110	2	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
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

QC Batch: 570137
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92497125011

METHOD BLANK: 3020267 Matrix: Water
Associated Lab Samples: 92497125011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	10/01/20 07:56	
Fluoride	mg/L	ND	0.10	0.050	10/01/20 07:56	
Sulfate	mg/L	ND	1.0	0.50	10/01/20 07:56	

LABORATORY CONTROL SAMPLE: 3020268

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	53.3	107	90-110	
Fluoride	mg/L	2.5	2.7	109	90-110	
Sulfate	mg/L	50	53.4	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3020269 3020270

Parameter	Units	92495894028 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	542	50	50	583	587	82	89	90-110	1	10	M6
Fluoride	mg/L	0.41	2.5	2.5	3.2	3.1	110	109	90-110	1	10	
Sulfate	mg/L	3480	50	50	3520	3530	86	111	90-110	0	10	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3020271 3020272

Parameter	Units	92496914018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.6	50	50	56.0	56.5	109	110	90-110	1	10	
Fluoride	mg/L	0.063J	2.5	2.5	2.8	2.8	109	111	90-110	2	10	M1
Sulfate	mg/L	110	50	50	160	161	101	103	90-110	1	10	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
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: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92497125001	**B-89**				
92497125002	**B-62**				
92497125003	**B-77**				
92497125005	**B-74**				
92497125006	**B-83**				
92497125007	**B-88**				
92497125008	**B-100**				
92497125009	**B-56**				
92497125010	**B-82**				
92497125011	**B-93**				
92497125001	**B-89**	EPA 3010A	569672	EPA 6010D	569722
92497125002	**B-62**	EPA 3010A	570008	EPA 6010D	570053
92497125003	**B-77**	EPA 3010A	570008	EPA 6010D	570053
92497125004	**FB-3**	EPA 3010A	570008	EPA 6010D	570053
92497125005	**B-74**	EPA 3010A	570008	EPA 6010D	570053
92497125006	**B-83**	EPA 3010A	570008	EPA 6010D	570053
92497125007	**B-88**	EPA 3010A	570008	EPA 6010D	570053
92497125008	**B-100**	EPA 3010A	570008	EPA 6010D	570053
92497125009	**B-56**	EPA 3010A	570301	EPA 6010D	570373
92497125010	**B-82**	EPA 3010A	570301	EPA 6010D	570373
92497125011	**B-93**	EPA 3010A	570301	EPA 6010D	570373
92497125001	**B-89**	EPA 3005A	569774	EPA 6020B	569814
92497125002	**B-62**	EPA 3005A	570089	EPA 6020B	570110
92497125003	**B-77**	EPA 3005A	570089	EPA 6020B	570110
92497125004	**FB-3**	EPA 3005A	570089	EPA 6020B	570110
92497125005	**B-74**	EPA 3005A	570089	EPA 6020B	570110
92497125006	**B-83**	EPA 3005A	570089	EPA 6020B	570110
92497125007	**B-88**	EPA 3005A	570089	EPA 6020B	570110
92497125008	**B-100**	EPA 3005A	570089	EPA 6020B	570110
92497125009	**B-56**	EPA 3005A	570307	EPA 6020B	570372
92497125010	**B-82**	EPA 3005A	570375	EPA 6020B	570411
92497125011	**B-93**	EPA 3005A	570375	EPA 6020B	570411
92497125001	**B-89**	EPA 7470A	569295	EPA 7470A	569452
92497125002	**B-62**	EPA 7470A	569682	EPA 7470A	569887
92497125003	**B-77**	EPA 7470A	569682	EPA 7470A	569887
92497125004	**FB-3**	EPA 7470A	569682	EPA 7470A	569887
92497125005	**B-74**	EPA 7470A	569682	EPA 7470A	569887
92497125006	**B-83**	EPA 7470A	569682	EPA 7470A	569887
92497125007	**B-88**	EPA 7470A	569682	EPA 7470A	569887
92497125008	**B-100**	EPA 7470A	569682	EPA 7470A	569887
92497125009	**B-56**	EPA 7470A	569682	EPA 7470A	569887
92497125010	**B-82**	EPA 7470A	569682	EPA 7470A	569887
92497125011	**B-93**	EPA 7470A	569682	EPA 7470A	569887
92497125001	**B-89**	SM 2450C-2011	569386		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCDONOUGH ASSESSMENT
Pace Project No.: 92497125

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92497125002	**B-62**	SM 2450C-2011	569874		
92497125003	**B-77**	SM 2450C-2011	569876		
92497125004	**FB-3**	SM 2450C-2011	569876		
92497125005	**B-74**	SM 2450C-2011	570219		
92497125006	**B-83**	SM 2450C-2011	570219		
92497125007	**B-88**	SM 2450C-2011	570219		
92497125008	**B-100**	SM 2450C-2011	570219		
92497125009	**B-56**	SM 2450C-2011	570220		
92497125010	**B-82**	SM 2450C-2011	570220		
92497125011	**B-93**	SM 2450C-2011	570220		
92497125001	**B-89**	EPA 300.0 Rev 2.1 1993	569514		
92497125002	**B-62**	EPA 300.0 Rev 2.1 1993	569832		
92497125003	**B-77**	EPA 300.0 Rev 2.1 1993	569832		
92497125004	**FB-3**	EPA 300.0 Rev 2.1 1993	569832		
92497125005	**B-74**	EPA 300.0 Rev 2.1 1993	569832		
92497125006	**B-83**	EPA 300.0 Rev 2.1 1993	569832		
92497125007	**B-88**	EPA 300.0 Rev 2.1 1993	569832		
92497125008	**B-100**	EPA 300.0 Rev 2.1 1993	569832		
92497125009	**B-56**	EPA 300.0 Rev 2.1 1993	569922		
92497125010	**B-82**	EPA 300.0 Rev 2.1 1993	569922		
92497125011	**B-93**	EPA 300.0 Rev 2.1 1993	570137		

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

WO#: 92497125

92497125

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

Tracking #: _____

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

Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☑ Other ziploc

Thermometer Used THR214 Type of Ice: ~~Wet~~ Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 1.0 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: KRW

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: WT				
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-ALLC003rev.3, 11September2006

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A — Required Client Information:

Company: Georgia Power - Coal Combustion Residuals
Address: 2480 Maner Road
Atlanta, GA 30339
Email: jabraham@southernco.com
Phone: (404) 506-7239 Fax:
Requested Due Date: 10 Day TAT

Section B — Required Project Information:

Report To: Joju Abraham
Copy To: Golder
Purchase Order #:
Project Name: Plant McDonough Assessment
Project #: 185849615

Section C — Invoice Information:

Attention: acainvoices@southernco.com
Company Name:
Address:
Pace Quote:
Pace Project Manager: Kevin Herring
Pace Profile #:

Regulatory Agency
State / Location: GA

Requested Analysis Filtered (Y/N)

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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	*Metals App III and App IV Total	CL F, SO4	Radium 226/228	TDS	Residual Chlorine (Y/N)	9/24/2025
1	B-89	WT	G	9/23/2020	15:30		5	X		X								X	X	X	X		pH= 5.87
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							
13																							
14																							
15																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
*App III / IV Metals = As, Ba, B, Be, Cd, Ca, Cr, Co, Pb, Li, Hg, Mo, Se, Tl	C Troutt / Golder	9-24-20	08:55	T Elrod	9/24	1455
	T Elrod	9-24	925	K Willyard/PACE	9/24/20	0925

SAMPLE CONDITIONS

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
10	Y	N	Y

Samples by: Chris Troutt

DATE Signed: 9-23-20

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A — Required Client Information:

Company:	Georgia Power - Coal Combustion Residuals
Address:	2480 Maner Road Atlanta, GA 30339
Email:	jabraham@southernco.com
Phone:	(404) 506-7239
Fax:	
Requested Due Date:	10 Day TAT

Section B — Required Project Information:

Report To:	Jeju Abraham
Copy To:	Golder
Purchase Order #:	
Project Name:	Plant McDonough Assessment
Project #:	166849618

Section C — Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	Kevin Herring
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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved - Ice	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N): Y/N	Analyses Test: *Metals App III and App IV Total	Cl, F, SO4	Radium 226/228	TDS	Residual Chlorine (Y/N)	
																N	N	N	N			
1	B-62	WT	G	9/24/2020	10:18		5	2		3							X	X	X	X		pH= 6.55 002
2	B-77	WT	G	9/24/2020	14:19		5	2		3							X	X	X	X		pH=6.46 003
3	FB-3	WT	G	9/24/2020	11:00		5	2		3							X	X	X	X		004
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

9246 7125

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)
*App III / IV Metals = As, Sb, B, Ba, Be, Ca, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Th		9/25/20	1330		9/25/20	1330				

Sampled by: Chris Tomau

DATE Signed: 9.25.20

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 2

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Georgia Power - Coal Combustion Residuals	Report To:	Joju Abraham	Attention:	acainvoices@southernco.com
Address:	241C Maner Road	Copy To:	Golder	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:		Pace Quote:	
Phone:	(404) 506-7239 Fax:	Project Name:	Plant McDonough Assessment	Pace Project Manager:	Kevin Herring
Requested Due Date:	10 Day TAT	Project #:	166849618	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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Analyses Test: Y/N	Metals App III and App IV Total	Cl, F, SO4	Radium 226/228	TDS	Residual Chlorine (Y/N)	
	Requested Analysis Filtered (Y/N)															Y/N	N	N	N	N		
1	B-74	WT	G	9/25/2020	1005		5	2		3							X	X	X	X		pH= 6.16 005
2	B-83	WT	G	9/25/2020	9:10		5	2		3							X	X	X	X		pH= 5.97 006
3	B-88	WT	G	9/25/2020	1015		5	2		3							X	X	X	X		pH= 5.75 007
4	B-100	WT	G	9/25/2020	1050		5	2		3							X	X	X	X		pH= 5.53 008
5																						
6																						
7																						
8																						
9																						
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4249712 5

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*App III / IV Metals = As, Sb, B, Be, Ba, Ca, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Th		9-25-20	1350		9/25/20	1330	

Samples by: Chris Tidwell

DATE Signed: 9-25-20

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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:	Joye Abraham	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Golder	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:		Pace Quote:	
Phone:	(404) 506-7239 Fax:	Project Name:	Plant McDonough Assessment	Pace Project Manager:	Kevin Herring
Requested Due Date:	10 Day TAT	Project #:	166849618	Pace Profile #:	

Regulatory Agency	
State / Location	GA

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample IDs must be unique MATRIX: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved - Ice	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	*Metals App III and App IV Total	Cl, F, SO4	Radium 226/228	TDS	Residual Chlorine (Y/N)	92497125
																Requested Analysis Filtered (Y/N)	N	N	N	N		
1	B-56	WT	G	9/28/2020	11:14		5	2		3							X	X	X	X		pH= 4.90 005
2	B-82	WT	G	9/28/2020	10:14		5	2		3							X	X	X	X		pH= 5.64 010
3	B-93	WT	G	9/28/2020	9:50		5	2		3							X	X	X	X		pH= 4.67 011
4																						
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ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
*App III + IV Metals = As, Sb, B, Ba, Be, Ca, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Th	JW/SAMPLER	09/28/20	14:21	[signature]	9/28/20	14:21	13.2	Y	N	Y
					9/29/20					

Sampled by: Chris Tidwell, Devin Thomas, Jude Waguespack

DATE Signed: 9-28-20

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

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

October 20, 2020

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

RE: Project: MCDONOUGH ASSESSMENT RADS
Pace Project No.: 92497117

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between September 24, 2020 and September 28, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Greensburg

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

Sincerely,

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

Enclosures

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

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: MCDONOUGH ASSESSMENT RADS
Pace Project No.: 92497117

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

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

SAMPLE SUMMARY

Project: MCDONOUGH ASSESSMENT RADS
Pace Project No.: 92497117

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92497117001	**B-89**	Water	09/23/20 15:30	09/24/20 09:25
92497117002	**B-62**	Water	09/24/20 10:18	09/25/20 13:30
92497117003	**B-77**	Water	09/24/20 14:19	09/25/20 13:30
92497117004	**FB-3**	Water	09/24/20 11:00	09/25/20 13:30
92497117005	**B-74**	Water	09/25/20 10:05	09/25/20 13:30
92497117006	**B-83**	Water	09/25/20 09:10	09/25/20 13:30
92497117007	**B-88**	Water	09/25/20 10:15	09/25/20 13:30
92497117008	**B-100**	Water	09/25/20 10:50	09/25/20 13:30
92497117009	**B-56**	Water	09/28/20 11:14	09/28/20 14:21
92497117010	**B-82**	Water	09/28/20 10:14	09/28/20 14:21
92497117011	**B-93**	Water	09/28/20 09:50	09/28/20 14:21

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(770)734-4200

SAMPLE ANALYTE COUNT

Project: MCDONOUGH ASSESSMENT RADS
Pace Project No.: 92497117

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92497117001	**B-89**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92497117002	**B-62**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92497117003	**B-77**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92497117004	**FB-3**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92497117005	**B-74**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92497117006	**B-83**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92497117007	**B-88**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92497117008	**B-100**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92497117009	**B-56**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92497117010	**B-82**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92497117011	**B-93**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

Pace Analytical Services, LLC
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCDONOUGH ASSESSMENT RADS
Pace Project No.: 92497117

Sample: B-89 **Lab ID: 92497117001** Collected: 09/23/20 15:30 Received: 09/24/20 09:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.232 ± 0.237 (0.453) C:86% T:NA**	pCi/L	10/09/20 09:55	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.305 ± 0.529 (1.15) C:90% T:75%**	pCi/L	10/12/20 19:08	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.537 ± 0.766 (1.60)**	pCi/L	10/14/20 09:27	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: MCDONOUGH ASSESSMENT RADS
Pace Project No.: 92497117

Sample: B-62 **Lab ID: 92497117002** Collected: 09/24/20 10:18 Received: 09/25/20 13:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.669 ± 0.364 (0.523) C:77% T:NA**	pCi/L	10/14/20 06:26	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.608 ± 0.461 (0.920) C:80% T:85%**	pCi/L	10/15/20 14:16	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.28 ± 0.825 (1.44)**	pCi/L	10/19/20 11:01	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCDONOUGH ASSESSMENT RADS
Pace Project No.: 92497117

Sample: B-77 **Lab ID: 92497117003** Collected: 09/24/20 14:19 Received: 09/25/20 13:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.664 ± 0.343 (0.476) C:89% T:NA**	pCi/L	10/14/20 06:26	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.0967 ± 0.397 (0.897) C:83% T:81%**	pCi/L	10/15/20 14:17	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.761 ± 0.740 (1.37)**	pCi/L	10/19/20 11:01	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: MCDONOUGH ASSESSMENT RADS
Pace Project No.: 92497117

Sample: FB-3 **Lab ID: 92497117004** Collected: 09/24/20 11:00 Received: 09/25/20 13:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0243 ± 0.241 (0.620) C:87% T:NA**	pCi/L	10/14/20 06:27	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.506 ± 0.523 (1.09) C:78% T:73%**	pCi/L	10/15/20 14:17	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.530 ± 0.764 (1.71)**	pCi/L	10/19/20 11:01	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: MCDONOUGH ASSESSMENT RADS
Pace Project No.: 92497117

Sample: B-74 **Lab ID: 92497117005** Collected: 09/25/20 10:05 Received: 09/25/20 13:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.485 ± 0.285 (0.380) C:85% T:NA**	pCi/L	10/14/20 06:40	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.804 ± 0.575 (1.13) C:74% T:76%**	pCi/L	10/15/20 14:17	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.29 ± 0.860 (1.51)**	pCi/L	10/19/20 11:01	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCDONOUGH ASSESSMENT RADS
Pace Project No.: 92497117

Sample: B-83 **Lab ID: 92497117006** Collected: 09/25/20 09:10 Received: 09/25/20 13:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0359 ± 0.141 (0.374) C:76% T:NA**	pCi/L	10/14/20 06:40	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**-0.0284 ± 0.399 (0.932) C:74% T:81%**	pCi/L	10/15/20 14:17	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.0359 ± 0.540 (1.31)**	pCi/L	10/19/20 11:01	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: MCDONOUGH ASSESSMENT RADS
Pace Project No.: 92497117

Sample: B-88 **Lab ID: 92497117007** Collected: 09/25/20 10:15 Received: 09/25/20 13:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.925 ± 0.386 (0.410) C:90% T:NA**	pCi/L	10/14/20 06:40	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**-0.198 ± 0.363 (0.893) C:78% T:74%**	pCi/L	10/15/20 14:17	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.925 ± 0.749 (1.30)**	pCi/L	10/19/20 11:01	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: MCDONOUGH ASSESSMENT RADS
Pace Project No.: 92497117

Sample: B-100 **Lab ID: 92497117008** Collected: 09/25/20 10:50 Received: 09/25/20 13:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.132 ± 0.213 (0.472) C:84% T:NA**	pCi/L	10/14/20 06:40	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.667 ± 0.517 (1.02) C:77% T:67%**	pCi/L	10/15/20 14:17	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.799 ± 0.730 (1.49)**	pCi/L	10/19/20 11:01	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: MCDONOUGH ASSESSMENT RADS
Pace Project No.: 92497117

Sample: B-56 **Lab ID: 92497117009** Collected: 09/28/20 11:14 Received: 09/28/20 14:21 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.471 ± 0.280 (0.380) C:84% T:NA**	pCi/L	10/14/20 07:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.914 ± 0.481 (0.853) C:77% T:79%**	pCi/L	10/15/20 14:17	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.39 ± 0.761 (1.23)**	pCi/L	10/19/20 11:59	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: MCDONOUGH ASSESSMENT RADS
Pace Project No.: 92497117

Sample: B-82 **Lab ID: 92497117010** Collected: 09/28/20 10:14 Received: 09/28/20 14:21 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.157 ± 0.184 (0.362) C:89% T:NA**	pCi/L	10/14/20 06:41	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.590 ± 0.432 (0.845) C:79% T:80%**	pCi/L	10/15/20 14:17	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.747 ± 0.616 (1.21)**	pCi/L	10/19/20 11:59	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: MCDONOUGH ASSESSMENT RADS
Pace Project No.: 92497117

Sample: B-93 **Lab ID: 92497117011** Collected: 09/28/20 09:50 Received: 09/28/20 14:21 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.391 ± 0.271 (0.423) C:82% T:NA**	pCi/L	10/14/20 06:41	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.15 ± 0.502 (0.825) C:83% T:72%**	pCi/L	10/19/20 11:53	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.54 ± 0.773 (1.25)**	pCi/L	10/20/20 08:55	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: MCDONOUGH ASSESSMENT RADS
Pace Project No.: 92497117

QC Batch: 415890
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92497117001

METHOD BLANK: 2010987
Matrix: Water
Associated Lab Samples: 92497117001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.214 ± 0.231 (0.446) C:86% T:NA	pCi/L	10/09/20 08:12	

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: MCDONOUGH ASSESSMENT RADS
Pace Project No.: 92497117

QC Batch: 417134
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92497117011

METHOD BLANK: 2016817
Matrix: Water
Associated Lab Samples: 92497117011

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.280 ± 0.239 (0.418) C:85% T:NA	pCi/L	10/14/20 06:41	

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: MCDONOUGH ASSESSMENT RADS
Pace Project No.: 92497117

QC Batch: 417133
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92497117002, 92497117003, 92497117004, 92497117005, 92497117006, 92497117007, 92497117008, 92497117009, 92497117010

METHOD BLANK: 2016815 Matrix: Water
Associated Lab Samples: 92497117002, 92497117003, 92497117004, 92497117005, 92497117006, 92497117007, 92497117008, 92497117009, 92497117010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.00961 ± 0.301 (0.708) C:79% T:84%	pCi/L	10/15/20 14:13	

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: MCDONOUGH ASSESSMENT RADS
Pace Project No.: 92497117

QC Batch: 417132
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92497117002, 92497117003, 92497117004, 92497117005, 92497117006, 92497117007, 92497117008, 92497117009, 92497117010

METHOD BLANK: 2016814 Matrix: Water
Associated Lab Samples: 92497117002, 92497117003, 92497117004, 92497117005, 92497117006, 92497117007, 92497117008, 92497117009, 92497117010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0977 ± 0.149 (0.503) C:90% T:NA	pCi/L	10/14/20 06:25	

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: MCDONOUGH ASSESSMENT RADS
Pace Project No.: 92497117

QC Batch: 417135
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92497117011

METHOD BLANK: 2016818 Matrix: Water
Associated Lab Samples: 92497117011

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.274 ± 0.291 (0.602) C:84% T:86%	pCi/L	10/15/20 11:05	

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: MCDONOUGH ASSESSMENT RADS
Pace Project No.: 92497117

QC Batch: 415888
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92497117001

METHOD BLANK: 2010985 Matrix: Water
Associated Lab Samples: 92497117001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.197 ± 0.376 (0.826) C:67% T:78%	pCi/L	10/12/20 14:59	

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

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

QUALIFIERS

Project: MCDONOUGH ASSESSMENT RADS
Pace Project No.: 92497117

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCDONOUGH ASSESSMENT RADS
Pace Project No.: 92497117

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92497117001	**B-89**	EPA 9315	415890		
92497117002	**B-62**	EPA 9315	417132		
92497117003	**B-77**	EPA 9315	417132		
92497117004	**FB-3**	EPA 9315	417132		
92497117005	**B-74**	EPA 9315	417132		
92497117006	**B-83**	EPA 9315	417132		
92497117007	**B-88**	EPA 9315	417132		
92497117008	**B-100**	EPA 9315	417132		
92497117009	**B-56**	EPA 9315	417132		
92497117010	**B-82**	EPA 9315	417132		
92497117011	**B-93**	EPA 9315	417134		
92497117001	**B-89**	EPA 9320	415888		
92497117002	**B-62**	EPA 9320	417133		
92497117003	**B-77**	EPA 9320	417133		
92497117004	**FB-3**	EPA 9320	417133		
92497117005	**B-74**	EPA 9320	417133		
92497117006	**B-83**	EPA 9320	417133		
92497117007	**B-88**	EPA 9320	417133		
92497117008	**B-100**	EPA 9320	417133		
92497117009	**B-56**	EPA 9320	417133		
92497117010	**B-82**	EPA 9320	417133		
92497117011	**B-93**	EPA 9320	417135		
92497117001	**B-89**	Total Radium Calculation	418331		
92497117002	**B-62**	Total Radium Calculation	419143		
92497117003	**B-77**	Total Radium Calculation	419143		
92497117004	**FB-3**	Total Radium Calculation	419143		
92497117005	**B-74**	Total Radium Calculation	419143		
92497117006	**B-83**	Total Radium Calculation	419143		
92497117007	**B-88**	Total Radium Calculation	419143		
92497117008	**B-100**	Total Radium Calculation	419143		
92497117009	**B-56**	Total Radium Calculation	419145		
92497117010	**B-82**	Total Radium Calculation	419145		
92497117011	**B-93**	Total Radium Calculation	419262		

Pace Analytical

Sample Condition Upon Rec

WO#: 92497117

Client Name: GA Power

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Oth

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 Ziploc

Thermometer Used THR214 Type of Ice: ~~Wet~~ Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 1.0 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: KRW

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: WT		
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-ALLC003rev.3, 11September2006

Pace Analytical

Document Name: Bottle Identification Form (BIF)	Document Issued: March 14, 2019 Page 1 of 1
Document No.: F-CAR-CS-043-Rev.00	Issuing Authority:

Project #

WO#: 92497117

PM: KLH1 Due Date: 10/15/20

CLIENT: GA-GA Power

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

**Bottom half of box is to list number of bottle

Matrix	Items	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass Jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SPST-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	BPIN - Radium	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)
	1		—	—			—																			X		
	2																											
	3																											
	4																											
	5																											
	6																											
	7																											
	8																											
	9																											
	10																											
	11																											
	12																											

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot

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 Of
Out of hold, incorrect preservative, out of temp, incorrect containers.

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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:	Joju Abraham	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road Atlanta, GA 30339	Copy To:	Golder	Company Name:	
Email:	jabraham@southernco.com	Purchase Order #:		Address:	
Phone:	(404) 506-7259 Fax	Project Name:	Plant McDonough Assessment	Pace Quote:	
Requested Due Date:	10 Day TAT	Project #:	185849618	Pace Project Manager:	Kevin Herring
				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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	*Metals App III and App IV Total	Cl, F, SO4	Radium 226/228	TDS	Residual Chlorine (Y/N)	92467117
																Y/N	N	N	N	N		
1	B-89	WT	G	9/23/2020	15:30		5	2		3						X	X	X	X	X		pH= 5.87
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

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)
*App III / IV Metals = As, Ba, B, Be, Cd, Ca, Cr, Co, Pb, Li, Hg, Mo, Se, Tl	C Tidwell / Golder	9-24-20	08:55	T Elrod	9/24	0855				
	T Elrod	9-24	925	K Wellington/PACE	9/24/20	0925	10	Y	N	Y

Sampled by: Chris Tidwell

DATE Signed: 9-23-20

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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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:	Jeju Abraham	Attention:	acainvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Golder	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:		Pace Quote:	
Phone:	(404) 506-7239 Fax:	Project Name:	Plant McDonough Assessment	Pace Project Manager:	Kevin Herring
Requested Due Date	10 Day TAT	Project #:	166849618	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: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved - Ice	Preservatives: H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Y/N	Analyses Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	
																				9249717
1	B-62	WT	G	9/24/2020	10:18		5	2		3							X	N		pH= 6.55 002
2	B-77	WT	G	9/24/2020	14:19		5	2		3							X	N		pH=6.46 003
3	FB-3	WT	G	9/24/2020	11:00		5	2		3							X	N		004
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*App III / IV Metals = As, Sb, B, Ba, Be, Ca, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Th		9-25-20	1330		9/25/20	1330	

Sampled by: Chris Tomau
DATE Signed: 9-25-20

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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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:	Joju Abraham	Attention:	acsinvoices@southernco.com
Address:	241C Manor Road	Copy To:	Golder	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:		Pace Quote:	
Phone:	(404) 506-7230 Fax:	Project Name:	Plant McDonough Assessment	Pace Project Manager:	Kevin Herring
Requested Due Date:	10 Day TAT	Project #:	166849618	Pace Profile #:	

Regulatory Agency: —

State / Location: GA

Requested Analysis Filtered (Y/N)

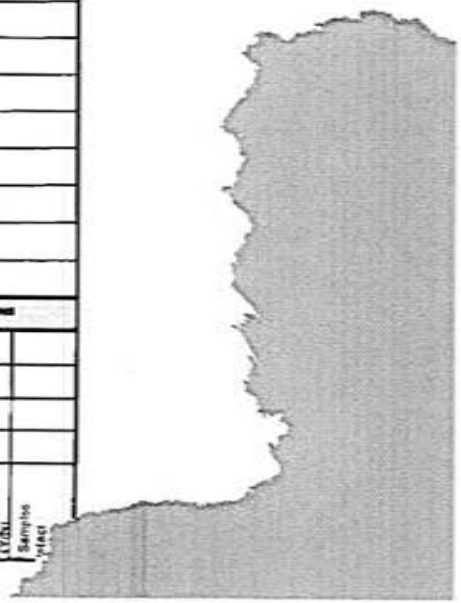
ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Analyses Test	Y/N	*Metals App III and App IV Total	CL, F, SO4	Radium 226/228	TDS	Residual Chlorine (Y/N)	9246747
1	B-74	WT	G	9/25/2020	1024		5	2		3							N	X	X	X	X		pH= 6.16 005
2	B-83	WT	G	9/25/2020	9[illegible]2		5	2		3							N	X	X	X	X		pH= 5.97 006
3	B-88	WT	G	9/25/2020	1016		5	2		3							N	X	X	X	X		pH= 5.75 007
4	B-100	WT	G	9/25/2020	1054		5	2		3							N	X	X	X	X		pH= 5.53 008
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							
13																							
14																							
15																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*App III / IV Metals = As, Sb, B, Ba, Be, Ca, Cd, Cl, Co, Pb, Li, Hg, Mo, Se, Tl	[signature]	9-25-20	1330	[signature]	9/25/20	1330	

Samples by: Chris Trowell

DATE Signed: 9-25-20

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact



Pace Analytical

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	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:		Pace Quote:	
Phone:	(404) 506-7239 Fax:	Project Name:	Plant McDonough Assessment	Pace Project Manager:	Kevin Herring
Requested Due Date:	10 Day TAT	Project #:	1668496.18	Pace Profile #:	

Regulatory Agency

State / Location: GA

Requested Analysis Filtered (Y/N)

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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	*Metals App III and App IV Total	Cl, F, SO4	Radium 226/228	TDS	Residual Chlorine (Y/N)	9245717
		Matrix: Drinking Water = DW; Water = WT; Waste Water = WW; Product = P; Soil/Solid = SL; Oil = OL; Wipe = WP; Air = AR; Other = OT; Tissue = TS														N	N	N	N		
1	B-56	WT	G	9/28/2020	11:14		5	2		3						X	X	X	X		pH= 4.90	005
2	B-82	WT	G	9/28/2020	10:14		5	2		3						X	X	X	X		pH= 5.54	010
3	B-93	WT	G	9/28/2020	9:50		5	2		3						X	X	X	X		pH= 4.67	011
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
*App III + IV Metals = As, Sb, B, Ba, Be, Ca, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl	JW/SAMPLER	09/28/20	14:21	Chad Fuhs	9/29/20	1454	13.5	Y	N	Y
				Pace	9/29/20					

Sampled by: Chris Tidwell, Devin Thomas, Jude Waguespack

Date Signed: 9-28-20

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Quality Control Sample Performance Assessment

Pace Analytical

Test: Ra-226
Analyst: LAL
Date: 10/8/2020
Worklist: 56442
Matrix: DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2010957
MB concentration:	0.214
MB Counting Uncertainty:	0.229
MB MDC:	0.445
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
	LCS56442	LCSD56442
Count Date:	10/8/2020	
Spike I.D.:	18-226	
Decay Corrected Spike Concentration (pCi/mL):	24.044	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.507	
Target Conc. (pCi/L, g, F):	4.741	
Uncertainty (Calculated):	0.057	
Result (pCi/L, g, F):	4.940	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.794	
Numerical Performance Indicator:	0.49	
Percent Recovery:	104.19%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

Sample Matrix Spike Concn Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	924971100	Enter Duplicate sample ID if other than LCS/LCSD in the space below.
Duplicate Sample I.D.:	924971100 DUP	
Sample Result (pCi/L, g, F):	0.477	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.309	
Sample Duplicate Result (pCi/L, g, F):	0.448	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.340	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	0.121	924971100
Duplicate RPD:	6.12%	924971100 DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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:	
% RPD Limit:	

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

Comments:

LAM 10/9/2020

AM 10/9/2020

Quality Control Sample Performance Assessment

Pace Analytical

Test:	Ra-228
Analyst:	LAL
Date:	10/8/2020
Worklist:	56442
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID:	2010587
MB concentration:	0.214
MB Counting Uncertainty:	0.229
MB MDC:	0.445
MS Numerical Performance Indicator:	1.83
MB Status vs Numerical Indicator:	N/A
MB Status vs MDC:	Pass

Laboratory Control Sample Assessment	LCSC (Y or N)?	Y
	LCS56442	LCSD56442
Count Date:	10/6/2020	10/6/2020
Spike ID:	19-093	19-093
Decay Corrected Spike Concentration (pCi/mL):	24.044	24.044
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.557	0.514
Target Conc. (pCi/L, g, F):	4.741	4.677
Uncertainty (Calculated):	0.057	0.056
Result (pCi/L, g, F):	4.940	4.201
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.794	0.785
Numerical Performance Indicator:	0.45	-1.18
Percent Recovery:	104.19%	89.83%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS56442	Enter Duplicate sample IDs if other than LCS/LCSD in the space below
Duplicate Sample I.D.:	LCSD56442	
Sample Result (pCi/L, g, F):	4.940	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.794	
Sample Duplicate Result (pCi/L, g, F):	4.201	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.785	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	1.297	32497:10001
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	14.81%	32497:10001DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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:		
% RPD Limit:		

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

Comments:

LAM 10/9/2020

10/9/2020

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-226
Analyst: LAL
Date: 10/13/2020
Worklist: 56589
Matrix: DW

Method Blank Assessment	
MB Sample ID	2015814
MB concentration:	-0.058
MB Counting Uncertainty:	0.148
MB MDC:	0.503
MB Numerical Performance Indicator:	-1.30
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS56589	LCSD56589
Count Date:	10/14/2020	
Spike I.D.:	18-033	
Decay Corrected Spike Concentration (pCi/mL):	24.044	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.506	
Target Conc. (pCi/L, g, F):	4.736	
Uncertainty (Calculated):	0.057	
Result (pCi/L, g, F):	4.957	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.812	
Numerical Performance Indicator:	0.53	
Percent Recovery:	104.66%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	924971140 05	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	924971140 05DUP	
Sample Result (pCi/L, g, F):	0.265	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.249	
Sample Duplicate Result (pCi/L, g, F):	-0.066	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.079	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	2.210	924971140 05
Duplicate RPD:	390.97%	924971140 05DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail	
% RPD Limit:	25%	

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:	
% RPD Limit:	

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

Comments:

~~Batch must be rejected due to unacceptable precision~~ N/A LAM 10/14/2020

LAM 10/14/2020

10-15-20

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-226
Analyst: LAL
Date: 10/13/2020
Worklist: 56589
Matrix: DW

Method Blank Assessment	
MB Sample ID	2316814
MB concentration:	-0.096
MB Counting Uncertainty:	0.143
MB MDC:	0.533
MB Numerical Performance Indicator:	-1.30
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCS (Y or N)?	N
	LCS56589	LCSD56589
Count Date:	10/14/2020	
Spike I.D.:	19-595	
Decay Corrected Spike Concentration (pCi/mL):	24.044	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, Fl):	0.536	
Target Conc. (pCi/L, g, Fl):	4.736	
Uncertainty (Calculated):	0.057	
Result (pCi/L, g, Fl):	4.557	
LCS/LCSD Counting Uncertainty (pCi/L, g, Fl):	0.312	
Numerical Performance Indicator:	0.53	
Percent Recovery:	104.56%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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, Fl):		
MS Target Conc (pCi/L, g, Fl):		
MSD Aliquot (L, g, Fl):		
MSD Target Conc (pCi/L, g, Fl):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result Counting Uncertainty (pCi/L, g, Fl):		
Sample Matrix Spike Result:		
Matrix Spike Result Counting Uncertainty (pCi/L, g, Fl):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, Fl):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	92497118006	Enter Duplicate sample IDs if other than LCS/LCSD in the space below
Duplicate Sample I.D.:	92497118005DUP	
Sample Result (pCi/L, g, Fl):	0.230	
Sample Result Counting Uncertainty (pCi/L, g, Fl):	0.271	
Sample Duplicate Result (pCi/L, g, Fl):	0.399	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, Fl):	0.250	
Are sample and/or duplicate results below RL?	See Below #3	
Duplicate Numerical Performance Indicator:	-0.63	92497118006
Duplicate RPD:	34.29%	92497118005DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail**	
% RPD Limit:	25%	

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, Fl):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, Fl):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:		
MS/MSD Duplicate Status vs Numerical Indicator:		
MS/MSD Duplicate Status vs RPD:		
% RPD Limit:		

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

Comments:

**Batch rejected. Unacceptable precision. N/A LAL 10/14/2020

LAL 10/14/2020

10.15.20

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test	Ra-226
Analyst	LAL
Date	10/13/2020
Wordlist	5659*
Matrix	DW

Method Blank Assessment	
MB Sample ID	20-5817
MB concentration	0.289
MB Counting Uncertainty	0.225
MB MDC	0.418
MB Numerical Performance Indicator	2.33
MB Status vs Numerical Indicator	N/A
MB Status vs. MDC	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS56591	LCSD56591
Count Date:	10/14/2020	10/14/2020
Spike ID:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.044	24.044
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.510	0.510
Target Conc. (pCi/L, g, F):	4.593	4.711
Uncertainty (Calculated):	0.366	0.357
Result (pCi/L, g, F):	4.966	4.350
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.761	0.758
Numerical Performance Indicator:	0.38	-0.93
Percent Recovery:	99.23%	92.35%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Duplicate Sample Assessment		
Sample ID.:	LCS56591	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.:	LCSD5659*	
Sample Result (pCi/L, g, F):	4.966	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.761	
Sample Duplicate Result (pCi/L, g, F):	4.350	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.758	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	0.577	9249690-4320
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	7.29%	9249690-4320D_P
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D		
Sample MS I.D		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):		
Sample 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:		
% RPD Limit		

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

Comments:

LAM 10/14/2020

LAM 10/14/2020

Quality Control Sample Performance Assessment

Pace Analytical

Test: Ra-226
Analyst: LAL
Date: 10/13/2020
Worklist: 56591
Matrix: DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2016817
MB concentration:	0.269
MB Counting Uncertainty:	0.235
MB MDC:	0.415
MB Numerical Performance Indicator:	2.33
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCS ("Y" or N)?	Y
	LCS56591	LCSD56591
Count Date:	10/14/2020	
Spike I.C.:	19-063	
Decay Corrected Spike Concentration (pCi/mL):	24.044	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.512	
Target Conc. (pCi/L, g, F):	4.697	
Uncertainty (Calculated):	0.056	
Result (pCi/L, g, F):	4.695	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.761	
Numerical Performance Indicator:	-0.02	
Percent Recovery:	99.93%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	92496904020	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D:	92496904020DUP	
Sample Result (pCi/L, g, F):	0.317	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.241	
Sample Duplicate Result (pCi/L, g, F):	0.374	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.248	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	-0.331	92496904020
Duplicate RPD:	16.6 %	92496904020DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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:	
% RPD Limit:	

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

Comments:

OWM 10/14/2020

10/14/2020

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-226
Analyst: VAL
Date: 10/6/2020
Worklist: 56440
Matrix: WT

Method Blank Assessment	
MB Sample ID	2010685
MB concentration	0.197
MB 2 Sigma CSU	0.376
MB MDC	0.926
MB Numerical Performance Indicator	1.39
MB Status vs Numerical Indicator	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCS/LCSD 56440	
	LCS56440	LCSD56440
Count Date:	10/12/2020	10/12/2020
Spike I.D.:	20-030	20-030
Decay Corrected Spike Concentration (pCi/mL):	38.054	38.054
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.902	0.903
Target Conc. (pCi/L, g, F):	4.747	4.727
Uncertainty (Calculated):	0.232	0.232
Result (pCi/L, g, F):	3.863	4.161
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	0.955	1.023
Numerical Performance Indicator:	-1.73	-1.38
Percent Recovery:	81.40%	87.84%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS56440	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD56440	
Sample Result (pCi/L, g, F):	3.863	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.955	
Sample Duplicate Result (pCi/L, g, F):	4.161	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.023	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-0.415	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	7.51%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	36%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:		
MS/MSD Duplicate Status vs Numerical Indicator:		
MS/MSD Duplicate Status vs RPD:		
% RPD Limit:		

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

Comments:

VAL 10/13/20

KES 10-13-2020

Quality Control Sample Performance Assessment

Test:	Ra-228
Analyst:	VAL
Date:	10/13/2020
WorkList:	56590
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2016815
MB concentration:	-0.010
MB 2 Sigma CSU:	0.291
MB MDC:	0.758
MB Numerical Performance Indicator:	-0.06
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCS (Y or N)?	N
	LCS56590	LCSD56590
Count Date:	10/15/2020	
Spike ID:	20-030	
Decay Corrected Spike Concentration (pCi/mL):	85.016	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, Fr):	0.815	
Target Conc. (pCi/L, g, Fr):	4.665	
Uncertainty (Calculated):	0.229	
Result (pCi/L, g, Fr):	5.342	
LCS/LCSD 2 Sigma CSU (pCi/L, g, Fr):	0.875	
Numerical Performance Indicator:	2.97	
Percent Recovery:	71.56%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	135%	
Lower % Recovery Limits:	66%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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, Fr):		
MS Target Conc.(pCi/L, g, Fr):		
MSD Aliquot (L, g, Fr):		
MSD Target Conc. (pCi/L, g, Fr):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result 2 Sigma CSU (pCi/L, g, Fr):		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, Fr):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, Fr):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	924971180(6	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D:	924971180(6DUP	
Sample Result (pCi/L, g, Fr):	0.746	
Sample Result 2 Sigma CSU (pCi/L, g, Fr):	0.424	
Sample Duplicate Result (pCi/L, g, Fr):	0.204	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, Fr):	0.426	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	1.757	924971180(6
Duplicate RPD:	114.06%	924971180(6DUP
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Fail	
% RPD Limit:	36%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.:		
Sample MS I.D.:		
Sample MSD I.D.:		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, Fr):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, Fr):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:		
MS/MSD Duplicate Status vs Numerical Indicator:		
MS/MSD Duplicate Status vs RPD:		
% RPD Limit:		

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

Comments:

10/16/2020

Quality Control Sample Performance Assessment

Pace Analytical

Test: Ra-226
Analyst: VAL
Date: 10/16/2020
Worklist: 56592
Matrix: WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	
MB concentration	
MB 2 Sigma CSU	
MB MDC	
MB Numerical Performance Indicator	
MB Status vs Numerical Indicator	
MB Status vs. MDC	

Laboratory Control Sample Assessment	LCS (Y or N)?	Y
	LCS56592	LCSD56592
Count Date	10/19/2020	10/19/2020
Spike I.D.	20-030	20-030
Decay Corrected Spike Concentration (pCi/mL)	37.965	37.965
Volume Used (mL)	0.10	0.10
Aliquot Volume (L, g, F)	0.213	0.226
Target Conc. (pCi/L, g, F)	4.670	4.542
Uncertainty (Calculated)	0.229	0.223
Result (pCi/L, g, F)	4.645	4.409
LCS/LCSD 2 Sigma CSU (pCi/L, g, F)	1.350	1.016
Numerical Performance Indicator	-0.04	-0.25
Percent Recovery	99.42%	97.06%
Status vs Numerical Indicator	N/A	N/A
Status vs Recovery	Pass	Pass
Upper % Recovery Limits	135%	135%
Lower % Recovery Limits	60%	60%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS56592	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.:	LCSD56592	
Sample Result (pCi/L, g, F):	4.645	
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.350	
Sample Duplicate Result (pCi/L, g, F):	4.409	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.016	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	0.317	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	2.45%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	35%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.:		
Sample MS I.D.:		
Sample MSD I.D.:		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:		
MS/MSD Duplicate Status vs Numerical Indicator:		
MS/MSD Duplicate Status vs RPD:		
% RPD Limit:		

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

Comments:

Quality Control Sample Performance Assessment

PaceAnalytical

Test:	Ra-228
Analyst:	VAL
Date:	10/13/2020
Worklist:	56592
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID:	2016818
MB concentration:	0.274
MB 2 Sigma CSU:	0.291
MB MDC:	0.952
MB Numerical Performance Indicator:	1.35
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS56592	LCSD56592
Count Date:	10/15/2020	10/15/2020
Spike I.D.:	20-392	20-393
Decay Corrected Spike Concentration (pCi/mL):	38.018	38.018
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.513	0.538
Target Conc. (pCi/L, g, F):	4.578	4.549
Uncertainty (Calculated):	0.226	0.223
Result (pCi/L, g, F):	2.226	2.963
LCS-LCSD 2 Sigma CSU (pCi/L, g, F):	0.629	0.764
Numerical Performance Indicator:	-7.16	-3.91
Percent Recovery:	47.60%	65.14%
Status vs Numerical Indicator:	Fail**	N/A
Status vs Recovery:	Fail Low**	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS56592	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.:	LCSD56592	
Sample Result (pCi/L, g, F):	2.226	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.629	
Sample Duplicate Result (pCi/L, g, F):	2.963	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	0.764	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-1.460	
(Based on the LCS-LCSD Percent Recoveries) Duplicate RPD:	31.08%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	35%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.D.:	
Sample MS I.D.:	
Sample MSD I.D.:	
Sample Matrix Spike Result:	
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
(Based on the Percent Recoveries) MS/MSD Duplicate RPD:	
MS/MSD Duplicate Status vs Numerical Indicator:	
MS/MSD Duplicate Status vs RPD:	
% RPD Limit:	

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

Comments:

**Batch must be reprepped due to LCS failure.

APPENDIX A

Laboratory Analytical Data
November 2020

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

November 16, 2020

Kelley Sharpe
ARCADIS - Atlanta
2839 Paces Ferry Rd
STE 900
Atlanta, GA 30339

RE: Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92505233

Dear Kelley Sharpe:

Enclosed are the analytical results for sample(s) received by the laboratory on November 10, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

Maiya Parks
maiya.parks@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Joju Abraham, Georgia Power-CCR
Ben Hodges, Georgia Power
Warren Johnson, ARCADIS - Atlanta

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

CERTIFICATIONS

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92505233

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

Pace Analytical Services Peachtree Corners
110 Technology Pkwy, Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina 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 McDonough CCR-Ash Pond
Pace Project No.: 92505233

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92505233001	**CR+0.4**	Water	11/10/20 11:40	11/10/20 17:57
92505233002	**CR+0.2**	Water	11/10/20 11:50	11/10/20 17:57
92505233003	**Dewatering Upstream**	Water	11/10/20 11:55	11/10/20 17:57
92505233004	**Dewatering Downstream**	Water	11/10/20 12:25	11/10/20 17:57
92505233005	**CR-0.2**	Water	11/10/20 12:47	11/10/20 17:57
92505233006	**CR-0.5**	Water	11/10/20 12:55	11/10/20 17:57
92505233007	**CR-0.8**	Water	11/10/20 13:15	11/10/20 17:57

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SAMPLE ANALYTE COUNT

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92505233

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92505233001	**CR+0.4**	EPA 6010D	DRB, KH	4	PASI-GA
		EPA 6020B	CW1	2	PASI-GA
		SM 2450C-2011	ALW	1	PASI-GA
		SM 2320B-2011	KDF1	2	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92505233002	**CR+0.2**	EPA 6010D	DRB, KH	4	PASI-GA
		EPA 6020B	CW1	2	PASI-GA
		SM 2450C-2011	ALW	1	PASI-GA
		SM 2320B-2011	KDF1	2	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92505233003	**Dewatering Upstream**	EPA 6010D	DRB, KH	4	PASI-GA
		EPA 6020B	CW1	2	PASI-GA
		SM 2450C-2011	ALW	1	PASI-GA
		SM 2320B-2011	KDF1	2	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92505233004	**Dewatering Downstream**	EPA 6010D	DRB, KH	4	PASI-GA
		EPA 6020B	CW1	2	PASI-GA
		SM 2450C-2011	ALW	1	PASI-GA
		SM 2320B-2011	KDF1	2	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92505233005	**CR-0.2**	EPA 6010D	DRB, KH	4	PASI-GA
		EPA 6020B	CW1	2	PASI-GA
		SM 2450C-2011	ALW	1	PASI-GA
		SM 2320B-2011	KDF1	2	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92505233006	**CR-0.5**	EPA 6010D	DRB, KH	4	PASI-GA
		EPA 6020B	CW1	2	PASI-GA
		SM 2450C-2011	ALW	1	PASI-GA
		SM 2320B-2011	KDF1	2	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92505233007	**CR-0.8**	EPA 6010D	DRB, KH	4	PASI-GA
		EPA 6020B	CW1	2	PASI-GA
		SM 2450C-2011	ALW	1	PASI-GA
		SM 2320B-2011	KDF1	2	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92505233

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory

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

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Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92505233

Sample: CR+0.4 **Lab ID: 92505233001** Collected: 11/10/20 11:40 Received: 11/10/20 17:57 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte							
Performed by	**Client**			1		11/10/20 11:40		
pH	**7.35**	Std. Units		1		11/10/20 11:40		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Potassium	**2.4**	mg/L	0.20	1	11/11/20 12:44	11/15/20 15:48	7440-09-7	
Sodium	**5.4**	mg/L	1.0	1	11/11/20 12:44	11/11/20 19:42	7440-23-5	M1
Calcium	**4.2**	mg/L	1.0	1	11/11/20 12:44	11/11/20 19:42	7440-70-2	M1
Magnesium	**2.0**	mg/L	0.050	1	11/11/20 12:44	11/11/20 19:42	7439-95-4	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Beryllium	ND	mg/L	0.00050	1	11/11/20 12:31	11/11/20 16:04	7440-41-7	
Cobalt	ND	mg/L	0.0050	1	11/11/20 12:31	11/11/20 16:04	7440-48-4	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**43.0**	mg/L	10.0	1		11/11/20 15:48		D6
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	**17.3**	mg/L	5.0	1		11/12/20 17:22		
Alkalinity, Total as CaCO3	**17.3**	mg/L	5.0	1		11/12/20 17:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**4.8**	mg/L	1.0	1		11/12/20 18:09	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/12/20 18:09	16984-48-8	
Sulfate	**3.0**	mg/L	1.0	1		11/12/20 18:09	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 McDonough CCR-Ash Pond
Pace Project No.: 92505233

Sample: CR+0.2 **Lab ID: 92505233002** Collected: 11/10/20 11:50 Received: 11/10/20 17:57 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte							
Performed by	**Client**			1		11/10/20 11:50		
pH	**7.42**	Std. Units		1		11/10/20 11:50		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Sodium	**5.5**	mg/L	1.0	1	11/11/20 12:44	11/11/20 20:03	7440-23-5	
Calcium	**4.1**	mg/L	1.0	1	11/11/20 12:44	11/11/20 20:03	7440-70-2	
Magnesium	**2.0**	mg/L	0.050	1	11/11/20 12:44	11/11/20 20:03	7439-95-4	
Potassium	**2.5**	mg/L	0.20	1	11/11/20 12:44	11/15/20 15:53	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Beryllium	ND	mg/L	0.00050	1	11/11/20 12:31	11/11/20 16:10	7440-41-7	
Cobalt	ND	mg/L	0.0050	1	11/11/20 12:31	11/11/20 16:10	7440-48-4	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**45.0**	mg/L	10.0	1		11/11/20 15:48		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	**20.2**	mg/L	5.0	1		11/12/20 17:43		
Alkalinity, Total as CaCO3	**20.2**	mg/L	5.0	1		11/12/20 17:43		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**4.8**	mg/L	1.0	1		11/12/20 18:52	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/12/20 18:52	16984-48-8	
Sulfate	**3.0**	mg/L	1.0	1		11/12/20 18:52	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 McDonough CCR-Ash Pond
Pace Project No.: 92505233

Sample: Dewatering Upstream **Lab ID: 92505233003** Collected: 11/10/20 11:55 Received: 11/10/20 17:57 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte							
Performed by	**Client**			1		11/10/20 11:55		
pH	**6.90**	Std. Units		1		11/10/20 11:55		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Sodium	**5.5**	mg/L	1.0	1	11/11/20 12:44	11/11/20 20:08	7440-23-5	
Calcium	**4.2**	mg/L	1.0	1	11/11/20 12:44	11/11/20 20:08	7440-70-2	
Magnesium	**2.0**	mg/L	0.050	1	11/11/20 12:44	11/11/20 20:08	7439-95-4	
Potassium	**2.6**	mg/L	0.20	1	11/11/20 12:44	11/15/20 15:58	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Beryllium	ND	mg/L	0.00050	1	11/11/20 12:31	11/11/20 16:44	7440-41-7	
Cobalt	ND	mg/L	0.0050	1	11/11/20 12:31	11/11/20 16:44	7440-48-4	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**43.0**	mg/L	10.0	1		11/11/20 15:48		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	**20.3**	mg/L	5.0	1		11/12/20 17:49		
Alkalinity, Total as CaCO3	**20.3**	mg/L	5.0	1		11/12/20 17:49		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**4.9**	mg/L	1.0	1		11/12/20 19:06	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/12/20 19:06	16984-48-8	
Sulfate	**3.1**	mg/L	1.0	1		11/12/20 19:06	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
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(770)734-4200

ANALYTICAL RESULTS

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92505233

Sample: Dewatering Downstream **Lab ID: 92505233004** Collected: 11/10/20 12:25 Received: 11/10/20 17:57 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte							
Performed by	**Client**			1		11/10/20 12:25		
pH	**7.03**	Std. Units		1		11/10/20 12:25		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Sodium	**5.6**	mg/L	1.0	1	11/11/20 12:44	11/11/20 20:14	7440-23-5	
Calcium	**4.3**	mg/L	1.0	1	11/11/20 12:44	11/11/20 20:14	7440-70-2	
Magnesium	**2.0**	mg/L	0.050	1	11/11/20 12:44	11/11/20 20:14	7439-95-4	
Potassium	**2.5**	mg/L	0.20	1	11/11/20 12:44	11/15/20 16:03	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Beryllium	ND	mg/L	0.00050	1	11/11/20 12:31	11/12/20 09:41	7440-41-7	
Cobalt	ND	mg/L	0.0050	1	11/11/20 12:31	11/11/20 16:50	7440-48-4	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**38.0**	mg/L	10.0	1		11/11/20 15:49		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	**17.7**	mg/L	5.0	1		11/12/20 17:54		
Alkalinity, Total as CaCO3	**17.7**	mg/L	5.0	1		11/12/20 17:54		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**4.8**	mg/L	1.0	1		11/12/20 19:21	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/12/20 19:21	16984-48-8	
Sulfate	**3.0**	mg/L	1.0	1		11/12/20 19:21	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92505233

Sample: CR-0.2 **Lab ID: 92505233005** Collected: 11/10/20 12:47 Received: 11/10/20 17:57 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte							
Performed by	**Client**			1		11/10/20 12:47		
pH	**7.82**	Std. Units		1		11/10/20 12:47		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Sodium	**5.9**	mg/L	1.0	1	11/11/20 12:44	11/11/20 20:19	7440-23-5	
Calcium	**4.3**	mg/L	1.0	1	11/11/20 12:44	11/11/20 20:19	7440-70-2	
Magnesium	**2.1**	mg/L	0.050	1	11/11/20 12:44	11/11/20 20:19	7439-95-4	
Potassium	**2.6**	mg/L	0.20	1	11/11/20 12:44	11/15/20 16:09	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Beryllium	ND	mg/L	0.00050	1	11/11/20 12:31	11/11/20 16:55	7440-41-7	
Cobalt	ND	mg/L	0.0050	1	11/11/20 12:31	11/11/20 16:55	7440-48-4	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**48.0**	mg/L	10.0	1		11/11/20 15:49		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	**20.7**	mg/L	5.0	1		11/12/20 18:00		
Alkalinity, Total as CaCO3	**20.7**	mg/L	5.0	1		11/12/20 18:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**11.2**	mg/L	1.0	1		11/12/20 19:35	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/12/20 19:35	16984-48-8	
Sulfate	**3.2**	mg/L	1.0	1		11/12/20 19:35	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92505233

Sample: CR-0.5 **Lab ID: 92505233006** Collected: 11/10/20 12:55 Received: 11/10/20 17:57 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte							
Performed by	**Client**			1		11/10/20 12:55		
pH	**7.40**	Std. Units		1		11/10/20 12:55		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Sodium	**5.7**	mg/L	1.0	1	11/11/20 12:44	11/11/20 20:24	7440-23-5	
Calcium	**4.3**	mg/L	1.0	1	11/11/20 12:44	11/11/20 20:24	7440-70-2	
Magnesium	**2.0**	mg/L	0.050	1	11/11/20 12:44	11/11/20 20:24	7439-95-4	
Potassium	**2.5**	mg/L	0.20	1	11/11/20 12:44	11/15/20 16:14	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Beryllium	ND	mg/L	0.00050	1	11/11/20 12:31	11/11/20 17:29	7440-41-7	
Cobalt	ND	mg/L	0.0050	1	11/11/20 12:31	11/11/20 17:29	7440-48-4	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**47.0**	mg/L	10.0	1		11/11/20 15:49		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	**20.2**	mg/L	5.0	1		11/12/20 18:06		
Alkalinity, Total as CaCO3	**20.2**	mg/L	5.0	1		11/12/20 18:06		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**4.9**	mg/L	1.0	1		11/12/20 19:50	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/12/20 19:50	16984-48-8	
Sulfate	**3.0**	mg/L	1.0	1		11/12/20 19:50	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92505233

Sample: CR-0.8 **Lab ID: 92505233007** Collected: 11/10/20 13:15 Received: 11/10/20 17:57 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte							
Performed by	**Client**			1		11/10/20 13:15		
pH	**7.62**	Std. Units		1		11/10/20 13:15		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Sodium	**5.6**	mg/L	1.0	1	11/11/20 12:44	11/11/20 20:40	7440-23-5	
Calcium	**4.4**	mg/L	1.0	1	11/11/20 12:44	11/11/20 20:40	7440-70-2	
Magnesium	**2.0**	mg/L	0.050	1	11/11/20 12:44	11/11/20 20:40	7439-95-4	
Potassium	**2.5**	mg/L	0.20	1	11/11/20 12:44	11/15/20 16:19	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Beryllium	ND	mg/L	0.00050	1	11/11/20 12:31	11/11/20 17:35	7440-41-7	
Cobalt	ND	mg/L	0.0050	1	11/11/20 12:31	11/11/20 17:35	7440-48-4	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**50.0**	mg/L	10.0	1		11/11/20 15:49		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	**20.0**	mg/L	5.0	1		11/12/20 18:22		
Alkalinity, Total as CaCO3	**20.0**	mg/L	5.0	1		11/12/20 18:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**5.1**	mg/L	1.0	1		11/12/20 20:33	16887-00-6	
Fluoride	ND	mg/L	0.10	1		11/12/20 20:33	16984-48-8	
Sulfate	**3.2**	mg/L	1.0	1		11/12/20 20:33	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92505233

QC Batch: 579547
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92505233001, 92505233002, 92505233003, 92505233004, 92505233005, 92505233006, 92505233007

METHOD BLANK: 3065899 Matrix: Water
Associated Lab Samples: 92505233001, 92505233002, 92505233003, 92505233004, 92505233005, 92505233006, 92505233007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	11/11/20 19:22	
Magnesium	mg/L	ND	0.050	11/11/20 19:22	
Potassium	mg/L	ND	0.20	11/11/20 19:22	
Sodium	mg/L	ND	1.0	11/11/20 19:22	

LABORATORY CONTROL SAMPLE: 3065900

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.1	105	80-120	
Magnesium	mg/L	1	1.1	106	80-120	
Potassium	mg/L	1	0.98	98	80-120	
Sodium	mg/L	1	1.2	119	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3065901 3065902

Parameter	Units	92505233001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	4.2	1	1	5.4	5.5	120	129	75-125	2	20	M1
Magnesium	mg/L	2.0	1	1	3.1	3.1	111	110	75-125	0	20	
Potassium	mg/L	2.4	1	1	3.9	3.7	143	125	75-125	5	20	
Sodium	mg/L	5.4	1	1	6.6	6.8	120	133	75-125	2	20	M1

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(770)734-4200

QUALITY CONTROL DATA

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92505233

QC Batch: 579551
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92505233001, 92505233002, 92505233003, 92505233004, 92505233005, 92505233006, 92505233007

METHOD BLANK: 3065931 Matrix: Water
Associated Lab Samples: 92505233001, 92505233002, 92505233003, 92505233004, 92505233005, 92505233006, 92505233007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Beryllium	mg/L	ND	0.00050	11/11/20 15:52	
Cobalt	mg/L	ND	0.0050	11/11/20 15:52	

LABORATORY CONTROL SAMPLE: 3065932

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Beryllium	mg/L	0.1	0.097	97	80-120	
Cobalt	mg/L	0.1	0.096	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3065933 3065934

Parameter	Units	92505233002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Beryllium	mg/L	ND	0.1	0.1	0.10	0.095	100	94	75-125	5	20	
Cobalt	mg/L	ND	0.1	0.1	0.098	0.098	98	97	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92505233

QC Batch: 579634 | Analysis Method: SM 2450C-2011
QC Batch Method: SM 2450C-2011 | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92505233001, 92505233002, 92505233003, 92505233004, 92505233005, 92505233006, 92505233007

METHOD BLANK: 3066400 Matrix: Water
Associated Lab Samples: 92505233001, 92505233002, 92505233003, 92505233004, 92505233005, 92505233006, 92505233007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/11/20 15:42	

LABORATORY CONTROL SAMPLE: 3066401

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	397	99	84-108	

SAMPLE DUPLICATE: 3066402

Parameter	Units	92505233001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	43.0	49.0	13	10	D6

SAMPLE DUPLICATE: 3066403

Parameter	Units	92505230001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	684	670	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92505233

QC Batch: 580018
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92505233001, 92505233002, 92505233003, 92505233004, 92505233005, 92505233006, 92505233007

METHOD BLANK: 3068228 Matrix: Water
Associated Lab Samples: 92505233001, 92505233002, 92505233003, 92505233004, 92505233005, 92505233006, 92505233007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	11/12/20 16:26	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	11/12/20 16:26	

LABORATORY CONTROL SAMPLE: 3068229

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	53.1	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3068230 3068231

Parameter	Units	92505233001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	17.3	50	50	70.0	70.7	105	107	80-120	1	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3068232 3068233

Parameter	Units	92504167001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	452	50	50	482	482	61	60	80-120	0	25	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92505233

QC Batch: 579993
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92505233001, 92505233002, 92505233003, 92505233004, 92505233005, 92505233006, 92505233007

METHOD BLANK: 3068011 Matrix: Water
Associated Lab Samples: 92505233001, 92505233002, 92505233003, 92505233004, 92505233005, 92505233006, 92505233007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	11/12/20 17:40	
Fluoride	mg/L	ND	0.10	11/12/20 17:40	
Sulfate	mg/L	ND	1.0	11/12/20 17:40	

LABORATORY CONTROL SAMPLE: 3068012

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	47.5	95	90-110	
Fluoride	mg/L	2.5	2.4	96	90-110	
Sulfate	mg/L	50	47.9	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3068013 3068014

Parameter	Units	92505233001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	4.8	50	50	56.6	55.1	103	100	90-110	3	10	
Fluoride	mg/L	ND	2.5	2.5	2.6	2.5	103	99	90-110	3	10	
Sulfate	mg/L	3.0	50	50	55.0	52.8	104	100	90-110	4	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3068378 3068379

Parameter	Units	92505059003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	18.2	50	50	68.7	68.7	101	101	90-110	0	10	
Fluoride	mg/L	0.23	2.5	2.5	3.0	2.9	111	107	90-110	3	10	M1
Sulfate	mg/L	426	50	50	497	511	142	170	90-110	3	10	M6

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REPORT OF LABORATORY ANALYSIS

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(770)734-4200

QUALIFIERS

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92505233

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92505233

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92505233001	**CR+0.4**				
92505233002	**CR+0.2**				
92505233003	**Dewatering Upstream**				
92505233004	**Dewatering Downstream**				
92505233005	**CR-0.2**				
92505233006	**CR-0.5**				
92505233007	**CR-0.8**				
92505233001	**CR+0.4**	EPA 3010A	579547	EPA 6010D	579657
92505233002	**CR+0.2**	EPA 3010A	579547	EPA 6010D	579657
92505233003	**Dewatering Upstream**	EPA 3010A	579547	EPA 6010D	579657
92505233004	**Dewatering Downstream**	EPA 3010A	579547	EPA 6010D	579657
92505233005	**CR-0.2**	EPA 3010A	579547	EPA 6010D	579657
92505233006	**CR-0.5**	EPA 3010A	579547	EPA 6010D	579657
92505233007	**CR-0.8**	EPA 3010A	579547	EPA 6010D	579657
92505233001	**CR+0.4**	EPA 3005A	579551	EPA 6020B	579656
92505233002	**CR+0.2**	EPA 3005A	579551	EPA 6020B	579656
92505233003	**Dewatering Upstream**	EPA 3005A	579551	EPA 6020B	579656
92505233004	**Dewatering Downstream**	EPA 3005A	579551	EPA 6020B	579656
92505233005	**CR-0.2**	EPA 3005A	579551	EPA 6020B	579656
92505233006	**CR-0.5**	EPA 3005A	579551	EPA 6020B	579656
92505233007	**CR-0.8**	EPA 3005A	579551	EPA 6020B	579656
92505233001	**CR+0.4**	SM 2450C-2011	579634		
92505233002	**CR+0.2**	SM 2450C-2011	579634		
92505233003	**Dewatering Upstream**	SM 2450C-2011	579634		
92505233004	**Dewatering Downstream**	SM 2450C-2011	579634		
92505233005	**CR-0.2**	SM 2450C-2011	579634		
92505233006	**CR-0.5**	SM 2450C-2011	579634		
92505233007	**CR-0.8**	SM 2450C-2011	579634		
92505233001	**CR+0.4**	SM 2320B-2011	580018		
92505233002	**CR+0.2**	SM 2320B-2011	580018		
92505233003	**Dewatering Upstream**	SM 2320B-2011	580018		
92505233004	**Dewatering Downstream**	SM 2320B-2011	580018		
92505233005	**CR-0.2**	SM 2320B-2011	580018		
92505233006	**CR-0.5**	SM 2320B-2011	580018		
92505233007	**CR-0.8**	SM 2320B-2011	580018		
92505233001	**CR+0.4**	EPA 300.0 Rev 2.1 1993	579993		
92505233002	**CR+0.2**	EPA 300.0 Rev 2.1 1993	579993		
92505233003	**Dewatering Upstream**	EPA 300.0 Rev 2.1 1993	579993		
92505233004	**Dewatering Downstream**	EPA 300.0 Rev 2.1 1993	579993		
92505233005	**CR-0.2**	EPA 300.0 Rev 2.1 1993	579993		
92505233006	**CR-0.5**	EPA 300.0 Rev 2.1 1993	579993		
92505233007	**CR-0.8**	EPA 300.0 Rev 2.1 1993	579993		

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : Of

WO# : 92505233

92505233

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	ARCADIS - Atlanta	Report To:	Warren Johnson	Attention:	
Address:	2839 Paces Ferry Rd	Copy To:	Joju Abraham and Ben Hodges	Company Name:	GPC
	Atlanta, GA 30339			Address:	
Email:	warren.johnson@arcadis.com	Purchase Order #:	SCS10382775	Pace Quote:	
Phone:	(770)384-6584 Fax	Project Name:	Plant McDonough/CCR Ash Pond Closure	Pace Project Manager:	maiya.parks@pacelabs.com
Requested Due Date:	7-Day TAT	Project #:		Pace Profile #:	12696

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample ids must be unique MATRIX CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS	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	Analyses Test Y/N	Alkalinity (Total/Bi/Carb), Cl	TDS	App IV Metals,Be & Co Only	Residual Chlorine (Y/N)
1	CR-0.4 pH - 7.35	WT		11.10.20	11:40													X	X	X		
2	CR-0.2 pH - 7.42	WT		11.10.20	11:50													X	X	X		
3	DEWATERING UP STREAM pH - 7.56 6.90	WT		11.10.20	11:55													X	X	X		
4	DEWATERING DOWN STREAM pH - 7.03	WT		11.10.20	12:25													X	X	X		
5	CR-0.2 pH - 7.82	WT		11.10.20	12:47													X	X	X		
6	CR-0.5 pH - 7.40	WT		11.10.20	12:55													X	X	X		
7	CR0.8 pH - 7.62	WT		11.10.20	13:15													X	X	X		
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Chad Tourbington	11.10.2020	17:57	CB Pace	11/10/20	1757	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chad Tourbington

SIGNATURE of SAMPLER: Chad Tourbington DATE Signed: 11-10-20

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: Arcadis Atlanta

Project #: WO# : 92505233

PM: MP Due Date: 11/13/20
CLIENT: GA-AreadAtl

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

Custody Seal Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☐ No

Date/Initials Person Examining Contents: 11/11/20 DH

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☐ No ☐ N/A

Thermometer: ☐ IR Gun ID: 214 ☑ Wet ☐ Blue ☐ None

Type of Ice:

Cooler Temp: 2.1°C **Correction Factor:** Add/Subtract (°C) 0

Cooler Temp Corrected (°C): 2.1°C

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil (☐ N/A, water sample)
Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: W	☑ Yes	☐ No	☐ N/A	9.
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

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

November 16, 2020

Kelley Sharpe
ARCADIS - Atlanta
2839 Paces Ferry Rd
STE 900
Atlanta, GA 30339

RE: Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92505235

Dear Kelley Sharpe:

Enclosed are the analytical results for sample(s) received by the laboratory on November 10, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

Maiya Parks
maiya.parks@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Joju Abraham, Georgia Power-CCR
Ben Hodges, Georgia Power
Warren Johnson, ARCADIS - Atlanta

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

CERTIFICATIONS

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92505235

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

Pace Analytical Services Peachtree Corners
110 Technology Pkwy, Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Virginia Certification #: 460204

Pace Analytical Services, LLC
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SAMPLE SUMMARY

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92505235

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92505235001	**UT01_US**	Water	11/10/20 14:05	11/10/20 17:57
92505235002	**UT02**	Water	11/10/20 14:20	11/10/20 17:57
92505235003	**UT01_DS**	Water	11/10/20 14:35	11/10/20 17:57

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SAMPLE ANALYTE COUNT

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92505235

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92505235001	**UT01_US**	EPA 6010D	DRB, KH	4	PASI-GA
		EPA 6020B	CW1	1	PASI-GA
		SM 2450C-2011	ALW	1	PASI-GA
		SM 2320B-2011	KDF1	2	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92505235002	**UT02**	EPA 6010D	DRB, KH	4	PASI-GA
		EPA 6020B	CW1	1	PASI-GA
		SM 2450C-2011	ALW	1	PASI-GA
		SM 2320B-2011	KDF1	2	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92505235003	**UT01_DS**	EPA 6010D	DRB, KH	4	PASI-GA
		EPA 6020B	CW1	1	PASI-GA
		SM 2450C-2011	ALW	1	PASI-GA
		SM 2320B-2011	KDF1	2	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte
PASI-GA = Pace Analytical Services - Peachtree Corners, GA

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92505235

Sample: UT01_US **Lab ID: 92505235001** Collected: 11/10/20 14:05 Received: 11/10/20 17:57 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte							
Performed by	**Client**			1		11/10/20 14:05		
pH	**7.30**	Std. Units		1		11/10/20 14:05		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Potassium	**3.6**	mg/L	0.20	1	11/11/20 12:44	11/15/20 16:35	7440-09-7	
Sodium	**14.2**	mg/L	1.0	1	11/11/20 12:44	11/11/20 20:45	7440-23-5	
Calcium	**21.3**	mg/L	1.0	1	11/11/20 12:44	11/11/20 20:45	7440-70-2	
Magnesium	**4.2**	mg/L	0.050	1	11/11/20 12:44	11/11/20 20:45	7439-95-4	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Molybdenum	ND	mg/L	0.010	1	11/11/20 12:31	11/11/20 17:41	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**132**	mg/L	10.0	1		11/11/20 15:49		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	**68.8**	mg/L	5.0	1		11/12/20 18:27		
Alkalinity, Total as CaCO3	**68.8**	mg/L	5.0	1		11/12/20 18:27		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**12.0**	mg/L	1.0	1		11/12/20 20:48	16887-00-6	
Fluoride	**0.18**	mg/L	0.10	1		11/12/20 20:48	16984-48-8	
Sulfate	**16.1**	mg/L	1.0	1		11/12/20 20:48	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92505235

Sample: UT02 **Lab ID: 92505235002** Collected: 11/10/20 14:20 Received: 11/10/20 17:57 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte							
Performed by	**Client**			1		11/10/20 14:20		
pH	**7.31**	Std. Units		1		11/10/20 14:20		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Sodium	**14.4**	mg/L	1.0	1	11/11/20 12:44	11/11/20 20:50	7440-23-5	
Calcium	**21.9**	mg/L	1.0	1	11/11/20 12:44	11/11/20 20:50	7440-70-2	
Magnesium	**4.4**	mg/L	0.050	1	11/11/20 12:44	11/11/20 20:50	7439-95-4	
Potassium	**3.8**	mg/L	0.20	1	11/11/20 12:44	11/15/20 16:40	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Molybdenum	ND	mg/L	0.010	1	11/11/20 12:31	11/11/20 17:46	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**127**	mg/L	10.0	1		11/11/20 15:49		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	**67.9**	mg/L	5.0	1		11/12/20 18:34		
Alkalinity, Total as CaCO3	**67.9**	mg/L	5.0	1		11/12/20 18:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**11.7**	mg/L	1.0	1		11/12/20 21:02	16887-00-6	
Fluoride	**0.18**	mg/L	0.10	1		11/12/20 21:02	16984-48-8	
Sulfate	**16.5**	mg/L	1.0	1		11/12/20 21:02	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 McDonough CCR-Ash Pond
Pace Project No.: 92505235

Sample: UT01_DS **Lab ID: 92505235003** Collected: 11/10/20 14:35 Received: 11/10/20 17:57 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte							
Performed by	**Client**			1		11/10/20 14:35		
pH	**7.18**	Std. Units		1		11/10/20 14:35		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Sodium	**13.9**	mg/L	1.0	1	11/11/20 12:44	11/11/20 20:55	7440-23-5	
Calcium	**22.3**	mg/L	1.0	1	11/11/20 12:44	11/11/20 20:55	7440-70-2	
Magnesium	**4.8**	mg/L	0.050	1	11/11/20 12:44	11/11/20 20:55	7439-95-4	
Potassium	**3.9**	mg/L	0.20	1	11/11/20 12:44	11/15/20 16:45	7440-09-7	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Molybdenum	ND	mg/L	0.010	1	11/11/20 12:31	11/11/20 17:52	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**145**	mg/L	10.0	1		11/11/20 15:50		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	**68.8**	mg/L	5.0	1		11/12/20 18:42		
Alkalinity, Total as CaCO3	**68.8**	mg/L	5.0	1		11/12/20 18:42		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**11.5**	mg/L	1.0	1		11/12/20 21:17	16887-00-6	
Fluoride	**0.18**	mg/L	0.10	1		11/12/20 21:17	16984-48-8	
Sulfate	**20.5**	mg/L	1.0	1		11/12/20 21:17	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 McDonough CCR-Ash Pond
Pace Project No.: 92505235

QC Batch: 579547
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92505235001, 92505235002, 92505235003

METHOD BLANK: 3065899 Matrix: Water
Associated Lab Samples: 92505235001, 92505235002, 92505235003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	11/11/20 19:22	
Magnesium	mg/L	ND	0.050	11/11/20 19:22	
Potassium	mg/L	ND	0.20	11/11/20 19:22	
Sodium	mg/L	ND	1.0	11/11/20 19:22	

LABORATORY CONTROL SAMPLE: 3065900

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.1	105	80-120	
Magnesium	mg/L	1	1.1	106	80-120	
Potassium	mg/L	1	0.98	98	80-120	
Sodium	mg/L	1	1.2	119	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3065901 3065902

Parameter	Units	92505233001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	4.2	1	1	5.4	5.5	120	129	75-125	2	20	M1
Magnesium	mg/L	2.0	1	1	3.1	3.1	111	110	75-125	0	20	
Potassium	mg/L	2.4	1	1	3.9	3.7	143	125	75-125	5	20	
Sodium	mg/L	5.4	1	1	6.6	6.8	120	133	75-125	2	20	M1

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92505235

QC Batch: 579551
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92505235001, 92505235002, 92505235003

METHOD BLANK: 3065931 Matrix: Water
Associated Lab Samples: 92505235001, 92505235002, 92505235003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Molybdenum	mg/L	ND	0.010	11/11/20 15:52	

LABORATORY CONTROL SAMPLE: 3065932

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Molybdenum	mg/L	0.1	0.096	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3065933 3065934

Parameter	Units	92505233002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.10	101	100	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 McDonough CCR-Ash Pond
Pace Project No.: 92505235

QC Batch: 579634
QC Batch Method: SM 2450C-2011
Analysis Method: SM 2450C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92505235001, 92505235002, 92505235003

METHOD BLANK: 3066400 Matrix: Water
Associated Lab Samples: 92505235001, 92505235002, 92505235003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/11/20 15:42	

LABORATORY CONTROL SAMPLE: 3066401

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	397	99	84-108	

SAMPLE DUPLICATE: 3066402

Parameter	Units	92505233001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	43.0	49.0	13	10	D6

SAMPLE DUPLICATE: 3066403

Parameter	Units	92505230001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	684	670	2	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
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92505235

QC Batch: 580018
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92505235001, 92505235002, 92505235003

METHOD BLANK: 3068228 Matrix: Water
Associated Lab Samples: 92505235001, 92505235002, 92505235003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	11/12/20 16:26	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	11/12/20 16:26	

LABORATORY CONTROL SAMPLE: 3068229

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	53.1	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3068230 3068231

Parameter	Units	92505233001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	17.3	50	50	70.0	70.7	105	107	80-120	1	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3068232 3068233

Parameter	Units	92504167001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	452	50	50	482	482	61	60	80-120	0	25	M1

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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 McDonough CCR-Ash Pond
Pace Project No.: 92505235

QC Batch: 579993
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92505235001, 92505235002, 92505235003

METHOD BLANK: 3068011 Matrix: Water
Associated Lab Samples: 92505235001, 92505235002, 92505235003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	11/12/20 17:40	
Fluoride	mg/L	ND	0.10	11/12/20 17:40	
Sulfate	mg/L	ND	1.0	11/12/20 17:40	

LABORATORY CONTROL SAMPLE: 3068012

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	47.5	95	90-110	
Fluoride	mg/L	2.5	2.4	96	90-110	
Sulfate	mg/L	50	47.9	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3068013 3068014

Parameter	Units	92505233001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	4.8	50	50	56.6	55.1	103	100	90-110	3	10	
Fluoride	mg/L	ND	2.5	2.5	2.6	2.5	103	99	90-110	3	10	
Sulfate	mg/L	3.0	50	50	55.0	52.8	104	100	90-110	4	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3068378 3068379

Parameter	Units	92505059003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	18.2	50	50	68.7	68.7	101	101	90-110	0	10	
Fluoride	mg/L	0.23	2.5	2.5	3.0	2.9	111	107	90-110	3	10	M1
Sulfate	mg/L	426	50	50	497	511	142	170	90-110	3	10	M6

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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 McDonough CCR-Ash Pond
Pace Project No.: 92505235

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92505235

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92505235001	**UT01_US**				
92505235002	**UT02**				
92505235003	**UT01_DS**				
92505235001	**UT01_US**	EPA 3010A	579547	EPA 6010D	579657
92505235002	**UT02**	EPA 3010A	579547	EPA 6010D	579657
92505235003	**UT01_DS**	EPA 3010A	579547	EPA 6010D	579657
92505235001	**UT01_US**	EPA 3005A	579551	EPA 6020B	579656
92505235002	**UT02**	EPA 3005A	579551	EPA 6020B	579656
92505235003	**UT01_DS**	EPA 3005A	579551	EPA 6020B	579656
92505235001	**UT01_US**	SM 2450C-2011	579634		
92505235002	**UT02**	SM 2450C-2011	579634		
92505235003	**UT01_DS**	SM 2450C-2011	579634		
92505235001	**UT01_US**	SM 2320B-2011	580018		
92505235002	**UT02**	SM 2320B-2011	580018		
92505235003	**UT01_DS**	SM 2320B-2011	580018		
92505235001	**UT01_US**	EPA 300.0 Rev 2.1 1993	579993		
92505235002	**UT02**	EPA 300.0 Rev 2.1 1993	579993		
92505235003	**UT01_DS**	EPA 300.0 Rev 2.1 1993	579993		

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : Of

Section A – Required Client Information:		Section B – Required Project Information:		Section C – Invoice Information:	
Company:	ARCADIS - Atlanta	Report To:	Warren Johnson	Attention:	
Address:	2839 Paces Ferry Rd	Copy To:	Joju Abraham and Ben Hodges	Company Name:	GPC
	Atlanta, GA 30339			Address:	
Email:	warren.johnson@arcadis.com	Purchase Order #:	SCS10382775	Pace Quote:	
Phone:	(770)384-6584 Fax	Project Name:	Plant McDonough/CCR Ash-Pond Closure	Pace Project Manager:	maiya.parks@pacelabs.co
Requested Due Date:	7-Day TAT	Project #:		Pace Profile #:	12896

Regulatory Agency

WO# : 92505235

92505235

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample IDs must be unique MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS	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	Analyses Test Y/N	Alkalinity (Total/BiCarb), Cl	TDS	App III Constituents	Residual Chlorine (Y
1	UT01_US pH - 7.30	WT		11.10.20	14:05													X	X	X	
2	UT02 pH - 7.31	WT		11.10.20	14:20													X	X	X	
3	UT01_DS pH - 7.18	WT		11.10.20	14:35													X	X	X	
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Requested Analysis - Major Cations, Mo Only	Chad Townsingson	11.10.2020	17:57	Pace	11/10/20	1157	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chad Townsingson

SIGNATURE of SAMPLER: Chad Townsingson DATE Signed: 11.10.20

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt:

Client Name: Arcadis

Project #: WO#: 92505235
PM: MP Due Date: 11/13/20
CLIENT: GA-ArcadMtl

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

Custody Seal Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☐ No

Date/Initials Person Examining Contents: 11/11/20 cm

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

Thermometer: ☐ IR Gun ID: 214

Type of Ice: ☑ Wet ☐ Blue ☐ None

Cooler Temp: 2.1°C **Correction Factor:** Add/Subtract (°C) 0

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 2.1°C

USDA Regulated Soil (☐ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: W				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

APPENDIX A

Laboratory Analytical Data
February 2021

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

February 10, 2021

Kelley Sharpe
ARCADIS - Atlanta
2839 Paces Ferry Rd
STE 900
Atlanta, GA 30339

RE: Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92519959

Dear Kelley Sharpe:

Enclosed are the analytical results for sample(s) received by the laboratory on February 03, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

Maiya Parks
maiya.parks@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Joju Abraham, Georgia Power-CCR
Ben Hodges, Georgia Power
Warren Johnson, ARCADIS - Atlanta

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

CERTIFICATIONS

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92519959

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

Pace Analytical Services Peachtree Corners
110 Technology Pkwy, Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92519959

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92519959001	**UT01_US**	Water	02/02/21 15:00	02/03/21 08:50
92519959002	**UT02**	Water	02/02/21 14:40	02/03/21 08:50
92519959003	**UT01_DS**	Water	02/02/21 14:45	02/03/21 08:50
92519959004	**UT03**	Water	02/02/21 14:30	02/03/21 08:50

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

SAMPLE ANALYTE COUNT

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92519959

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92519959001	**UT01_US**	EPA 6010D	DRB	4	PASI-GA
		EPA 6020B	CW1	3	PASI-GA
		SM 2450C-2011	AW1	1	PASI-GA
		SM 2320B-2011	ECH	2	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92519959002	**UT02**	EPA 6010D	DRB	4	PASI-GA
		EPA 6020B	CW1	3	PASI-GA
		SM 2450C-2011	AW1	1	PASI-GA
		SM 2320B-2011	ECH	2	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92519959003	**UT01_DS**	EPA 6010D	DRB	4	PASI-GA
		EPA 6020B	CW1	3	PASI-GA
		SM 2450C-2011	AW1	1	PASI-GA
		SM 2320B-2011	ECH	2	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92519959004	**UT03**	EPA 6010D	DRB	4	PASI-GA
		EPA 6020B	CW1	3	PASI-GA
		SM 2450C-2011	AW1	1	PASI-GA
		SM 2320B-2011	ECH	2	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A

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

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

ANALYTICAL RESULTS

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92519959

Sample: UT01_US **Lab ID: 92519959001** Collected: 02/02/21 15:00 Received: 02/03/21 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Potassium	**2.9**	mg/L	0.20	1	02/04/21 09:45	02/05/21 19:18	7440-09-7	
Sodium	**12.7**	mg/L	1.0	1	02/04/21 09:45	02/05/21 19:18	7440-23-5	
Calcium	**17.2**	mg/L	1.0	1	02/04/21 09:45	02/05/21 19:18	7440-70-2	
Magnesium	**3.3**	mg/L	0.050	1	02/04/21 09:45	02/05/21 19:18	7439-95-4	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Arsenic	ND	mg/L	0.0050	1	02/04/21 10:04	02/07/21 17:38	7440-38-2	
Boron	**0.046**	mg/L	0.040	1	02/04/21 10:04	02/07/21 17:38	7440-42-8	
Molybdenum	ND	mg/L	0.010	1	02/04/21 10:04	02/07/21 17:38	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**97.0**	mg/L	10.0	1		02/04/21 12:09		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	**53.5**	mg/L	5.0	1		02/05/21 23:42		
Alkalinity, Total as CaCO3	**53.5**	mg/L	5.0	1		02/05/21 23:42		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**10.7**	mg/L	1.0	1		02/05/21 11:50	16887-00-6	
Fluoride	**0.22**	mg/L	0.10	1		02/05/21 11:50	16984-48-8	
Sulfate	**14.5**	mg/L	1.0	1		02/05/21 11:50	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 McDonough CCR-Ash Pond
Pace Project No.: 92519959

Sample: UT02 **Lab ID: 92519959002** Collected: 02/02/21 14:40 Received: 02/03/21 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Potassium	**3.0**	mg/L	0.20	1	02/04/21 09:45	02/05/21 19:22	7440-09-7	
Sodium	**12.7**	mg/L	1.0	1	02/04/21 09:45	02/05/21 19:22	7440-23-5	
Calcium	**17.4**	mg/L	1.0	1	02/04/21 09:45	02/05/21 19:22	7440-70-2	
Magnesium	**3.3**	mg/L	0.050	1	02/04/21 09:45	02/05/21 19:22	7439-95-4	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Arsenic	ND	mg/L	0.0050	1	02/04/21 10:04	02/07/21 17:43	7440-38-2	
Boron	**0.063**	mg/L	0.040	1	02/04/21 10:04	02/07/21 17:43	7440-42-8	
Molybdenum	ND	mg/L	0.010	1	02/04/21 10:04	02/07/21 17:43	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**99.0**	mg/L	10.0	1		02/04/21 12:09		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	**54.7**	mg/L	5.0	1		02/09/21 13:52		
Alkalinity, Total as CaCO3	**54.7**	mg/L	5.0	1		02/09/21 13:52		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**10.4**	mg/L	1.0	1		02/05/21 12:04	16887-00-6	
Fluoride	**0.17**	mg/L	0.10	1		02/05/21 12:04	16984-48-8	
Sulfate	**15.5**	mg/L	1.0	1		02/05/21 12:04	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 McDonough CCR-Ash Pond
Pace Project No.: 92519959

Sample: UT01_DS **Lab ID: 92519959003** Collected: 02/02/21 14:45 Received: 02/03/21 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Potassium	**2.9**	mg/L	0.20	1	02/04/21 09:45	02/05/21 19:27	7440-09-7	
Sodium	**12.2**	mg/L	1.0	1	02/04/21 09:45	02/05/21 19:27	7440-23-5	
Calcium	**17.4**	mg/L	1.0	1	02/04/21 09:45	02/05/21 19:27	7440-70-2	
Magnesium	**3.6**	mg/L	0.050	1	02/04/21 09:45	02/05/21 19:27	7439-95-4	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Arsenic	ND	mg/L	0.0050	1	02/04/21 10:04	02/07/21 17:49	7440-38-2	
Boron	**0.11**	mg/L	0.040	1	02/04/21 10:04	02/07/21 17:49	7440-42-8	
Molybdenum	ND	mg/L	0.010	1	02/04/21 10:04	02/07/21 17:49	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**100**	mg/L	10.0	1		02/04/21 12:10		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	**55.1**	mg/L	5.0	1		02/09/21 14:00		
Alkalinity, Total as CaCO3	**55.1**	mg/L	5.0	1		02/09/21 14:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**9.9**	mg/L	1.0	1		02/05/21 12:19	16887-00-6	
Fluoride	**0.17**	mg/L	0.10	1		02/05/21 12:19	16984-48-8	
Sulfate	**16.5**	mg/L	1.0	1		02/05/21 12:19	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 McDonough CCR-Ash Pond
Pace Project No.: 92519959

Sample: UT03 **Lab ID: 92519959004** Collected: 02/02/21 14:30 Received: 02/03/21 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Potassium	**2.9**	mg/L	0.20	1	02/04/21 09:45	02/05/21 19:32	7440-09-7	
Sodium	**12.6**	mg/L	1.0	1	02/04/21 09:45	02/05/21 19:32	7440-23-5	
Calcium	**17.3**	mg/L	1.0	1	02/04/21 09:45	02/05/21 19:32	7440-70-2	
Magnesium	**3.4**	mg/L	0.050	1	02/04/21 09:45	02/05/21 19:32	7439-95-4	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Arsenic	ND	mg/L	0.0050	1	02/04/21 10:04	02/07/21 18:06	7440-38-2	
Boron	**0.069**	mg/L	0.040	1	02/04/21 10:04	02/07/21 18:06	7440-42-8	
Molybdenum	ND	mg/L	0.010	1	02/04/21 10:04	02/07/21 18:06	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**98.0**	mg/L	10.0	1		02/04/21 12:10		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	**54.3**	mg/L	5.0	1		02/09/21 14:08		
Alkalinity, Total as CaCO3	**54.3**	mg/L	5.0	1		02/09/21 14:08		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**10.2**	mg/L	1.0	1		02/05/21 13:31	16887-00-6	
Fluoride	**0.17**	mg/L	0.10	1		02/05/21 13:31	16984-48-8	
Sulfate	**15.4**	mg/L	1.0	1		02/05/21 13:31	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 McDonough CCR-Ash Pond
Pace Project No.: 92519959

QC Batch: 597431
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92519959001, 92519959002, 92519959003, 92519959004

METHOD BLANK: 3150491 Matrix: Water
Associated Lab Samples: 92519959001, 92519959002, 92519959003, 92519959004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	02/05/21 18:05	
Magnesium	mg/L	ND	0.050	02/05/21 18:05	
Potassium	mg/L	ND	0.20	02/05/21 18:05	
Sodium	mg/L	ND	1.0	02/05/21 18:05	

LABORATORY CONTROL SAMPLE: 3150492

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	102	80-120	
Magnesium	mg/L	1	0.95	95	80-120	
Potassium	mg/L	1	1.1	115	80-120	
Sodium	mg/L	1	1.1	111	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3150493 3150494

Parameter	Units	92519942001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	5.3	1	1	6.2	6.3	92	103	75-125	2	20	
Magnesium	mg/L	2.1	1	1	3.0	3.1	95	97	75-125	1	20	
Potassium	mg/L	2.8	1	1	3.9	3.9	107	109	75-125	0	20	
Sodium	mg/L	7.0	1	1	8.0	8.1	99	112	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 McDonough CCR-Ash Pond
Pace Project No.: 92519959

QC Batch: 597433
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92519959001, 92519959002, 92519959003, 92519959004

METHOD BLANK: 3150562 Matrix: Water
Associated Lab Samples: 92519959001, 92519959002, 92519959003, 92519959004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	02/07/21 14:46	
Boron	mg/L	ND	0.040	02/07/21 14:46	
Molybdenum	mg/L	ND	0.010	02/07/21 14:46	

LABORATORY CONTROL SAMPLE: 3150563

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.1	0.099	99	80-120	
Boron	mg/L	1	1.0	100	80-120	
Molybdenum	mg/L	0.1	0.099	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3150564 3150565

Parameter	Units	92519266022 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	1.4J ug/L	0.1	0.1	0.10	0.10	101	100	75-125	1	20	
Boron	mg/L	587 ug/L	1	1	1.6	1.5	97	96	75-125	1	20	
Molybdenum	mg/L	14.0 ug/L	0.1	0.1	0.12	0.12	103	101	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 McDonough CCR-Ash Pond
Pace Project No.: 92519959

QC Batch: 597549 | Analysis Method: SM 2450C-2011
QC Batch Method: SM 2450C-2011 | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92519959001, 92519959002, 92519959003, 92519959004

METHOD BLANK: 3150931 Matrix: Water
Associated Lab Samples: 92519959001, 92519959002, 92519959003, 92519959004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	02/04/21 12:04	

LABORATORY CONTROL SAMPLE: 3150932

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	387	97	84-108	

SAMPLE DUPLICATE: 3150933

Parameter	Units	92519931002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	45.0	43.0	5	10	

SAMPLE DUPLICATE: 3150934

Parameter	Units	92519942006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	31.0	33.0	6	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 McDonough CCR-Ash Pond
Pace Project No.: 92519959

QC Batch: 598016
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92519959001

METHOD BLANK: 3153367 Matrix: Water
Associated Lab Samples: 92519959001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	02/05/21 20:00	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	02/05/21 20:00	

LABORATORY CONTROL SAMPLE: 3153368

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	52.4	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3153369 3153370

Parameter	Units	92518671027 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	160	50	50	207	213	95	107	80-120	3	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3153371 3153372

Parameter	Units	92519484005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	21.3	50	50	73.0	73.4	103	104	80-120	0	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
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92519959

QC Batch: 598355
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92519959002, 92519959003, 92519959004

METHOD BLANK: 3154778 Matrix: Water
Associated Lab Samples: 92519959002, 92519959003, 92519959004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	02/09/21 13:16	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	02/09/21 13:16	

LABORATORY CONTROL SAMPLE: 3154779

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	52.7	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3154780 3154781

Parameter	Units	92518942011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	23.9	50	50	70.3	70.8	93	94	80-120	1	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3154782 3154783

Parameter	Units	92518942012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	35.3	50	50	85.2	85.5	100	100	80-120	0	25	

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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 McDonough CCR-Ash Pond
Pace Project No.: 92519959

QC Batch: 597589
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92519959001, 92519959002, 92519959003, 92519959004

METHOD BLANK: 3151020 Matrix: Water
Associated Lab Samples: 92519959001, 92519959002, 92519959003, 92519959004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	02/05/21 08:05	
Fluoride	mg/L	ND	0.10	02/05/21 08:05	
Sulfate	mg/L	ND	1.0	02/05/21 08:05	

LABORATORY CONTROL SAMPLE: 3151021

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	47.2	94	90-110	
Fluoride	mg/L	2.5	2.4	97	90-110	
Sulfate	mg/L	50	47.6	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3151022 3151023

Parameter	Units	92519942001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	6.3	50	50	52.7	53.2	93	94	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.4	2.4	93	95	90-110	2	10	
Sulfate	mg/L	4.5	50	50	51.7	51.9	94	95	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3151024 3151025

Parameter	Units	92519959003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	9.9	50	50	57.4	57.2	95	95	90-110	0	10	
Fluoride	mg/L	0.17	2.5	2.5	2.5	2.5	94	94	90-110	0	10	
Sulfate	mg/L	16.5	50	50	64.4	64.3	96	96	90-110	0	10	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92519959

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92519959

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92519959001	**UT01_US**	EPA 3010A	597431	EPA 6010D	597695
92519959002	**UT02**	EPA 3010A	597431	EPA 6010D	597695
92519959003	**UT01_DS**	EPA 3010A	597431	EPA 6010D	597695
92519959004	**UT03**	EPA 3010A	597431	EPA 6010D	597695
92519959001	**UT01_US**	EPA 3005A	597433	EPA 6020B	597742
92519959002	**UT02**	EPA 3005A	597433	EPA 6020B	597742
92519959003	**UT01_DS**	EPA 3005A	597433	EPA 6020B	597742
92519959004	**UT03**	EPA 3005A	597433	EPA 6020B	597742
92519959001	**UT01_US**	SM 2450C-2011	597549		
92519959002	**UT02**	SM 2450C-2011	597549		
92519959003	**UT01_DS**	SM 2450C-2011	597549		
92519959004	**UT03**	SM 2450C-2011	597549		
92519959001	**UT01_US**	SM 2320B-2011	598016		
92519959002	**UT02**	SM 2320B-2011	598355		
92519959003	**UT01_DS**	SM 2320B-2011	598355		
92519959004	**UT03**	SM 2320B-2011	598355		
92519959001	**UT01_US**	EPA 300.0 Rev 2.1 1993	597589		
92519959002	**UT02**	EPA 300.0 Rev 2.1 1993	597589		
92519959003	**UT01_DS**	EPA 300.0 Rev 2.1 1993	597589		
92519959004	**UT03**	EPA 300.0 Rev 2.1 1993	597589		

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : Of

Section A — Required Client Information:

Company:	ARCADIS - Atlanta
Address:	2839 Paces Ferry Rd
	Atlanta, GA 30339
Email:	warren.johnson@arcadis.com
Phone:	(770)384-6564 Fax:
Requested Due Date:	7-Day TAT

Section B — Required Project Information:

Report To:	Warren Johnson
Copy To:	Joju Abraham and Ben Hodges
Purchase Order #:	SCS10382775
Project Name:	Plant McDonough/CCR Ash-Pond Closure
Project #:	

Section C — Invoice Information:

Attention:	
Company Name:	GPC
Address:	
Pace Quote:	
Pace Project Manager:	maiya.parks@pacelabs.com
Pace Profile #:	12896

Regulatory Agency

State / Location

GA

SAMPLE ID

One Character per box.
(A-Z, 0-9 / , -)
Sample IDs must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	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	Analyses Test Y/N	Alkalinity (Total/BiCarb), Cl	TDS	App III Constituents	App IV (See Comments)	Residual Chlorine (Y/N)
1	UT04_US	WT		2.2.21	15:00														X	X	X		
2	UT02	WT		2.2.21	14:40														X	X	X		
3	UT01_DS	WT		2.2.21	14:45														X	X	X		
4	UT03	WT		2.2.21	14:30														X	X	X		
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Requested Analysis - Major Cations, Arsenic & Mo Only		2.2.2021	0850	K. Williams/Pace	2/3/21	0850	1.9	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER:

DATE Signed:

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

WO# : 92519959

92519959

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: Arcadis - Atlanta

Project: WO#: 92519959
PM: MP Due Date: 02/08/21
CLIENT: GA-ArcadAtl

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

Custody Seal Present? ☐ Yes ☑ No Seals Intact? ☐ Yes ☐ No

Date/Initials Person Examining Contents: 2/3/21 KRW

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

Thermometer: ☑ IR Gun ID: THR230 Type of Ice: ☑ Wet ☐ Blue ☐ None

Cooler Temp: 1.9 Correction Factor: Add/Subtract (°C) 0

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 1.9

USDA Regulated Soil (☑ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☐ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4. 7 Day TAT
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☐ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: WT				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

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

February 10, 2021

Kelley Sharpe
ARCADIS - Atlanta
2839 Paces Ferry Rd
STE 900
Atlanta, GA 30339

RE: Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92519942

Dear Kelley Sharpe:

Enclosed are the analytical results for sample(s) received by the laboratory on February 03, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

Maiya Parks
maiya.parks@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Joju Abraham, Georgia Power-CCR
Ben Hodges, Georgia Power
Warren Johnson, ARCADIS - Atlanta

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92519942

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

Pace Analytical Services Peachtree Corners
110 Technology Pkwy, Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92519942

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92519942001	**CR+0.4**	Water	02/02/21 13:44	02/03/21 08:50
92519942002	**CR+0.2**	Water	02/02/21 13:51	02/03/21 08:50
92519942003	**DW_US**	Water	02/02/21 14:12	02/03/21 08:50
92519942004	**DW_DS**	Water	02/02/21 14:08	02/03/21 08:50
92519942005	**CR-0.2**	Water	02/02/21 14:21	02/03/21 08:50
92519942006	**CR-0.5**	Water	02/02/21 14:26	02/03/21 08:50
92519942007	**CR-0.8**	Water	02/02/21 14:30	02/03/21 08:50
92519942008	**CR-0.1**	Water	02/02/21 14:00	02/03/21 08:50

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SAMPLE ANALYTE COUNT

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92519942

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92519942001	**CR+0.4**	EPA 6010D	DRB	4	PASI-GA
		EPA 6020B	CW1	5	PASI-GA
		SM 2450C-2011	AW1	1	PASI-GA
		SM 2320B-2011	ECH	2	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92519942002	**CR+0.2**	EPA 6010D	DRB	4	PASI-GA
		EPA 6020B	CW1	5	PASI-GA
		SM 2450C-2011	AW1	1	PASI-GA
		SM 2320B-2011	ECH	2	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92519942003	**DW_US**	EPA 6010D	DRB	4	PASI-GA
		EPA 6020B	CW1	5	PASI-GA
		SM 2450C-2011	AW1	1	PASI-GA
		SM 2320B-2011	ECH	2	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92519942004	**DW_DS**	EPA 6010D	DRB	4	PASI-GA
		EPA 6020B	CW1	5	PASI-GA
		SM 2450C-2011	AW1	1	PASI-GA
		SM 2320B-2011	ECH	2	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92519942005	**CR-0.2**	EPA 6010D	DRB	4	PASI-GA
		EPA 6020B	CW1	5	PASI-GA
		SM 2450C-2011	AW1	1	PASI-GA
		SM 2320B-2011	ECH	2	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92519942006	**CR-0.5**	EPA 6010D	DRB	4	PASI-GA
		EPA 6020B	CW1	5	PASI-GA
		SM 2450C-2011	AW1	1	PASI-GA
		SM 2320B-2011	ECH	2	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92519942007	**CR-0.8**	EPA 6010D	DRB	4	PASI-GA
		EPA 6020B	CW1	5	PASI-GA
		SM 2450C-2011	AW1	1	PASI-GA
		SM 2320B-2011	ECH	2	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92519942008	**CR-0.1**	EPA 6010D	DRB	4	PASI-GA
		EPA 6020B	CW1	5	PASI-GA

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SAMPLE ANALYTE COUNT

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92519942

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2450C-2011	AW1	1	PASI-GA
		SM 2320B-2011	ECH	2	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A

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

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ANALYTICAL RESULTS

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92519942

Sample: CR+0.4 **Lab ID: 92519942001** Collected: 02/02/21 13:44 Received: 02/03/21 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Potassium	**2.8**	mg/L	0.20	1	02/04/21 09:45	02/05/21 18:15	7440-09-7	
Sodium	**7.0**	mg/L	1.0	1	02/04/21 09:45	02/05/21 18:15	7440-23-5	
Calcium	**5.3**	mg/L	1.0	1	02/04/21 09:45	02/05/21 18:15	7440-70-2	
Magnesium	**2.1**	mg/L	0.050	1	02/04/21 09:45	02/05/21 18:15	7439-95-4	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Arsenic	ND	mg/L	0.0050	1	02/04/21 10:04	02/07/21 16:40	7440-38-2	
Beryllium	ND	mg/L	0.00050	1	02/04/21 10:04	02/07/21 16:40	7440-41-7	
Boron	ND	mg/L	0.040	1	02/04/21 10:04	02/07/21 16:40	7440-42-8	
Cobalt	ND	mg/L	0.0050	1	02/04/21 10:04	02/07/21 16:40	7440-48-4	
Molybdenum	ND	mg/L	0.010	1	02/04/21 10:04	02/07/21 16:40	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**27.0**	mg/L	10.0	1		02/04/21 12:06		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	**20.5**	mg/L	5.0	1		02/05/21 22:32		
Alkalinity, Total as CaCO3	**20.5**	mg/L	5.0	1		02/05/21 22:32		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**6.3**	mg/L	1.0	1		02/05/21 08:34	16887-00-6	
Fluoride	ND	mg/L	0.10	1		02/05/21 08:34	16984-48-8	
Sulfate	**4.5**	mg/L	1.0	1		02/05/21 08:34	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
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(770)734-4200

ANALYTICAL RESULTS

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92519942

Sample: CR+0.2 **Lab ID: 92519942002** Collected: 02/02/21 13:51 Received: 02/03/21 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Potassium	**2.7**	mg/L	0.20	1	02/04/21 09:45	02/05/21 18:34	7440-09-7	
Sodium	**6.8**	mg/L	1.0	1	02/04/21 09:45	02/05/21 18:34	7440-23-5	
Calcium	**5.0**	mg/L	1.0	1	02/04/21 09:45	02/05/21 18:34	7440-70-2	
Magnesium	**2.0**	mg/L	0.050	1	02/04/21 09:45	02/05/21 18:34	7439-95-4	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Arsenic	ND	mg/L	0.0050	1	02/04/21 10:04	02/07/21 16:57	7440-38-2	
Beryllium	ND	mg/L	0.00050	1	02/04/21 10:04	02/07/21 16:57	7440-41-7	
Boron	ND	mg/L	0.040	1	02/04/21 10:04	02/07/21 16:57	7440-42-8	
Cobalt	ND	mg/L	0.0050	1	02/04/21 10:04	02/07/21 16:57	7440-48-4	
Molybdenum	ND	mg/L	0.010	1	02/04/21 10:04	02/07/21 16:57	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**41.0**	mg/L	10.0	1		02/04/21 12:07		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	**20.4**	mg/L	5.0	1		02/05/21 22:39		
Alkalinity, Total as CaCO3	**20.4**	mg/L	5.0	1		02/05/21 22:39		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**6.2**	mg/L	1.0	1		02/05/21 09:40	16887-00-6	
Fluoride	ND	mg/L	0.10	1		02/05/21 09:40	16984-48-8	
Sulfate	**4.4**	mg/L	1.0	1		02/05/21 09:40	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92519942

Sample: DW_US **Lab ID: 92519942003** Collected: 02/02/21 14:12 Received: 02/03/21 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Potassium	**2.7**	mg/L	0.20	1	02/04/21 09:45	02/05/21 18:39	7440-09-7	
Sodium	**6.8**	mg/L	1.0	1	02/04/21 09:45	02/05/21 18:39	7440-23-5	
Calcium	**4.9**	mg/L	1.0	1	02/04/21 09:45	02/05/21 18:39	7440-70-2	
Magnesium	**2.0**	mg/L	0.050	1	02/04/21 09:45	02/05/21 18:39	7439-95-4	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Arsenic	ND	mg/L	0.0050	1	02/04/21 10:04	02/07/21 17:03	7440-38-2	
Beryllium	ND	mg/L	0.00050	1	02/04/21 10:04	02/07/21 17:03	7440-41-7	
Boron	ND	mg/L	0.040	1	02/04/21 10:04	02/07/21 17:03	7440-42-8	
Cobalt	ND	mg/L	0.0050	1	02/04/21 10:04	02/07/21 17:03	7440-48-4	
Molybdenum	ND	mg/L	0.010	1	02/04/21 10:04	02/07/21 17:03	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**29.0**	mg/L	10.0	1		02/04/21 12:07		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	**20.1**	mg/L	5.0	1		02/05/21 22:47		
Alkalinity, Total as CaCO3	**20.1**	mg/L	5.0	1		02/05/21 22:47		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**6.1**	mg/L	1.0	1		02/05/21 09:54	16887-00-6	
Fluoride	ND	mg/L	0.10	1		02/05/21 09:54	16984-48-8	
Sulfate	**4.3**	mg/L	1.0	1		02/05/21 09:54	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 McDonough CCR-Ash Pond
Pace Project No.: 92519942

Sample: DW_DS **Lab ID: 92519942004** Collected: 02/02/21 14:08 Received: 02/03/21 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Potassium	**2.7**	mg/L	0.20	1	02/04/21 09:45	02/05/21 18:44	7440-09-7	
Sodium	**6.9**	mg/L	1.0	1	02/04/21 09:45	02/05/21 18:44	7440-23-5	
Calcium	**5.1**	mg/L	1.0	1	02/04/21 09:45	02/05/21 18:44	7440-70-2	
Magnesium	**2.0**	mg/L	0.050	1	02/04/21 09:45	02/05/21 18:44	7439-95-4	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Arsenic	ND	mg/L	0.0050	1	02/04/21 10:04	02/07/21 17:09	7440-38-2	
Beryllium	ND	mg/L	0.00050	1	02/04/21 10:04	02/07/21 17:09	7440-41-7	
Boron	ND	mg/L	0.040	1	02/04/21 10:04	02/07/21 17:09	7440-42-8	
Cobalt	ND	mg/L	0.0050	1	02/04/21 10:04	02/07/21 17:09	7440-48-4	
Molybdenum	ND	mg/L	0.010	1	02/04/21 10:04	02/07/21 17:09	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**30.0**	mg/L	10.0	1		02/04/21 12:07		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	**16.7**	mg/L	5.0	1		02/05/21 23:01		
Alkalinity, Total as CaCO3	**16.7**	mg/L	5.0	1		02/05/21 23:01		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**6.1**	mg/L	1.0	1		02/05/21 10:38	16887-00-6	
Fluoride	ND	mg/L	0.10	1		02/05/21 10:38	16984-48-8	
Sulfate	**4.3**	mg/L	1.0	1		02/05/21 10:38	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 McDonough CCR-Ash Pond
Pace Project No.: 92519942

Sample: CR-0.2 **Lab ID: 92519942005** Collected: 02/02/21 14:21 Received: 02/03/21 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A							
	Pace Analytical Services - Peachtree Corners, GA							
Potassium	**2.8**	mg/L	0.20	1	02/04/21 09:45	02/05/21 18:58	7440-09-7	
Sodium	**6.8**	mg/L	1.0	1	02/04/21 09:45	02/05/21 18:58	7440-23-5	
Calcium	**5.0**	mg/L	1.0	1	02/04/21 09:45	02/05/21 18:58	7440-70-2	
Magnesium	**2.1**	mg/L	0.050	1	02/04/21 09:45	02/05/21 18:58	7439-95-4	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
	Pace Analytical Services - Peachtree Corners, GA							
Arsenic	ND	mg/L	0.0050	1	02/04/21 10:04	02/07/21 17:15	7440-38-2	
Beryllium	ND	mg/L	0.00050	1	02/04/21 10:04	02/07/21 17:15	7440-41-7	
Boron	ND	mg/L	0.040	1	02/04/21 10:04	02/07/21 17:15	7440-42-8	
Cobalt	ND	mg/L	0.0050	1	02/04/21 10:04	02/07/21 17:15	7440-48-4	
Molybdenum	ND	mg/L	0.010	1	02/04/21 10:04	02/07/21 17:15	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011							
	Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**38.0**	mg/L	10.0	1		02/04/21 12:07		
2320B Alkalinity	Analytical Method: SM 2320B-2011							
	Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	**17.2**	mg/L	5.0	1		02/05/21 23:10		
Alkalinity, Total as CaCO3	**17.2**	mg/L	5.0	1		02/05/21 23:10		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993							
	Pace Analytical Services - Asheville							
Chloride	**6.2**	mg/L	1.0	1		02/05/21 10:52	16887-00-6	
Fluoride	ND	mg/L	0.10	1		02/05/21 10:52	16984-48-8	
Sulfate	**4.3**	mg/L	1.0	1		02/05/21 10:52	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 McDonough CCR-Ash Pond
Pace Project No.: 92519942

Sample: CR-0.5 **Lab ID: 92519942006** Collected: 02/02/21 14:26 Received: 02/03/21 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A							
	Pace Analytical Services - Peachtree Corners, GA							
Potassium	**2.8**	mg/L	0.20	1	02/04/21 09:45	02/05/21 19:03	7440-09-7	
Sodium	**7.0**	mg/L	1.0	1	02/04/21 09:45	02/05/21 19:03	7440-23-5	
Calcium	**5.2**	mg/L	1.0	1	02/04/21 09:45	02/05/21 19:03	7440-70-2	
Magnesium	**2.1**	mg/L	0.050	1	02/04/21 09:45	02/05/21 19:03	7439-95-4	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
	Pace Analytical Services - Peachtree Corners, GA							
Arsenic	ND	mg/L	0.0050	1	02/04/21 10:04	02/07/21 17:20	7440-38-2	
Beryllium	ND	mg/L	0.00050	1	02/04/21 10:04	02/07/21 17:20	7440-41-7	
Boron	ND	mg/L	0.040	1	02/04/21 10:04	02/07/21 17:20	7440-42-8	
Cobalt	ND	mg/L	0.0050	1	02/04/21 10:04	02/07/21 17:20	7440-48-4	
Molybdenum	ND	mg/L	0.010	1	02/04/21 10:04	02/07/21 17:20	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011							
	Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**31.0**	mg/L	10.0	1		02/04/21 12:08		
2320B Alkalinity	Analytical Method: SM 2320B-2011							
	Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	**17.0**	mg/L	5.0	1		02/05/21 23:19		
Alkalinity, Total as CaCO3	**17.0**	mg/L	5.0	1		02/05/21 23:19		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993							
	Pace Analytical Services - Asheville							
Chloride	**6.2**	mg/L	1.0	1		02/05/21 11:06	16887-00-6	
Fluoride	ND	mg/L	0.10	1		02/05/21 11:06	16984-48-8	
Sulfate	**4.3**	mg/L	1.0	1		02/05/21 11:06	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 McDonough CCR-Ash Pond
Pace Project No.: 92519942

Sample: CR-0.8 **Lab ID: 92519942007** Collected: 02/02/21 14:30 Received: 02/03/21 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Potassium	**2.8**	mg/L	0.20	1	02/04/21 09:45	02/05/21 19:08	7440-09-7	
Sodium	**7.0**	mg/L	1.0	1	02/04/21 09:45	02/05/21 19:08	7440-23-5	
Calcium	**4.9**	mg/L	1.0	1	02/04/21 09:45	02/05/21 19:08	7440-70-2	
Magnesium	**2.1**	mg/L	0.050	1	02/04/21 09:45	02/05/21 19:08	7439-95-4	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Arsenic	ND	mg/L	0.0050	1	02/04/21 10:04	02/07/21 17:26	7440-38-2	
Beryllium	ND	mg/L	0.00050	1	02/04/21 10:04	02/07/21 17:26	7440-41-7	
Boron	ND	mg/L	0.040	1	02/04/21 10:04	02/07/21 17:26	7440-42-8	
Cobalt	ND	mg/L	0.0050	1	02/04/21 10:04	02/07/21 17:26	7440-48-4	
Molybdenum	ND	mg/L	0.010	1	02/04/21 10:04	02/07/21 17:26	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**30.0**	mg/L	10.0	1		02/04/21 12:08		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	**17.0**	mg/L	5.0	1		02/05/21 23:27		
Alkalinity, Total as CaCO3	**17.0**	mg/L	5.0	1		02/05/21 23:27		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**6.4**	mg/L	1.0	1		02/05/21 11:21	16887-00-6	
Fluoride	ND	mg/L	0.10	1		02/05/21 11:21	16984-48-8	
Sulfate	**4.5**	mg/L	1.0	1		02/05/21 11:21	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 McDonough CCR-Ash Pond
Pace Project No.: 92519942

Sample: CR-0.1 **Lab ID: 92519942008** Collected: 02/02/21 14:00 Received: 02/03/21 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Potassium	**2.8**	mg/L	0.20	1	02/04/21 09:45	02/05/21 19:13	7440-09-7	
Sodium	**7.0**	mg/L	1.0	1	02/04/21 09:45	02/05/21 19:13	7440-23-5	
Calcium	**5.2**	mg/L	1.0	1	02/04/21 09:45	02/05/21 19:13	7440-70-2	
Magnesium	**2.1**	mg/L	0.050	1	02/04/21 09:45	02/05/21 19:13	7439-95-4	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Arsenic	ND	mg/L	0.0050	1	02/04/21 10:04	02/07/21 17:32	7440-38-2	
Beryllium	ND	mg/L	0.00050	1	02/04/21 10:04	02/07/21 17:32	7440-41-7	
Boron	ND	mg/L	0.040	1	02/04/21 10:04	02/07/21 17:32	7440-42-8	
Cobalt	ND	mg/L	0.0050	1	02/04/21 10:04	02/07/21 17:32	7440-48-4	
Molybdenum	ND	mg/L	0.010	1	02/04/21 10:04	02/07/21 17:32	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**25.0**	mg/L	10.0	1		02/04/21 12:09		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	**20.7**	mg/L	5.0	1		02/05/21 23:34		
Alkalinity, Total as CaCO3	**20.7**	mg/L	5.0	1		02/05/21 23:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	**6.6**	mg/L	1.0	1		02/05/21 11:35	16887-00-6	
Fluoride	ND	mg/L	0.10	1		02/05/21 11:35	16984-48-8	
Sulfate	**4.8**	mg/L	1.0	1		02/05/21 11:35	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 McDonough CCR-Ash Pond
Pace Project No.: 92519942

QC Batch: 597431
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92519942001, 92519942002, 92519942003, 92519942004, 92519942005, 92519942006, 92519942007, 92519942008

METHOD BLANK: 3150491 Matrix: Water
Associated Lab Samples: 92519942001, 92519942002, 92519942003, 92519942004, 92519942005, 92519942006, 92519942007, 92519942008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	02/05/21 18:05	
Magnesium	mg/L	ND	0.050	02/05/21 18:05	
Potassium	mg/L	ND	0.20	02/05/21 18:05	
Sodium	mg/L	ND	1.0	02/05/21 18:05	

LABORATORY CONTROL SAMPLE: 3150492

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	102	80-120	
Magnesium	mg/L	1	0.95	95	80-120	
Potassium	mg/L	1	1.1	115	80-120	
Sodium	mg/L	1	1.1	111	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3150493 3150494

Parameter	Units	92519942001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	5.3	1	1	6.2	6.3	92	103	75-125	2	20	
Magnesium	mg/L	2.1	1	1	3.0	3.1	95	97	75-125	1	20	
Potassium	mg/L	2.8	1	1	3.9	3.9	107	109	75-125	0	20	
Sodium	mg/L	7.0	1	1	8.0	8.1	99	112	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 McDonough CCR-Ash Pond
Pace Project No.: 92519942

QC Batch: 597433
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92519942001, 92519942002, 92519942003, 92519942004, 92519942005, 92519942006, 92519942007, 92519942008

METHOD BLANK: 3150562 Matrix: Water
Associated Lab Samples: 92519942001, 92519942002, 92519942003, 92519942004, 92519942005, 92519942006, 92519942007, 92519942008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	02/07/21 14:46	
Beryllium	mg/L	ND	0.00050	02/07/21 14:46	
Boron	mg/L	ND	0.040	02/07/21 14:46	
Cobalt	mg/L	ND	0.0050	02/07/21 14:46	
Molybdenum	mg/L	ND	0.010	02/07/21 14:46	

LABORATORY CONTROL SAMPLE: 3150563

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.1	0.099	99	80-120	
Beryllium	mg/L	0.1	0.10	101	80-120	
Boron	mg/L	1	1.0	100	80-120	
Cobalt	mg/L	0.1	0.098	98	80-120	
Molybdenum	mg/L	0.1	0.099	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3150564 3150565

Parameter	Units	92519266022 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	1.4J ug/L	0.1	0.1	0.10	0.10	101	100	75-125	1	20	
Beryllium	mg/L	ND	0.1	0.1	0.098	0.10	98	101	75-125	3	20	
Boron	mg/L	587 ug/L	1	1	1.6	1.5	97	96	75-125	1	20	
Cobalt	mg/L	1.4J ug/L	0.1	0.1	0.10	0.096	99	95	75-125	5	20	
Molybdenum	mg/L	14.0 ug/L	0.1	0.1	0.12	0.12	103	101	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(770)734-4200

QUALITY CONTROL DATA

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92519942

QC Batch: 597549 | Analysis Method: SM 2450C-2011
QC Batch Method: SM 2450C-2011 | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92519942001, 92519942002, 92519942003, 92519942004, 92519942005, 92519942006, 92519942007, 92519942008

METHOD BLANK: 3150931 Matrix: Water
Associated Lab Samples: 92519942001, 92519942002, 92519942003, 92519942004, 92519942005, 92519942006, 92519942007, 92519942008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	02/04/21 12:04	

LABORATORY CONTROL SAMPLE: 3150932

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	387	97	84-108	

SAMPLE DUPLICATE: 3150933

Parameter	Units	92519931002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	45.0	43.0	5	10	

SAMPLE DUPLICATE: 3150934

Parameter	Units	92519942006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	31.0	33.0	6	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 McDonough CCR-Ash Pond
Pace Project No.: 92519942

QC Batch: 598016
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92519942001, 92519942002, 92519942003, 92519942004, 92519942005, 92519942006, 92519942007, 92519942008

METHOD BLANK: 3153367 Matrix: Water
Associated Lab Samples: 92519942001, 92519942002, 92519942003, 92519942004, 92519942005, 92519942006, 92519942007, 92519942008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	02/05/21 20:00	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	02/05/21 20:00	

LABORATORY CONTROL SAMPLE: 3153368

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	52.4	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3153369 3153370

Parameter	Units	92518671027 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	160	50	50	207	213	95	107	80-120	3	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3153371 3153372

Parameter	Units	92519484005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	21.3	50	50	73.0	73.4	103	104	80-120	0	25	

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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 McDonough CCR-Ash Pond
Pace Project No.: 92519942

QC Batch: 597589
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92519942001, 92519942002, 92519942003, 92519942004, 92519942005, 92519942006, 92519942007, 92519942008

METHOD BLANK: 3151020 Matrix: Water
Associated Lab Samples: 92519942001, 92519942002, 92519942003, 92519942004, 92519942005, 92519942006, 92519942007, 92519942008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	02/05/21 08:05	
Fluoride	mg/L	ND	0.10	02/05/21 08:05	
Sulfate	mg/L	ND	1.0	02/05/21 08:05	

LABORATORY CONTROL SAMPLE: 3151021

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	47.2	94	90-110	
Fluoride	mg/L	2.5	2.4	97	90-110	
Sulfate	mg/L	50	47.6	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3151022 3151023

Parameter	Units	92519942001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	6.3	50	50	52.7	53.2	93	94	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.4	2.4	93	95	90-110	2	10	
Sulfate	mg/L	4.5	50	50	51.7	51.9	94	95	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3151024 3151025

Parameter	Units	92519959003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	9.9	50	50	57.4	57.2	95	95	90-110	0	10	
Fluoride	mg/L	0.17	2.5	2.5	2.5	2.5	94	94	90-110	0	10	
Sulfate	mg/L	16.5	50	50	64.4	64.3	96	96	90-110	0	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(770)734-4200

QUALIFIERS

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92519942

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant McDonough CCR-Ash Pond
Pace Project No.: 92519942

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92519942001	**CR+0.4**	EPA 3010A	597431	EPA 6010D	597695
92519942002	**CR+0.2**	EPA 3010A	597431	EPA 6010D	597695
92519942003	**DW_US**	EPA 3010A	597431	EPA 6010D	597695
92519942004	**DW_DS**	EPA 3010A	597431	EPA 6010D	597695
92519942005	**CR-0.2**	EPA 3010A	597431	EPA 6010D	597695
92519942006	**CR-0.5**	EPA 3010A	597431	EPA 6010D	597695
92519942007	**CR-0.8**	EPA 3010A	597431	EPA 6010D	597695
92519942008	**CR-0.1**	EPA 3010A	597431	EPA 6010D	597695
92519942001	**CR+0.4**	EPA 3005A	597433	EPA 6020B	597742
92519942002	**CR+0.2**	EPA 3005A	597433	EPA 6020B	597742
92519942003	**DW_US**	EPA 3005A	597433	EPA 6020B	597742
92519942004	**DW_DS**	EPA 3005A	597433	EPA 6020B	597742
92519942005	**CR-0.2**	EPA 3005A	597433	EPA 6020B	597742
92519942006	**CR-0.5**	EPA 3005A	597433	EPA 6020B	597742
92519942007	**CR-0.8**	EPA 3005A	597433	EPA 6020B	597742
92519942008	**CR-0.1**	EPA 3005A	597433	EPA 6020B	597742
92519942001	**CR+0.4**	SM 2450C-2011	597549		
92519942002	**CR+0.2**	SM 2450C-2011	597549		
92519942003	**DW_US**	SM 2450C-2011	597549		
92519942004	**DW_DS**	SM 2450C-2011	597549		
92519942005	**CR-0.2**	SM 2450C-2011	597549		
92519942006	**CR-0.5**	SM 2450C-2011	597549		
92519942007	**CR-0.8**	SM 2450C-2011	597549		
92519942008	**CR-0.1**	SM 2450C-2011	597549		
92519942001	**CR+0.4**	SM 2320B-2011	598016		
92519942002	**CR+0.2**	SM 2320B-2011	598016		
92519942003	**DW_US**	SM 2320B-2011	598016		
92519942004	**DW_DS**	SM 2320B-2011	598016		
92519942005	**CR-0.2**	SM 2320B-2011	598016		
92519942006	**CR-0.5**	SM 2320B-2011	598016		
92519942007	**CR-0.8**	SM 2320B-2011	598016		
92519942008	**CR-0.1**	SM 2320B-2011	598016		
92519942001	**CR+0.4**	EPA 300.0 Rev 2.1 1993	597589		
92519942002	**CR+0.2**	EPA 300.0 Rev 2.1 1993	597589		
92519942003	**DW_US**	EPA 300.0 Rev 2.1 1993	597589		
92519942004	**DW_DS**	EPA 300.0 Rev 2.1 1993	597589		
92519942005	**CR-0.2**	EPA 300.0 Rev 2.1 1993	597589		
92519942006	**CR-0.5**	EPA 300.0 Rev 2.1 1993	597589		
92519942007	**CR-0.8**	EPA 300.0 Rev 2.1 1993	597589		
92519942008	**CR-0.1**	EPA 300.0 Rev 2.1 1993	597589		

REPORT OF LABORATORY ANALYSIS

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : Of

Section A – Required Client Information:		Section B – Required Project Information:		Section C – Invoice Information:	
Company:	ARCADIS - Atlanta	Report To:	Warren Johnson	Attention:	
Address:	2839 Paces Ferry Rd	Copy To:	Joju Abraham and Ben Hodges	Company Name:	GPC
	Atlanta, GA 30339			Address:	
Email:	warren.johnson@arcadis.com	Purchase Order #:	SCS10382775	Pace Quote:	
Phone:	(770)384-6584 Fax	Project Name:	Plant McDonough/CCR Ash-Pond Closure	Pace Project Manager:	maiya.parks@pacelabs.com,
Requested Due Date:	7-Day TAT	Project #:		Pace Profile #:	12696

Regulatory Agency	State / Location
	GA

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique MATRIX: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS	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	Analysis Test Y/N	Alkalinity (Total/BiCarb), Cl	TDS	App IV Metals (see comments	App III Constituents	Residual Chlorine (Y/N)
1	CR+0.4	WT		2.2.21	13:44													X	X	X	X			
2	CR+0.2	WT		2.2.21	13:51													X	X	X	X			
3	DEWATERING UP STREAM	WT		2.2.21	14.12													X	X	X	X			
4	DEWATERING DOWN STREAM	WT		2.2.21	14:08													X	X	X	X			
5	CR-0.2	WT		2 2 21	14-21													X	X	X	X			
6	CR-0.5	WT		2 2 .21	14:26													X	X	X	X			
7	CR0 0.8	WT		2.2.21	14:30													X	X	X	X			
8	CR-0.1	WT		2.2.21	14:00													X	X	X	X			
9																								
10																								
11																								
12																								

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)
Requested Analysis - Major Cations, Arsenic, Beryllium, Cobalt & Mo Only		2.2.2021	0852	Kelly Pace	2/3/21	0850	1.6	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed:

WO# : 92519942

92519942

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: Arcadis - Atlanta

Project #

WO#: 92519942
PM: MP Due Date: 02/08/21
CLIENT: GA-ArcadAtl

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

Custody Seal Present? ☐ Yes ☑ No Seals Intact? ☐ Yes ☐ No

Date/Initials Person Examining Contents: 2/3/21 KRW

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

Thermometer: ☑ IR Gun ID: THR230 Type of Ice: ☑ Wet ☐ Blue ☐ None

Cooler Temp: 1.6 Correction Factor: Add/Subtract (°C) 0

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 1.6

USDA Regulated Soil ☑ N/A, water sample)
Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☐ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☐ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: WT				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: _____ **Date:** _____

Project Manager SRF Review: _____ **Date:** _____

APPENDIX A

Laboratory Analytical Data March and April 2021

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

May 13, 2021

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

RE: Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92524830

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between March 02, 2021 and March 12, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

cc: Stephen Benda
Daniela Herrera, Golder
Ben Hodges, Georgia Power
Kristen Jurinko
J. Shelby Mobley
Charles Norton, Southern Company
Ms. Lauren Petty, Southern Company
Dawn Prell, Golder Associates Inc.
Tim Richards, Golder Associates - Atlanta

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92524830

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

Pace Analytical Services Peachtree Corners
110 Technology Pkwy, Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001

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

SAMPLE SUMMARY

Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92524830

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92524830001	**DGWA-70A**	Water	03/01/21 13:22	03/02/21 08:45
92524830002	**DGWA-71**	Water	03/01/21 15:18	03/02/21 08:45
92524830003	**DGWA-53**	Water	03/12/21 12:28	03/12/21 17:23

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Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92524830

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92524830001	**DGWA-70A**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	JLH	3
92524830002	**DGWA-71**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	JLH	3
92524830003	**DGWA-53**	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	JLH	3

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte
PASI-GA = Pace Analytical Services - Peachtree Corners, GA

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

ANALYTICAL RESULTS

Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92524830

Sample: DGWA-70A **Lab ID: 92524830001** Collected: 03/01/21 13:22 Received: 03/02/21 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:53		
pH	**5.43**	Std. Units			1		03/22/21 11:53		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**4.1**	mg/L	1.0	0.070	1	03/03/21 10:17	03/03/21 17:30	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	03/03/21 10:24	03/03/21 17:00	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	03/03/21 10:24	03/03/21 17:00	7440-38-2	
Barium	**0.042**	mg/L	0.0050	0.00071	1	03/03/21 10:24	03/03/21 17:00	7440-39-3	
Beryllium	**0.00012J**	mg/L	0.00050	0.000046	1	03/03/21 10:24	03/03/21 17:00	7440-41-7	
Boron	ND	mg/L	0.040	0.0052	1	03/03/21 10:24	03/03/21 17:00	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	03/03/21 10:24	03/03/21 17:00	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	03/03/21 10:24	03/03/21 17:00	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	03/03/21 10:24	03/03/21 17:00	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	03/03/21 10:24	03/03/21 17:00	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	03/03/21 10:24	03/03/21 17:00	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	03/03/21 10:24	03/03/21 17:00	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	03/03/21 10:24	03/04/21 13:34	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	03/03/21 10:24	03/03/21 17:00	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	03/04/21 14:15	03/05/21 10:48	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**25.0**	mg/L	10.0	10.0	1		03/02/21 15:43		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**1.9**	mg/L	1.0	0.60	1		03/06/21 14:50	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/06/21 14:50	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		03/06/21 14:50	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92524830

Sample: DGWA-71 **Lab ID: 92524830002** Collected: 03/01/21 15:18 Received: 03/02/21 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:53		
pH	**5.80**	Std. Units			1		03/22/21 11:53		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**5.9**	mg/L	1.0	0.070	1	03/03/21 10:17	03/03/21 17:34	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.0019J**	mg/L	0.0030	0.00028	1	03/03/21 10:24	03/03/21 17:23	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	03/03/21 10:24	03/03/21 17:23	7440-38-2	
Barium	**0.028**	mg/L	0.0050	0.00071	1	03/03/21 10:24	03/03/21 17:23	7440-39-3	
Beryllium	**0.00011J**	mg/L	0.00050	0.000046	1	03/03/21 10:24	03/03/21 17:23	7440-41-7	
Boron	**0.0054J**	mg/L	0.040	0.0052	1	03/03/21 10:24	03/03/21 17:23	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	03/03/21 10:24	03/03/21 17:23	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	03/03/21 10:24	03/03/21 17:23	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	03/03/21 10:24	03/03/21 17:23	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	03/03/21 10:24	03/03/21 17:23	7439-92-1	
Lithium	**0.0012J**	mg/L	0.030	0.00081	1	03/03/21 10:24	03/03/21 17:23	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	03/03/21 10:24	03/03/21 17:23	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	03/03/21 10:24	03/04/21 13:52	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	03/03/21 10:24	03/03/21 17:23	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	**0.000090J**	mg/L	0.00020	0.000078	1	03/04/21 14:15	03/05/21 10:50	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**62.0**	mg/L	10.0	10.0	1		03/02/21 15:43		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**3.9**	mg/L	1.0	0.60	1		03/06/21 15:04	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/06/21 15:04	16984-48-8	
Sulfate	**5.2**	mg/L	1.0	0.50	1		03/06/21 15:04	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92524830

Sample: DGWA-53 **Lab ID: 92524830003** Collected: 03/12/21 12:28 Received: 03/12/21 17:23 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:53		
pH	**6.38**	Std. Units			1		03/22/21 11:53		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**18.4**	mg/L	1.0	0.070	1	03/18/21 12:20	03/20/21 02:21	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	03/18/21 12:57	03/18/21 21:05	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	03/18/21 12:57	03/18/21 21:05	7440-38-2	
Barium	**0.076**	mg/L	0.0050	0.00071	1	03/18/21 12:57	03/18/21 21:05	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	03/18/21 12:57	03/18/21 21:05	7440-41-7	
Boron	**0.064**	mg/L	0.040	0.0052	1	03/18/21 12:57	03/18/21 21:05	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	03/18/21 12:57	03/18/21 21:05	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	03/18/21 12:57	03/18/21 21:05	7440-47-3	
Cobalt	**0.0078**	mg/L	0.0050	0.00038	1	03/18/21 12:57	03/18/21 21:05	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	03/18/21 12:57	03/18/21 21:05	7439-92-1	
Lithium	**0.0083J**	mg/L	0.030	0.00081	1	03/18/21 12:57	03/18/21 21:05	7439-93-2	
Molybdenum	**0.018**	mg/L	0.010	0.00069	1	03/18/21 12:57	03/18/21 21:05	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	03/18/21 12:57	03/18/21 21:05	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	03/18/21 12:57	03/18/21 21:05	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	03/25/21 08:05	03/25/21 13:38	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**124**	mg/L	10.0	10.0	1		03/17/21 17:40		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**2.0**	mg/L	1.0	0.60	1		03/20/21 05:13	16887-00-6	
Fluoride	**0.076J**	mg/L	0.10	0.050	1		03/20/21 05:13	16984-48-8	
Sulfate	**8.8**	mg/L	1.0	0.50	1		03/20/21 05:13	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: MCDONOUGH UPGRADIENT
Pace Project No.: 92524830

QC Batch: 603832
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92524830001, 92524830002

METHOD BLANK: 3180960 Matrix: Water
Associated Lab Samples: 92524830001, 92524830002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	03/03/21 17:08	

LABORATORY CONTROL SAMPLE: 3180961

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3180962 3180963

Parameter	Units	92524853001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	23.3	1	1	25.2	25.9	190	266	75-125	3	20	M1

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92524830

QC Batch: 607584
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92524830003

METHOD BLANK: 3200680 Matrix: Water
Associated Lab Samples: 92524830003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	03/20/21 00:30	

LABORATORY CONTROL SAMPLE: 3200681

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.1	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3200682 3200683

Parameter	Units	92524632021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	35.7	1	1	39.0	38.7	328	296	75-125	1	20	M1

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92524830

QC Batch: 603841
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92524830001, 92524830002

METHOD BLANK: 3181014 Matrix: Water
Associated Lab Samples: 92524830001, 92524830002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	03/03/21 16:48	
Arsenic	mg/L	ND	0.0050	0.00078	03/03/21 16:48	
Barium	mg/L	ND	0.0050	0.00071	03/03/21 16:48	
Beryllium	mg/L	ND	0.00050	0.000046	03/03/21 16:48	
Boron	mg/L	ND	0.040	0.0052	03/03/21 16:48	
Cadmium	mg/L	ND	0.00050	0.00012	03/03/21 16:48	
Chromium	mg/L	ND	0.0050	0.00055	03/03/21 16:48	
Cobalt	mg/L	ND	0.0050	0.00038	03/03/21 16:48	
Lead	mg/L	ND	0.0010	0.000036	03/03/21 16:48	
Lithium	mg/L	ND	0.030	0.00081	03/03/21 16:48	
Molybdenum	mg/L	ND	0.010	0.00069	03/03/21 16:48	
Selenium	mg/L	ND	0.0050	0.0016	03/04/21 13:23	
Thallium	mg/L	ND	0.0010	0.00014	03/03/21 16:48	

LABORATORY CONTROL SAMPLE: 3181015

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.11	105	80-120	
Arsenic	mg/L	0.1	0.095	95	80-120	
Barium	mg/L	0.1	0.10	100	80-120	
Beryllium	mg/L	0.1	0.094	94	80-120	
Boron	mg/L	1	0.98	98	80-120	
Cadmium	mg/L	0.1	0.098	98	80-120	
Chromium	mg/L	0.1	0.10	100	80-120	
Cobalt	mg/L	0.1	0.097	97	80-120	
Lead	mg/L	0.1	0.094	94	80-120	
Lithium	mg/L	0.1	0.098	98	80-120	
Molybdenum	mg/L	0.1	0.098	98	80-120	
Selenium	mg/L	0.1	0.096	96	80-120	
Thallium	mg/L	0.1	0.093	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3181016 3181017

Parameter	Units	92524830001 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	0.10	106	105	75-125	1	20	
Arsenic	mg/L	ND	0.1	0.1	0.098	0.095	98	95	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: MCDONOUGH UPGRADIENT
Pace Project No.: 92524830

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3181016 3181017

Parameter	Units	92524830001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.042	0.1	0.1	0.15	0.14	104	100	75-125	3	20	
Beryllium	mg/L	0.00012J	0.1	0.1	0.093	0.094	93	94	75-125	1	20	
Boron	mg/L	ND	1	1	0.96	0.96	96	96	75-125	0	20	
Cadmium	mg/L	ND	0.1	0.1	0.10	0.097	100	97	75-125	3	20	
Chromium	mg/L	ND	0.1	0.1	0.10	0.10	103	99	75-125	3	20	
Cobalt	mg/L	ND	0.1	0.1	0.10	0.098	102	98	75-125	4	20	
Lead	mg/L	ND	0.1	0.1	0.095	0.092	95	92	75-125	3	20	
Lithium	mg/L	ND	0.1	0.1	0.099	0.098	99	97	75-125	2	20	
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.098	100	98	75-125	2	20	
Selenium	mg/L	ND	0.1	0.1	0.098	0.091	98	91	75-125	7	20	
Thallium	mg/L	ND	0.1	0.1	0.093	0.090	93	90	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: MCDONOUGH UPGRADIENT
Pace Project No.: 92524830

QC Batch: 607620
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92524830003

METHOD BLANK: 3200852 Matrix: Water
Associated Lab Samples: 92524830003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	03/18/21 19:10	
Arsenic	mg/L	ND	0.0050	0.00078	03/18/21 19:10	
Barium	mg/L	ND	0.0050	0.00071	03/18/21 19:10	
Beryllium	mg/L	ND	0.00050	0.000046	03/18/21 19:10	
Boron	mg/L	ND	0.040	0.0052	03/18/21 19:10	
Cadmium	mg/L	ND	0.00050	0.00012	03/18/21 19:10	
Chromium	mg/L	ND	0.0050	0.00055	03/18/21 19:10	
Cobalt	mg/L	ND	0.0050	0.00038	03/18/21 19:10	
Lead	mg/L	ND	0.0010	0.000036	03/18/21 19:10	
Lithium	mg/L	ND	0.030	0.00081	03/18/21 19:10	
Molybdenum	mg/L	ND	0.010	0.00069	03/18/21 19:10	
Selenium	mg/L	ND	0.0050	0.0016	03/18/21 19:10	
Thallium	mg/L	ND	0.0010	0.00014	03/18/21 19:10	

LABORATORY CONTROL SAMPLE: 3200853

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	0.097	97	80-120	
Barium	mg/L	0.1	0.097	97	80-120	
Beryllium	mg/L	0.1	0.098	98	80-120	
Boron	mg/L	1	0.97	97	80-120	
Cadmium	mg/L	0.1	0.099	99	80-120	
Chromium	mg/L	0.1	0.097	97	80-120	
Cobalt	mg/L	0.1	0.097	97	80-120	
Lead	mg/L	0.1	0.099	99	80-120	
Lithium	mg/L	0.1	0.097	97	80-120	
Molybdenum	mg/L	0.1	0.098	98	80-120	
Selenium	mg/L	0.1	0.093	93	80-120	
Thallium	mg/L	0.1	0.098	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3200854 3200855

Parameter	Units	92524632021 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	2	20	
Arsenic	mg/L	ND	0.1	0.1	0.10	0.10	100	102	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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(770)734-4200

QUALITY CONTROL DATA

Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92524830

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3200854 3200855

Parameter	Units	92524632021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.028	0.1	0.1	0.13	0.13	100	101	75-125	1	20	
Beryllium	mg/L	ND	0.1	0.1	0.098	0.10	98	103	75-125	5	20	
Boron	mg/L	0.0098J	1	1	1.0	1.1	99	104	75-125	5	20	
Cadmium	mg/L	ND	0.1	0.1	0.10	0.11	103	106	75-125	3	20	
Chromium	mg/L	0.00090J	0.1	0.1	0.10	0.11	103	107	75-125	3	20	
Cobalt	mg/L	ND	0.1	0.1	0.10	0.11	102	107	75-125	5	20	
Lead	mg/L	ND	0.1	0.1	0.099	0.10	99	100	75-125	1	20	
Lithium	mg/L	ND	0.1	0.1	0.098	0.10	98	102	75-125	4	20	
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.11	103	105	75-125	2	20	
Selenium	mg/L	ND	0.1	0.1	0.097	0.098	97	98	75-125	2	20	
Thallium	mg/L	ND	0.1	0.1	0.096	0.099	96	99	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

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Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92524830

QC Batch: 604308
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92524830001, 92524830002

METHOD BLANK: 3183676 Matrix: Water
Associated Lab Samples: 92524830001, 92524830002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.000078	03/05/21 10:07	

LABORATORY CONTROL SAMPLE: 3183677

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0023	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3183678 3183679

Parameter	Units	92524632013 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	0.0026	0.0026	102	102	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92524830

QC Batch: 609136
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92524830003

METHOD BLANK: 3208288 Matrix: Water
Associated Lab Samples: 92524830003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.000078	03/25/21 13:28	

LABORATORY CONTROL SAMPLE: 3208289

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0024	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3208290 3208291

Parameter	Units	92528826006 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	0.0026	0.0023	102	92	75-125	10	20	

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REPORT OF LABORATORY ANALYSIS

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Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92524830

QC Batch: 603554
QC Batch Method: SM 2540C-2011
Analysis Method: SM 2540C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92524830001, 92524830002

METHOD BLANK: 3179650 Matrix: Water
Associated Lab Samples: 92524830001, 92524830002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	03/02/21 15:40	

LABORATORY CONTROL SAMPLE: 3179651

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	393	98	90-111	

SAMPLE DUPLICATE: 3179652

Parameter	Units	92524632011 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	194	196	1	10	

SAMPLE DUPLICATE: 3179653

Parameter	Units	92524632016 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	128	129	1	10	

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QUALITY CONTROL DATA

Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92524830

QC Batch: 607316
QC Batch Method: SM 2540C-2011
Analysis Method: SM 2540C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92524830003

METHOD BLANK: 3199480 Matrix: Water
Associated Lab Samples: 92524830003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	03/17/21 17:40	

LABORATORY CONTROL SAMPLE: 3199481

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	400	100	90-111	

SAMPLE DUPLICATE: 3199482

Parameter	Units	92527256010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	279	278	0	10	

SAMPLE DUPLICATE: 3199483

Parameter	Units	92526996006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	255	258	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92524830

QC Batch: 604543
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92524830001, 92524830002

METHOD BLANK: 3184704 Matrix: Water
Associated Lab Samples: 92524830001, 92524830002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	03/06/21 12:54	
Fluoride	mg/L	ND	0.10	0.050	03/06/21 12:54	
Sulfate	mg/L	ND	1.0	0.50	03/06/21 12:54	

LABORATORY CONTROL SAMPLE: 3184705

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	48.2	96	90-110	
Fluoride	mg/L	2.5	2.5	101	90-110	
Sulfate	mg/L	50	48.7	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3184706 3184707

Parameter	Units	92523440025 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2.6	50	50	50.5	51.7	96	98	90-110	2	10	
Fluoride	mg/L	0.13	2.5	2.5	2.6	2.7	100	102	90-110	2	10	
Sulfate	mg/L	ND	50	50	48.5	49.7	96	99	90-110	2	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3184708 3184709

Parameter	Units	92524853002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	8.3	50	50	57.2	57.0	98	97	90-110	0	10	
Fluoride	mg/L	0.26	2.5	2.5	2.8	2.8	101	101	90-110	0	10	
Sulfate	mg/L	42.4	50	50	91.1	90.9	97	97	90-110	0	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92524830

QC Batch: 607751
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92524830003

METHOD BLANK: 3201757 Matrix: Water
Associated Lab Samples: 92524830003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	03/19/21 17:15	
Fluoride	mg/L	ND	0.10	0.050	03/19/21 17:15	
Sulfate	mg/L	ND	1.0	0.50	03/19/21 17:15	

LABORATORY CONTROL SAMPLE: 3201758

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.2	100	90-110	
Fluoride	mg/L	2.5	2.3	91	90-110	
Sulfate	mg/L	50	50.2	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3201759 3201760

Parameter	Units	92528475003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2510	50	50	2520	2520	27	27	90-110	0	10	M6
Fluoride	mg/L	4.6	2.5	2.5	12.1	11.9	302	294	90-110	2	10	M6
Sulfate	mg/L	1530	50	50	1510	1480	-49	-112	90-110	2	10	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3201761 3201762

Parameter	Units	92527256007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	5.9	50	50	58.9	57.5	106	103	90-110	2	10	
Fluoride	mg/L	ND	2.5	2.5	2.3	2.3	91	90	90-110	1	10	
Sulfate	mg/L	50.4	50	50	102	101	103	101	90-110	1	10	

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REPORT OF LABORATORY ANALYSIS

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Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: MCDONOUGH UPGRADIENT
Pace Project No.: 92524830

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
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: MCDONOUGH UPGRADIENT
Pace Project No.: 92524830

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92524830001	**DGWA-70A**				
92524830002	**DGWA-71**				
92524830003	**DGWA-53**				
92524830001	**DGWA-70A**	EPA 3010A	603832	EPA 6010D	603942
92524830002	**DGWA-71**	EPA 3010A	603832	EPA 6010D	603942
92524830003	**DGWA-53**	EPA 3010A	607584	EPA 6010D	607676
92524830001	**DGWA-70A**	EPA 3005A	603841	EPA 6020B	603947
92524830002	**DGWA-71**	EPA 3005A	603841	EPA 6020B	603947
92524830003	**DGWA-53**	EPA 3005A	607620	EPA 6020B	607757
92524830001	**DGWA-70A**	EPA 7470A	604308	EPA 7470A	604504
92524830002	**DGWA-71**	EPA 7470A	604308	EPA 7470A	604504
92524830003	**DGWA-53**	EPA 7470A	609136	EPA 7470A	609168
92524830001	**DGWA-70A**	SM 2540C-2011	603554		
92524830002	**DGWA-71**	SM 2540C-2011	603554		
92524830003	**DGWA-53**	SM 2540C-2011	607316		
92524830001	**DGWA-70A**	EPA 300.0 Rev 2.1 1993	604543		
92524830002	**DGWA-71**	EPA 300.0 Rev 2.1 1993	604543		
92524830003	**DGWA-53**	EPA 300.0 Rev 2.1 1993	607751		

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GA power - coal combustion residual

Project #: **WO# : 92524830**

92524830

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

Custody Seal Present? ☐ Yes ☑ No Seals Intact? ☐ Yes ☐ No

Date/Initials Person Examining Contents: MT 3/2/21

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☑ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

Thermometer: ☐ IR Gun ID: 293

Type of Ice: ☑ Wet ☐ Blue ☐ None

Cooler Temp: 1.1 Correction Factor: Add/Subtract (°C) +0.4

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 1.5

USDA Regulated Soil (☐ N/A, water sample)
Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☑ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☑ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☑ Yes	☐ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☑ No	☐ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: WT				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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: Joju Abraham	Attention:
Address: 2480 Maner Road	Copy To: Golder	Company Name:
Atlanta, GA 30339		Address:
Email: jabraham@southernco.com	Purchase Order #:	Pace Quote:
Phone: (404) 506-7230 Fax:	Project Name: Plant McDonough Upgradient	Pace Project Manager: Kevin Herring
Requested Due Date: 10 Day TAT	Project #: 1808-0021	Pace Profile #:

Regulatory Agency: State / Location: GA

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per Box. (A-Z, 0-9 / , -) Sample IDs must be unique)	MATRIX CODE (Drinking Water: DW; Water: WT; Waste Water: WW; Product: P; Soil/Solid: SL; Oil: OL; Wipe: WP; Air: AR; Tissue: TS; Other: OT)	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4									Y/N	Analytes Test	N	N	N	N							Residual Chlorine (Y/N)	9252630
																				Radium 226 and Radium 228 (Combined)	Chloride, Fluoride, Sulfate	Sulfate 2540/2320	Total Dissolved Solid (TDS)								
2	DGWA-70A	WT	G	3/1/2021	1522		3	2	3											X	X	X	X								pH 5.43
3	DGWA-71	WT	G	3/1/2021	1516		3	2	3											X	X	X	X								pH 5.90
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															
13																															
14																															
15																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
App III + Radium + As, B, Ba, Be, Cd, Co, Cr, F, Pb, Li, Mo, Se, Tl	JAG/Golder	3/2/21	820	T Elrod	3-2-21	820				
	T Elrod	3/2/21	845	Mel/Mark	3/2/21	845	1.1	4	14	4

DATE Signed:

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A
Required Client Information:

Company:	Georgia Power - Coal Combustion Residuals
Address:	2480 Maner Road
	Atlanta, GA 30339
Email:	pbraham@southernco.com
Phone:	(404) 506-7239
Fax:	
Requested Due Date:	10 Day TAT

Section B
Required Project Information:

Report To:	John Abraham
Copy To:	Golder
Purchase Order #:	
Project Name:	Plant McDonough Upgradient
Project #:	1668456021

Section C
Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	

Regulatory Agency: [ ]

State / Location: GA

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample IDs must be unique

Matrix codes: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	Preservatives: H2SO4	Preservatives:	Analyses Test Y/N	Requested Analysis Filtered (Y/N): Metals App III and App IV Total	Requested Analysis Filtered (Y/N): Chloride, Fluoride, Sulfate	Requested Analysis Filtered (Y/N): Radium 226/228	Requested Analysis Filtered (Y/N): Total Dissolved Solid	Residual Chlorine (Y/N)	
1	DGWA-53	WT	G	3/12/2021	1226		5	2	3			X	X	X	X		pH: 6.38
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
App III / IV Metals = As, Ba, B, Be, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl, Hg		3-12-21	1703		3/12/21	1723	

DATE Signed:

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

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

May 13, 2021

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

RE: Project: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92524823

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between March 02, 2021 and March 12, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Greensburg

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

Sincerely,

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

Enclosures

cc: Stephen Benda
Daniela Herrera, Golder
Ben Hodges, Georgia Power
Kristen Jurinko
J. Shelby Mobley
Charles Norton, Southern Company
Ms. Lauren Petty, Southern Company
Dawn Prell, Golder Associates Inc.
Tim Richards, Golder Associates - Atlanta

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92524823

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

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

SAMPLE SUMMARY

Project: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92524823

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92524823001	**DGWA-70A**	Water	03/01/21 13:22	03/02/21 08:45
92524823002	**DGWA-71**	Water	03/01/21 15:18	03/02/21 08:45
92524823003	**DGWA-53**	Water	03/12/21 12:28	03/12/21 17:23

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

SAMPLE ANALYTE COUNT

Project: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92524823

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92524823001	**DGWA-70A**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92524823002	**DGWA-71**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92524823003	**DGWA-53**	EPA 9315	CLA	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92524823

Sample: DGWA-70A **Lab ID: 92524823001** Collected: 03/01/21 13:22 Received: 03/02/21 08:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.121 ± 0.162 (0.350) C:83% T:NA**	pCi/L	03/15/21 09:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.431 ± 0.387 (0.786) C:74% T:90%**	pCi/L	03/15/21 16:10	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.552 ± 0.549 (1.14)**	pCi/L	04/03/21 09:57	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: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92524823

Sample: DGWA-71 **Lab ID: 92524823002** Collected: 03/01/21 15:18 Received: 03/02/21 08:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0137 ± 0.136 (0.347) C:81% T:NA**	pCi/L	03/15/21 09:15	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.375 ± 0.408 (0.850) C:74% T:82%**	pCi/L	03/15/21 16:10	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.389 ± 0.544 (1.20)**	pCi/L	04/03/21 09:57	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: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92524823

Sample: DGWA-53 **Lab ID: 92524823003** Collected: 03/12/21 12:28 Received: 03/12/21 17:23 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.844 ± 0.326 (0.440) C:80% T:NA**	pCi/L	03/29/21 07:34	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.786 ± 0.571 (1.13) C:71% T:68%**	pCi/L	04/07/21 12:38	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.63 ± 0.897 (1.57)**	pCi/L	04/08/21 10:32	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: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92524823

QC Batch: 440194
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92524823003

METHOD BLANK: 2125114 Matrix: Water
Associated Lab Samples: 92524823003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.922 ± 0.466 (0.823) C:75% T:77%	pCi/L	04/07/21 12:38	

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92524823

QC Batch: 437599
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92524823001, 92524823002

METHOD BLANK: 2112389 Matrix: Water
Associated Lab Samples: 92524823001, 92524823002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.00470 ± 0.0712 (0.214) C:85% T:NA	pCi/L	03/15/21 09:18	

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92524823

QC Batch: 437641
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92524823001, 92524823002

METHOD BLANK: 2112538 Matrix: Water
Associated Lab Samples: 92524823001, 92524823002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.312 ± 0.330 (0.686) C:82% T:90%	pCi/L	03/15/21 16:07	

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: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92524823

QC Batch: 439773
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92524823003

METHOD BLANK: 2123469
Matrix: Water
Associated Lab Samples: 92524823003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0133 ± 0.113 (0.309) C:70% T:NA	pCi/L	03/29/21 07:58	

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: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92524823

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92524823

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92524823001	**DGWA-70A**	EPA 9315	437599		
92524823002	**DGWA-71**	EPA 9315	437599		
92524823003	**DGWA-53**	EPA 9315	439773		
92524823001	**DGWA-70A**	EPA 9320	437641		
92524823002	**DGWA-71**	EPA 9320	437641		
92524823003	**DGWA-53**	EPA 9320	440194		
92524823001	**DGWA-70A**	Total Radium Calculation	441689		
92524823002	**DGWA-71**	Total Radium Calculation	441689		
92524823003	**DGWA-53**	Total Radium Calculation	442420		

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GA power - coal combustion residual

Project #:

WO# : 92524823

92524823

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

Custody Seal Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☐ No

Date/Initials Person Examining Contents: MT 3/2/21

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☑ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

Thermometer: ☐ IR Gun ID: 233

Type of Ice: ☑ Wet ☐ Blue ☐ None

Cooler Temp: 1.1 **Correction Factor:** Add/Subtract (°C) +0.4

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 1.5

USDA Regulated Soil (☐ N/A, water sample)
Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☑ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☑ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☑ Yes	☐ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☑ No	☐ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: WT				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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:	Jonu Abraham	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Golder	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:		Pace Quote:	
Phone:	(404) 506-7239 Fax:	Project Name:	Plant McDonough Upgradient	Pace Project Manager:	Kevin Herring
Requested Due Date:	10 Day TAT	Project #:	156649521	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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	Preservatives: Ice	Preservatives: HNO3	Analyses Test: Y/N	Requested Analysis Filtered (Y/N): Metals App III and App IV Total	Chloride, Fluoride, Sulfate	Radium 226/228	Total Dissolved Solid (TDS)	Residual Chlorine (Y/N)	
		MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS										N	N	N	N		42524823
2	DGWA-70A	WT	G	3/1/2021	1322		5	2	3			X	X	X	X		pH 5.43
3	DGWA-71	WT	G	3/1/2021	1518		5	2	3			X	X	X	X		pH 5.80
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
*App III Metals = Al, Sb, B, Ba, Be, Ca, Cd, Cl, Cr, Co, Pb, Li, Mo, Se, Tl	JW/ Golder	3/2/21	820	TE/Rod	3-2-21	820
	TE/Rod	3/2/21	845	[illegible]	[illegible]	845

SAMPLE CONDITIONS				
TEMP in C	1.1			
Received on Ice (Y/N)	Y			
Custody Sealed Cooler (Y/N)	N			
Samples Intact (Y/N)	Y			

DATE Signed:

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A
Required Client Information:

Company:	Georgia Power - Coal Combustion Residuals
Address:	2480 Maner Road Atlanta, GA 30339
Email:	jabraham@southernco.com
Phone:	(404) 506-7239
Fax:	
Requested Due Date:	10 Day TAT

Section B
Required Project Information:

Report To:	Jolu Abraham
Copy To:	Golder
Purchase Order #:	
Project Name:	Plant McDonough Upgradient
Project #:	168849621

Section C
Invoice Information:

Attention:	ecsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	

Regulatory Agency	
State / Location	GA

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SLD; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved - Ice	Preservatives: HNO3	Requested Analysis Filtered (Y/N)	Analyses Test	Y/N	*Metals App III and App IV Total	Chloride, Fluoride, Sulfate	Radium 226/228	Total Dissolved Solid	Residual Chlorine (Y/N)	
2	DGWA-53	WT	G	3/12/2021	1228		5	2	3			N	N	N	N	N		pH: 6.38
3												X	X	X	X			
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*App III / IV Metals = As, Sb, B, Ba, Be, Ca, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, Hg		3-12-21	1723		3/12/21	1723	

D.A. Signed:

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	LAL
Date:	3/9/2021
Worklist:	59152
Matrix:	DW

Method Blank Assessment	
MB Sample ID	2112389
MB concentration:	-0.006
MB Counting Uncertainty:	0.071
MB MDC:	0.214
MB Numerical Performance Indicator:	-0.13
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS59152	LCSD59152
Count Date:	3/15/2021	3/15/2021
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.039	24.039
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.504	0.504
Target Conc. (pCi/L, g, F):	4.772	4.767
Uncertainty (Calculated):	0.057	0.057
Result (pCi/L, g, F):	5.339	5.520
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.625	0.640
Numerical Performance Indicator:	1.77	2.29
Percent Recovery:	111.88%	115.78%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS59152	Enter Duplicate
Duplicate Sample I.D	LCSD59152	sample IDs if
Sample Result (pCi/L, g, F):	5.339	other than
Sample Result Counting Uncertainty (pCi/L, g, F):	0.625	LCS/LCSD in
Sample Duplicate Result (pCi/L, g, F):	5.520	the space below.
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.640	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-0.396	92524756004
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	3.43%	92524756004DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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:		
% RPD Limit:		

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

Comments:

LAM 3/15/21

AJZ 3/15/21

Quality Control Sample Performance Assessment

Pace Analytical

Test:	Ra-226
Analyst:	LAL
Date:	3/9/2021
Worklist:	59152
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2112389
MB concentration:	-0.005
MB Counting Uncertainty:	0.071
MB MDC:	0.214
MB Numerical Performance Indicator:	-0.13
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS59152	LCSD59152
Count Date:	3/15/2021	
Spike I.D.:	19-033	
Decay Corrected Spike Concentration (pCi/mL):	24.039	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.504	
Target Conc. (pCi/L, g, F):	4.772	
Uncertainty (Calculated):	0.057	
Result (pCi/L, g, F):	5.338	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.625	
Numerical Performance Indicator:	1.77	
Percent Recovery:	111.88%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:		
Sample I.D.:		
Sample MS I.D.:		
Sample MSD I.D.:		
Spike I.D.:		
MS/MSD Decay Corrected Spike Concentration (pCa/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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	92524756004	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	92524756004DUP	
Sample Result (pCi/L, g, F):	0.330	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.165	
Sample Duplicate Result (pCi/L, g, F):	0.280	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.189	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	0.394	92524756004
Duplicate RPD:	16.51%	92524756004DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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:		
% RPD Limit:		

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

Comments:

LAM 3/15/21

CMF 3/15/21

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	CLA
Date:	3/26/2021
Worklist:	59450
Matrix:	DW

Method Blank Assessment	
MB Sample ID	2123469
MB concentration:	0.013
MB Counting Uncertainty:	0.113
MB MDC:	0.309
MB Numerical Performance Indicator:	0.23
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCS/D (Y or N)?	Y
	LCS59450	LCSD59450
Count Date:	3/29/2021	3/29/2021
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.039	24.039
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.505	0.504
Target Conc. (pCi/L, g, F):	4.763	4.773
Uncertainty (Calculated):	0.057	0.057
Result (pCi/L, g, F):	4.437	5.482
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.594	0.737
Numerical Performance Indicator:	-1.07	1.88
Percent Recovery:	93.15%	114.86%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS59450	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD59450	
Sample Result (pCi/L, g, F):	4.437	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.594	
Sample Duplicate Result (pCi/L, g, F):	5.482	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.737	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-2.166	92527256001
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	20.88%	92527258001DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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:		
% RPD Limit:		

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

Comments:

jAm 3/29/21

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-228
Analyst:	CLA
Date:	3/26/2021
Worklist:	59450
Matrix:	DW

Method Blank Assessment	
MB Sample ID	2123469
MB concentration:	0.013
MB Counting Uncertainty:	0.113
MB MDC:	0.309
MB Numerical Performance Indicator:	0.23
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCS? [Y or N]?	N
	LCS59450	LCSD59450
Count Date:	3/29/2021	
Spike I.D.:	19-033	
Decay Corrected Spike Concentration (pCi/mL):	24.039	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.505	
Target Conc. (pCi/L, g, F):	4.763	
Uncertainty (Calculated):	0.057	
Result (pCi/L, g, F):	4.437	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.594	
Numerical Performance Indicator:	-1.07	
Percent Recovery:	93.15%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	92527258001	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	92527258001DUP	
Sample Result (pCi/L, g, F):	-0.074	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.070	
Sample Duplicate Result (pCi/L, g, F):	0.120	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.145	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	-2.367	92527258001
Duplicate RPD:	852.72%	92527258001DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail	
% RPD Limit:	25%	

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:		
% RPD Limit:		

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.

CMK 3/26/2021

Quality Control Sample Performance Assessment

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-228
Analyst:	VAL
Date:	3/11/2021
Worklist:	59157
Matrix:	WT

Method Blank Assessment	
MB Sample ID:	2112538
MB concentration:	0.312
MB 2 Sigma CSU:	0.330
MB MDC:	0.686
MB Numerical Performance Indicator:	1.85
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS59157	LCSD59157
Count Date:	3/15/2021	3/15/2021
Spike I.D.:	21-003	21-003
Decay Corrected Spike Concentration [pCi/mL]:	38.455	38.455
Volume Used (mL):	0.10	0.10
Aliquot Volume [L, g, F]:	0.810	0.807
Target Conc. [pCi/L, g, F]:	4.747	4.768
Uncertainty (Calculated):	0.233	0.234
Result [pCi/L, g, F]:	3.492	2.971
LCS/LCSD 2 Sigma CSU [pCi/L, g, F]:	0.863	0.784
Numerical Performance Indicator:	-2.75	-4.30
Percent Recovery:	73.55%	62.31%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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]:		
MS Spike Uncertainty [calculated]:		
MSD Spike Uncertainty [calculated]:		
Sample Result:		
Sample Result 2 Sigma CSU [pCi/L, g, F]:		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU [pCi/L, g, F]:		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU [pCi/L, g, F]:		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D:	LCS59157	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.:	LCSD59157	
Sample Result (pCi/L, g, F):	3.492	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.863	
Sample Duplicate Result (pCi/L, g, F):	2.971	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	0.784	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	0.875	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	16.54%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	36%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.:		
Sample MS I.D:		
Sample MSD I.D.:		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit:		

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

Comments:

3/11/2021

Quality Control Sample Performance Assessment

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-228
Analyst:	VAL
Date:	4/2/2021
Worklist:	59499
Matrix:	WT

Method Blank Assessment	
MB Sample ID	2125114
MB concentration	0.922
MB 2 Sigma CSU	0.466
MB MDC	0.823
MB Numerical Performance Indicator	3.88
MB Status vs Numerical Indicator	Fail*
MB Status vs. MDC	See Comment*

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS59498	LCSD59499
Count Date	4/7/2021	4/7/2021
Spike I.D.	21-003	21-003
Decay Corrected Spike Concentration (pCi/mL)	38.167	38.167
Volume Used (mL)	0.10	0.10
Aliquot Volume (L, g, Fl)	0.815	0.814
Target Conc. (pCi/L, g, F)	4.686	4.686
Uncertainty (Calculated)	0.230	0.230
Result (pCi/L, g, Fl)	4.985	4.724
LCS/LCSD 2 Sigma CSU (pCi/L, g, F)	1.122	1.103
Numerical Performance Indicator	0.51	0.07
Percent Recovery	106.39%	100.80%
Status vs Numerical Indicator	N/A	N/A
Status vs Recovery	Pass	Pass
Upper % Recovery Limits	135%	135%
Lower % Recovery Limits	60%	60%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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)		
MS Spike Uncertainty (calculated)		
MSD Spike Uncertainty (calculated)		
Sample Result		
Sample Result 2 Sigma CSU (pCi/L, g, F)		
Sample Matrix Spike Result		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F)		
Sample Matrix Spike Duplicate Result		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F)		
MS Numerical Performance Indicator		
MSD Numerical Performance Indicator		
MS Percent Recovery		
MSD Percent Recovery		
MS Status vs Numerical Indicator		
MSD Status vs Numerical Indicator		
MS Status vs Recovery		
MSD Status vs Recovery		
MS/MSD Upper % Recovery Limits		
MS/MSD Lower % Recovery Limits		

Duplicate Sample Assessment		
Sample I.D.	LCS59499	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD59499	
Sample Result (pCi/L, g, F)	4.985	
Sample Result 2 Sigma CSU (pCi/L, g, F)	1.122	
Sample Duplicate Result (pCi/L, g, F)	4.724	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F)	1.103	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator	0.326	
[Based on the LCS/LCSD Percent Recoveries] Duplicate RPD	5.40%	
Duplicate Status vs Numerical Indicator	Pass	
Duplicate Status vs RPD	Pass	
% RPD Limit	35%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F)		
Sample Matrix Spike Duplicate Result		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F)		
Duplicate Numerical Performance Indicator		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD		
MS/ MSD Duplicate Status vs Numerical Indicator		
MS/ MSD Duplicate Status vs RPD		
% RPD Limit		

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

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

4/5/21

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

May 13, 2021

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

RE: Project: MCDONOUGH UPGRADIENT MISC
Pace Project No.: 92524833

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between March 02, 2021 and March 12, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

cc: Stephen Benda
Daniela Herrera, Golder
Ben Hodges, Georgia Power
Kristen Jurinko
J. Shelby Mobley
Charles Norton, Southern Company
Ms. Lauren Petty, Southern Company
Dawn Prell, Golder Associates Inc.
Tim Richards, Golder Associates - Atlanta

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: MCDONOUGH UPGRADIENT MISC
Pace Project No.: 92524833

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

Pace Analytical Services Peachtree Corners
110 Technology Pkwy, Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001

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

SAMPLE SUMMARY

Project: MCDONOUGH UPGRADIENT MISC
Pace Project No.: 92524833

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92524833001	**DGWA-70A**	Water	03/01/21 13:22	03/02/21 08:45
92524833002	**DGWA-71**	Water	03/01/21 15:18	03/02/21 08:45
92524833003	**DGWA-53**	Water	03/12/21 12:28	03/12/21 17:23

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(770)734-4200

SAMPLE ANALYTE COUNT

Project: MCDONOUGH UPGRADIENT MISC
Pace Project No.: 92524833

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92524833001	**DGWA-70A**	EPA 6010D	DRB	3
		SM 2320B-2011	ECH	3
92524833002	**DGWA-71**	EPA 6010D	DRB	3
		SM 2320B-2011	ECH	3
92524833003	**DGWA-53**	EPA 6010D	DRB	3
		SM 2320B-2011	ECH	3

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte
PASI-GA = Pace Analytical Services - Peachtree Corners, GA

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Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: MCDONOUGH UPGRADIENT MISC
Pace Project No.: 92524833

Sample: DGWA-70A **Lab ID: 92524833001** Collected: 03/01/21 13:22 Received: 03/02/21 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:54		
pH	**5.43**	Std. Units			1		03/22/21 11:54		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Potassium	**1.6**	mg/L	0.20	0.056	1	03/03/21 10:17	03/03/21 17:30	7440-09-7	
Sodium	**2.6**	mg/L	1.0	0.26	1	03/03/21 10:17	03/03/21 17:30	7440-23-5	
Magnesium	**2.1**	mg/L	0.050	0.0076	1	03/03/21 10:17	03/03/21 17:30	7439-95-4	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**20.4**	mg/L	5.0	5.0	1		03/12/21 15:20		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/12/21 15:20		
Alkalinity, Total as CaCO3	**20.4**	mg/L	5.0	5.0	1		03/12/21 15:20		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH UPGRADIENT MISC
Pace Project No.: 92524833

Sample: DGWA-71 **Lab ID: 92524833002** Collected: 03/01/21 15:18 Received: 03/02/21 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:54		
pH	**5.80**	Std. Units			1		03/22/21 11:54		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Potassium	**0.76**	mg/L	0.20	0.056	1	03/03/21 10:17	03/03/21 17:34	7440-09-7	
Sodium	**8.6**	mg/L	1.0	0.26	1	03/03/21 10:17	03/03/21 17:34	7440-23-5	
Magnesium	**0.85**	mg/L	0.050	0.0076	1	03/03/21 10:17	03/03/21 17:34	7439-95-4	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**23.9**	mg/L	5.0	5.0	1		03/12/21 15:39		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/12/21 15:39		
Alkalinity, Total as CaCO3	**23.9**	mg/L	5.0	5.0	1		03/12/21 15:39		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH UPGRADIENT MISC
Pace Project No.: 92524833

Sample: DGWA-53 **Lab ID: 92524833003** Collected: 03/12/21 12:28 Received: 03/12/21 17:23 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:54		
pH	**6.38**	Std. Units			1		03/22/21 11:54		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Potassium	**3.9**	mg/L	0.20	0.056	1	03/18/21 12:20	03/22/21 15:07	7440-09-7	
Sodium	**9.0**	mg/L	1.0	0.26	1	03/18/21 12:20	03/20/21 16:45	7440-23-5	
Magnesium	**6.5**	mg/L	0.050	0.0076	1	03/18/21 12:20	03/20/21 16:45	7439-95-4	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**91.0**	mg/L	5.0	5.0	1		03/24/21 15:45		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/24/21 15:45		
Alkalinity, Total as CaCO3	**91.0**	mg/L	5.0	5.0	1		03/24/21 15:45		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MCDONOUGH UPGRADIENT MISC
Pace Project No.: 92524833

QC Batch: 603832
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92524833001, 92524833002

METHOD BLANK: 3180960 Matrix: Water
Associated Lab Samples: 92524833001, 92524833002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Magnesium	mg/L	ND	0.050	0.0076	03/03/21 17:08	
Potassium	mg/L	ND	0.20	0.056	03/03/21 17:08	
Sodium	mg/L	ND	1.0	0.26	03/03/21 17:08	

LABORATORY CONTROL SAMPLE: 3180961

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Magnesium	mg/L	1	1.0	105	80-120	
Potassium	mg/L	1	1.0	100	80-120	
Sodium	mg/L	1	1.1	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3180962 3180963

Parameter	Units	92524853001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Magnesium	mg/L	3.5	1	1	4.7	4.8	112	125	75-125	3	20	
Potassium	mg/L	4.0	1	1	5.1	5.2	110	123	75-125	3	20	
Sodium	mg/L	7.5	1	1	8.8	9.0	137	150	75-125	2	20	M1

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MCDONOUGH UPGRADIENT MISC
Pace Project No.: 92524833

QC Batch: 607584
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92524833003

METHOD BLANK: 3200680 Matrix: Water
Associated Lab Samples: 92524833003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Magnesium	mg/L	0.0082J	0.050	0.0076	03/20/21 00:30	
Potassium	mg/L	ND	0.20	0.056	03/20/21 00:30	
Sodium	mg/L	ND	1.0	0.26	03/20/21 00:30	

LABORATORY CONTROL SAMPLE: 3200681

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Magnesium	mg/L	1	1.0	101	80-120	
Potassium	mg/L	1	1.1	106	80-120	
Sodium	mg/L	1	1.1	111	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3200682 3200683

Parameter	Units	92524632021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Magnesium	mg/L	18.4	1	1	20.6	20.4	221	194	75-125	1	20	M1
Potassium	mg/L	0.75	1	1	1.9	2.0	115	121	75-125	3	20	
Sodium	mg/L	2.1	1	1	3.3	3.3	124	120	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: MCDONOUGH UPGRADIENT MISC
Pace Project No.: 92524833

QC Batch: 606220
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92524833001, 92524833002

METHOD BLANK: 3193657 Matrix: Water
Associated Lab Samples: 92524833001, 92524833002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	03/12/21 12:40	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	03/12/21 12:40	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	03/12/21 12:40	

LABORATORY CONTROL SAMPLE: 3193658

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	51.4	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3193659 3193660

Parameter	Units	92526098001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	496	50	50	506	510	20	28	80-120	1	25	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3193661 3193662

Parameter	Units	92526099006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	ND	50	50	25.2	25.5	50	51	80-120	1	25	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: MCDONOUGH UPGRADIENT MISC
Pace Project No.: 92524833

QC Batch: 608537
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92524833003

METHOD BLANK: 3205445 Matrix: Water
Associated Lab Samples: 92524833003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	03/24/21 11:50	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	03/24/21 11:50	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	03/24/21 11:50	

LABORATORY CONTROL SAMPLE: 3205446

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	52.2	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3206750 3206751

Parameter	Units	92528425003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	87.1	50	50	135	135	96	96	80-120	0	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3206752 3206753

Parameter	Units	92528425004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	ND	50	50	54.6	54.3	106	106	80-120	1	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
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: MCDONOUGH UPGRADIENT MISC
Pace Project No.: 92524833

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCDONOUGH UPGRADIENT MISC
Pace Project No.: 92524833

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92524833001	**DGWA-70A**				
92524833002	**DGWA-71**				
92524833003	**DGWA-53**				
92524833001	**DGWA-70A**	EPA 3010A	603832	EPA 6010D	603942
92524833002	**DGWA-71**	EPA 3010A	603832	EPA 6010D	603942
92524833003	**DGWA-53**	EPA 3010A	607584	EPA 6010D	607676
92524833001	**DGWA-70A**	SM 2320B-2011	606220		
92524833002	**DGWA-71**	SM 2320B-2011	606220		
92524833003	**DGWA-53**	SM 2320B-2011	608537		

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GA power - coal combustion residual

Project #:

WO#: 92524833

92524833

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

Custody Seal Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☐ No

Date/Initials Person Examining Contents: MT 3/2/21

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☑ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

Thermometer: ☐ IR Gun ID: 233

Type of Ice: ☑ Wet ☐ Blue ☐ None

Cooler Temp: 1.1 **Correction Factor: Add/Subtract (°C)** +0.4

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 1.5

USDA Regulated Soil (☐ N/A, water sample)
Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☑ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☑ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☑ Yes	☐ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☑ No	☐ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: WT				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

***Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.**

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

****Bottom half of box is to list number of bottles**

Project # **WO# : 92524833**

PM: KLH1 Due Date: 03/16/21

CLIENT: GA-GA Power

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	BP1N	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1		1	1			1																			2				
2		1	1			1																			2				
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

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

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A — Required Client Information:

Company:	Georgia Power - Coal Combustion Residuals
Address:	2480 Maner Road
	Atlanta, GA 30339
Email:	jabraham@southernco.com
Phone:	(404) 506-7236
Fax:	
Requested Due Date:	10 Day TAT

Section B — Required Project Information:

Report To:	Jojo Abraham
Copy To:	Golder
Purchase Order #:	
Project Name:	Plant McDonough Upgradient
Project #:	195849521

Section C — Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	Kevin Herring
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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	Preservatives: HNO3	Analyses Test Y/N	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	
	MATRIX: Drinking Water / Water / Waste Water / Product / Soil/Solid / Oil / Wipe / Air / Other / Tissue — CODE: DW / WT / WW / P / SL / OL / WP / AR / OT / TS									Y/N	Potassium; Bicarbonate Alkalinity; Carbonate Alkalinity; Sodium; Magnesium		
2	DGWA-70A	WT	G	3/1/2021	1322		5	2	3		N N N N N		9252483
3	DGWA-71	WT	G	3/1/2021	1518		5	2	3		X X X X X		pH: 5.43
4											X X X X X		pH: 5.80
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
"Major ions" = potassium, bicarbonate alkalinity, carbonate alkalinity, sodium, magnesium	JW/GOLDER	3/2/21	8:20	TE/ROC	3-2-21	820
	TE/ROC	3/2/21	845	[illegible]	[illegible]	[illegible]

SAMPLE CONDITIONS			
TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
[illegible]	Y	N	Y

DATE Signed:

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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	Joju Abraham	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To	Golder	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:		Pace Quote:	
Phone:	(404) 506-7239 Fax	Project Name:	Plant McDonough Upgradient	Pace Project Manager:	Kevin Herring
Requested Due Date:	10 Day TAT	Project #:	186649621	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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	Preservatives: HNO3	Requested Analysis Filtered (Y/N)	Analyses Test	Residual Chlorine (Y/N)	
										Y/N	N N N N N		
											Potassium, Bicarbonate Alkalinity, Carbonate Alkalinity, Sodium, Magnesium		
2	OGWA-53	WT	G	3/12/2021	1226		5	2	3		X X X X X		pH: 6.38
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*Major Ions = potassium, bicarbonate alkalinity, carbonate alkalinity, sodium, magnesium		3-12-21	1723		3/12/21	1723	

DATE Signed:

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

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

May 13, 2021

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

RE: Project: Plant McDonough AP-1
Pace Project No.: 92526996

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between March 09, 2021 and March 12, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

cc: Stephen Benda
Daniela Herrera, Golder
Ben Hodges, Georgia Power
Kristen Jurinko
J. Shelby Mobley
Charles Norton, Southern Company
Ms. Lauren Petty, Southern Company
Dawn Prell, Golder Associates Inc.
Tim Richards, Golder Associates - Atlanta

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: Plant McDonough AP-1
Pace Project No.: 92526996

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

Pace Analytical Services Peachtree Corners
110 Technology Pkwy, Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001

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

SAMPLE SUMMARY

Project: Plant McDonough AP-1
Pace Project No.: 92526996

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92526996001	**DGWC-68A**	Water	03/10/21 11:40	03/11/21 08:50
92526996002	**DGWC-69**	Water	03/10/21 10:06	03/11/21 08:50
92526996003	**DUP-3**	Water	03/10/21 00:00	03/11/21 08:50
92526996004	**FB-3**	Water	03/10/21 12:00	03/11/21 08:50
92526996005	**EB-3**	Water	03/10/21 14:55	03/11/21 08:50
92526996006	**DGWC-37**	Water	03/11/21 13:12	03/12/21 17:23
92526996007	**DGWC-38**	Water	03/11/21 11:58	03/12/21 17:23
92526996008	**DGWC-39**	Water	03/11/21 11:02	03/12/21 17:23
92526996009	**DGWC-67**	Water	03/11/21 09:55	03/12/21 17:23
92526286004	**DGWC-40**	Water	03/08/21 12:02	03/09/21 09:30

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

SAMPLE ANALYTE COUNT

Project: Plant McDonough AP-1
Pace Project No.: 92526996

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92526996001	**DGWC-68A**	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92526996002	**DGWC-69**	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92526996003	**DUP-3**	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92526996004	**FB-3**	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92526996005	**EB-3**	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92526996006	**DGWC-37**	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		SM 2540C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	JLH	3
92526996007	**DGWC-38**	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		SM 2540C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92526996008	**DGWC-39**	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		SM 2540C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92526996009	**DGWC-67**	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		SM 2540C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92526286004	**DGWC-40**	EPA 6010D	DRB	1

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: Plant McDonough AP-1
Pace Project No.: 92526996

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	JLH	3

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte
PASI-GA = Pace Analytical Services - Peachtree Corners, GA

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

ANALYTICAL RESULTS

Project: Plant McDonough AP-1
Pace Project No.: 92526996

Sample: DGWC-68A **Lab ID: 92526996001** Collected: 03/10/21 11:40 Received: 03/11/21 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:56		
pH	**6.74**	Std. Units			1		03/22/21 11:56		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**54.2**	mg/L	1.0	0.070	1	03/24/21 10:08	03/24/21 15:13	7440-70-2	M1
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.00032J**	mg/L	0.0030	0.00028	1	03/24/21 10:11	03/24/21 16:37	7440-36-0	B
Arsenic	ND	mg/L	0.0050	0.00078	1	03/24/21 10:11	03/24/21 16:37	7440-38-2	
Barium	**0.090**	mg/L	0.0050	0.00071	1	03/24/21 10:11	03/24/21 16:37	7440-39-3	
Beryllium	**0.000061J**	mg/L	0.00050	0.000046	1	03/24/21 10:11	03/24/21 16:37	7440-41-7	
Boron	**1.7**	mg/L	0.040	0.0052	1	03/24/21 10:11	03/24/21 16:37	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	03/24/21 10:11	03/24/21 16:37	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	03/24/21 10:11	03/24/21 16:37	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	03/24/21 10:11	03/24/21 16:37	7440-48-4	
Lead	**0.000067J**	mg/L	0.0010	0.000036	1	03/24/21 10:11	03/24/21 16:37	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	03/24/21 10:11	03/24/21 16:37	7439-93-2	
Molybdenum	**0.20**	mg/L	0.010	0.00069	1	03/24/21 10:11	03/24/21 16:37	7439-98-7	
Selenium	**0.0017J**	mg/L	0.0050	0.0016	1	03/24/21 10:11	03/24/21 16:37	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	03/24/21 10:11	03/24/21 16:37	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**232**	mg/L	10.0	10.0	1		03/15/21 12:48		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**3.6**	mg/L	1.0	0.60	1		03/16/21 19:13	16887-00-6	
Fluoride	**0.070J**	mg/L	0.10	0.050	1		03/16/21 19:13	16984-48-8	
Sulfate	**38.4**	mg/L	1.0	0.50	1		03/16/21 19:13	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 McDonough AP-1
Pace Project No.: 92526996

Sample: DGWC-69 **Lab ID: 92526996002** Collected: 03/10/21 10:06 Received: 03/11/21 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:56		
pH	**6.13**	Std. Units			1		03/22/21 11:56		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**8.5**	mg/L	1.0	0.070	1	03/24/21 10:08	03/24/21 15:49	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.0018J**	mg/L	0.0030	0.00028	1	03/24/21 10:11	03/24/21 17:00	7440-36-0	B
Arsenic	**0.028**	mg/L	0.0050	0.00078	1	03/24/21 10:11	03/24/21 17:00	7440-38-2	
Barium	**0.048**	mg/L	0.0050	0.00071	1	03/24/21 10:11	03/24/21 17:00	7440-39-3	
Beryllium	**0.000050J**	mg/L	0.00050	0.000046	1	03/24/21 10:11	03/24/21 17:00	7440-41-7	
Boron	**0.024J**	mg/L	0.040	0.0052	1	03/24/21 10:11	03/24/21 17:00	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	03/24/21 10:11	03/24/21 17:00	7440-43-9	
Chromium	**0.00090J**	mg/L	0.0050	0.00055	1	03/24/21 10:11	03/24/21 17:00	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	03/24/21 10:11	03/24/21 17:00	7440-48-4	
Lead	**0.00010J**	mg/L	0.0010	0.000036	1	03/24/21 10:11	03/24/21 17:00	7439-92-1	
Lithium	**0.0023J**	mg/L	0.030	0.00081	1	03/24/21 10:11	03/24/21 17:00	7439-93-2	
Molybdenum	**0.0056J**	mg/L	0.010	0.00069	1	03/24/21 10:11	03/24/21 17:00	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	03/24/21 10:11	03/24/21 17:00	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	03/24/21 10:11	03/24/21 17:00	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**78.0**	mg/L	10.0	10.0	1		03/15/21 12:48		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5.0**	mg/L	1.0	0.60	1		03/16/21 19:28	16887-00-6	
Fluoride	**0.055J**	mg/L	0.10	0.050	1		03/16/21 19:28	16984-48-8	
Sulfate	**6.4**	mg/L	1.0	0.50	1		03/16/21 19:28	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 McDonough AP-1
Pace Project No.: 92526996

Sample: DUP-3 **Lab ID: 92526996003** Collected: 03/10/21 00:00 Received: 03/11/21 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**8.4**	mg/L	1.0	0.070	1	03/24/21 10:08	03/24/21 15:54	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.00064J**	mg/L	0.0030	0.00028	1	03/24/21 10:11	03/24/21 17:05	7440-36-0	B
Arsenic	**0.027**	mg/L	0.0050	0.00078	1	03/24/21 10:11	03/24/21 17:05	7440-38-2	
Barium	**0.050**	mg/L	0.0050	0.00071	1	03/24/21 10:11	03/24/21 17:05	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	03/24/21 10:11	03/24/21 17:05	7440-41-7	
Boron	**0.020J**	mg/L	0.040	0.0052	1	03/24/21 10:11	03/24/21 17:05	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	03/24/21 10:11	03/24/21 17:05	7440-43-9	
Chromium	**0.00088J**	mg/L	0.0050	0.00055	1	03/24/21 10:11	03/24/21 17:05	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	03/24/21 10:11	03/24/21 17:05	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	03/24/21 10:11	03/24/21 17:05	7439-92-1	
Lithium	**0.0023J**	mg/L	0.030	0.00081	1	03/24/21 10:11	03/24/21 17:05	7439-93-2	
Molybdenum	**0.0055J**	mg/L	0.010	0.00069	1	03/24/21 10:11	03/24/21 17:05	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	03/24/21 10:11	03/24/21 17:05	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	03/24/21 10:11	03/24/21 17:05	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**69.0**	mg/L	10.0	10.0	1		03/15/21 12:48		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5.0**	mg/L	1.0	0.60	1		03/16/21 19:44	16887-00-6	
Fluoride	**0.055J**	mg/L	0.10	0.050	1		03/16/21 19:44	16984-48-8	
Sulfate	**6.3**	mg/L	1.0	0.50	1		03/16/21 19:44	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 McDonough AP-1
Pace Project No.: 92526996

Sample: FB-3 **Lab ID: 92526996004** Collected: 03/10/21 12:00 Received: 03/11/21 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	ND	mg/L	1.0	0.070	1	03/24/21 10:08	03/24/21 15:59	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.00038J**	mg/L	0.0030	0.00028	1	03/24/21 10:11	03/24/21 17:11	7440-36-0	B
Arsenic	ND	mg/L	0.0050	0.00078	1	03/24/21 10:11	03/24/21 17:11	7440-38-2	
Barium	**0.0016J**	mg/L	0.0050	0.00071	1	03/24/21 10:11	03/24/21 17:11	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	03/24/21 10:11	03/24/21 17:11	7440-41-7	
Boron	ND	mg/L	0.040	0.0052	1	03/24/21 10:11	03/24/21 17:11	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	03/24/21 10:11	03/24/21 17:11	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	03/24/21 10:11	03/24/21 17:11	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	03/24/21 10:11	03/24/21 17:11	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	03/24/21 10:11	03/24/21 17:11	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	03/24/21 10:11	03/24/21 17:11	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	03/24/21 10:11	03/24/21 17:11	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	03/24/21 10:11	03/24/21 17:11	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	03/24/21 10:11	03/24/21 17:11	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		03/15/21 12:48		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		03/16/21 20:30	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/16/21 20:30	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		03/16/21 20:30	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 McDonough AP-1
Pace Project No.: 92526996

Sample: EB-3 **Lab ID: 92526996005** Collected: 03/10/21 14:55 Received: 03/11/21 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	ND	mg/L	1.0	0.070	1	03/24/21 10:08	03/24/21 16:03	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	03/24/21 10:11	03/24/21 17:17	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	03/24/21 10:11	03/24/21 17:17	7440-38-2	
Barium	**0.0016J**	mg/L	0.0050	0.00071	1	03/24/21 10:11	03/24/21 17:17	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	03/24/21 10:11	03/24/21 17:17	7440-41-7	
Boron	ND	mg/L	0.040	0.0052	1	03/24/21 10:11	03/24/21 17:17	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	03/24/21 10:11	03/24/21 17:17	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	03/24/21 10:11	03/24/21 17:17	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	03/24/21 10:11	03/24/21 17:17	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	03/24/21 10:11	03/24/21 17:17	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	03/24/21 10:11	03/24/21 17:17	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	03/24/21 10:11	03/24/21 17:17	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	03/24/21 10:11	03/24/21 17:17	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	03/24/21 10:11	03/24/21 17:17	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		03/15/21 12:49		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		03/16/21 20:46	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/16/21 20:46	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		03/16/21 20:46	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 McDonough AP-1
Pace Project No.: 92526996

Sample: DGWC-37 **Lab ID: 92526996006** Collected: 03/11/21 13:12 Received: 03/12/21 17:23 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:56		
pH	**6.49**	Std. Units			1		03/22/21 11:56		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**56.0**	mg/L	1.0	0.070	1	03/24/21 10:08	03/24/21 16:08	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	03/24/21 10:11	03/24/21 17:54	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	03/24/21 10:11	03/24/21 17:54	7440-38-2	
Barium	**0.075**	mg/L	0.0050	0.00071	1	03/24/21 10:11	03/24/21 17:54	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	03/24/21 10:11	03/24/21 17:54	7440-41-7	
Boron	**1.4**	mg/L	0.040	0.0052	1	03/24/21 10:11	03/24/21 17:54	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	03/24/21 10:11	03/24/21 17:54	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	03/24/21 10:11	03/24/21 17:54	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	03/24/21 10:11	03/24/21 17:54	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	03/24/21 10:11	03/24/21 17:54	7439-92-1	
Lithium	**0.0024J**	mg/L	0.030	0.00081	1	03/24/21 10:11	03/24/21 17:54	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	03/24/21 10:11	03/24/21 17:54	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	03/24/21 10:11	03/24/21 17:54	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	03/24/21 10:11	03/24/21 17:54	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**255**	mg/L	10.0	10.0	1		03/17/21 17:40		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5.6**	mg/L	1.0	0.60	1		03/20/21 05:43	16887-00-6	
Fluoride	**0.057J**	mg/L	0.10	0.050	1		03/20/21 05:43	16984-48-8	
Sulfate	**81.9**	mg/L	1.0	0.50	1		03/20/21 05:43	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 McDonough AP-1
Pace Project No.: 92526996

Sample: DGWC-38 **Lab ID: 92526996007** Collected: 03/11/21 11:58 Received: 03/12/21 17:23 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:56		
pH	**6.22**	Std. Units			1		03/22/21 11:56		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**85.8**	mg/L	1.0	0.070	1	03/24/21 10:08	03/24/21 16:13	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	03/24/21 10:11	03/24/21 17:59	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	03/24/21 10:11	03/24/21 17:59	7440-38-2	
Barium	**0.032**	mg/L	0.0050	0.00071	1	03/24/21 10:11	03/24/21 17:59	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	03/24/21 10:11	03/24/21 17:59	7440-41-7	
Boron	**2.7**	mg/L	0.040	0.0052	1	03/24/21 10:11	03/24/21 17:59	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	03/24/21 10:11	03/24/21 17:59	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	03/24/21 10:11	03/24/21 17:59	7440-47-3	
Cobalt	**0.0017J**	mg/L	0.0050	0.00038	1	03/24/21 10:11	03/24/21 17:59	7440-48-4	
Lead	**0.00014J**	mg/L	0.0010	0.000036	1	03/24/21 10:11	03/24/21 17:59	7439-92-1	
Lithium	**0.0030J**	mg/L	0.030	0.00081	1	03/24/21 10:11	03/24/21 17:59	7439-93-2	
Molybdenum	**0.00092J**	mg/L	0.010	0.00069	1	03/24/21 10:11	03/24/21 17:59	7439-98-7	
Selenium	**0.0019J**	mg/L	0.0050	0.0016	1	03/24/21 10:11	03/24/21 17:59	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	03/24/21 10:11	03/24/21 17:59	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**463**	mg/L	10.0	10.0	1		03/17/21 17:40		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**8.0**	mg/L	1.0	0.60	1		03/20/21 20:46	16887-00-6	
Fluoride	**0.058J**	mg/L	0.10	0.050	1		03/20/21 20:46	16984-48-8	
Sulfate	**154**	mg/L	5.0	2.5	5		03/23/21 15:27	14808-79-8	M6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Plant McDonough AP-1
Pace Project No.: 92526996

Sample: DGWC-39 **Lab ID: 92526996008** Collected: 03/11/21 11:02 Received: 03/12/21 17:23 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:56		
pH	**6.66**	Std. Units			1		03/22/21 11:56		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**91.9**	mg/L	1.0	0.070	1	03/24/21 10:08	03/24/21 16:18	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	03/24/21 10:11	03/24/21 18:10	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	03/24/21 10:11	03/24/21 18:10	7440-38-2	
Barium	**0.078**	mg/L	0.0050	0.00071	1	03/24/21 10:11	03/24/21 18:10	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	03/24/21 10:11	03/24/21 18:10	7440-41-7	
Boron	**2.5**	mg/L	0.040	0.0052	1	03/24/21 10:11	03/24/21 18:10	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	03/24/21 10:11	03/24/21 18:10	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	03/24/21 10:11	03/24/21 18:10	7440-47-3	
Cobalt	**0.0058**	mg/L	0.0050	0.00038	1	03/24/21 10:11	03/24/21 18:10	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	03/24/21 10:11	03/24/21 18:10	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	03/24/21 10:11	03/24/21 18:10	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	03/24/21 10:11	03/24/21 18:10	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	03/24/21 10:11	03/24/21 18:10	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	03/24/21 10:11	03/24/21 18:10	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**440**	mg/L	10.0	10.0	1		03/17/21 17:40		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**7.7**	mg/L	1.0	0.60	1		03/20/21 21:32	16887-00-6	
Fluoride	**0.083J**	mg/L	0.10	0.050	1		03/20/21 21:32	16984-48-8	
Sulfate	**123**	mg/L	3.0	1.5	3		03/23/21 16:12	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 McDonough AP-1
Pace Project No.: 92526996

Sample: DGWC-67 **Lab ID: 92526996009** Collected: 03/11/21 09:55 Received: 03/12/21 17:23 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:56		
pH	**6.28**	Std. Units			1		03/22/21 11:56		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**45.4**	mg/L	1.0	0.070	1	03/24/21 10:08	03/24/21 16:23	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	03/24/21 10:11	03/24/21 18:16	7440-36-0	
Arsenic	**0.00080J**	mg/L	0.0050	0.00078	1	03/24/21 10:11	03/24/21 18:16	7440-38-2	
Barium	**0.11**	mg/L	0.0050	0.00071	1	03/24/21 10:11	03/24/21 18:16	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	03/24/21 10:11	03/24/21 18:16	7440-41-7	
Boron	**3.4**	mg/L	0.040	0.0052	1	03/24/21 10:11	03/24/21 18:16	7440-42-8	
Cadmium	**0.00053**	mg/L	0.00050	0.00012	1	03/24/21 10:11	03/24/21 18:16	7440-43-9	
Chromium	**0.0014J**	mg/L	0.0050	0.00055	1	03/24/21 10:11	03/24/21 18:16	7440-47-3	
Cobalt	**0.0016J**	mg/L	0.0050	0.00038	1	03/24/21 10:11	03/24/21 18:16	7440-48-4	
Lead	**0.00025J**	mg/L	0.0010	0.000036	1	03/24/21 10:11	03/24/21 18:16	7439-92-1	
Lithium	**0.0050J**	mg/L	0.030	0.00081	1	03/24/21 10:11	03/24/21 18:16	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	03/24/21 10:11	03/24/21 18:16	7439-98-7	
Selenium	**0.0027J**	mg/L	0.0050	0.0016	1	03/24/21 10:11	03/24/21 18:16	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	03/24/21 10:11	03/24/21 18:16	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**265**	mg/L	10.0	10.0	1		03/17/21 17:40		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**7.4**	mg/L	1.0	0.60	1		03/20/21 21:47	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/20/21 21:47	16984-48-8	
Sulfate	**76.7**	mg/L	2.0	1.0	2		03/23/21 16:28	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 McDonough AP-1
Pace Project No.: 92526996

Sample: DGWC-40 **Lab ID: 92526286004** Collected: 03/08/21 12:02 Received: 03/09/21 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:50		
pH	**4.79**	Std. Units			1		03/22/21 11:50		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**44.9**	mg/L	1.0	0.070	1	03/15/21 14:10	03/19/21 04:08	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.00033J**	mg/L	0.0030	0.00028	1	03/15/21 14:35	03/16/21 15:30	7440-36-0	B
Arsenic	ND	mg/L	0.0050	0.00078	1	03/15/21 14:35	03/16/21 15:30	7440-38-2	
Barium	**0.016**	mg/L	0.0050	0.00071	1	03/15/21 14:35	03/16/21 15:30	7440-39-3	
Beryllium	**0.0030**	mg/L	0.00050	0.000046	1	03/15/21 14:35	03/16/21 15:30	7440-41-7	
Boron	**0.72**	mg/L	0.040	0.0052	1	03/15/21 14:35	03/16/21 15:30	7440-42-8	
Cadmium	**0.00072**	mg/L	0.00050	0.00012	1	03/15/21 14:35	03/16/21 15:30	7440-43-9	
Chromium	**0.00060J**	mg/L	0.0050	0.00055	1	03/15/21 14:35	03/16/21 15:30	7440-47-3	
Cobalt	**0.039**	mg/L	0.0050	0.00038	1	03/15/21 14:35	03/16/21 15:30	7440-48-4	
Lead	**0.000054J**	mg/L	0.0010	0.000036	1	03/15/21 14:35	03/16/21 15:30	7439-92-1	
Lithium	**0.0022J**	mg/L	0.030	0.00081	1	03/15/21 14:35	03/16/21 15:30	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	03/15/21 14:35	03/16/21 15:30	7439-98-7	
Selenium	**0.0023J**	mg/L	0.0050	0.0016	1	03/15/21 14:35	03/16/21 15:30	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	03/15/21 14:35	03/16/21 15:30	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**346**	mg/L	10.0	10.0	1		03/10/21 17:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**19.1**	mg/L	1.0	0.60	1		03/16/21 10:22	16887-00-6	
Fluoride	**0.17**	mg/L	0.10	0.050	1		03/16/21 10:22	16984-48-8	
Sulfate	**191**	mg/L	4.0	2.0	4		03/16/21 16:49	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 McDonough AP-1
Pace Project No.: 92526996

QC Batch: 606634
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92526286004

METHOD BLANK: 3196175 Matrix: Water
Associated Lab Samples: 92526286004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	03/19/21 03:10	

LABORATORY CONTROL SAMPLE: 3196176

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196177 3196178

Parameter	Units	92526031001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	207	1	1	209	202	181	-447	75-125	3	20	M1

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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 McDonough AP-1
Pace Project No.: 92526996

QC Batch: 608824 — Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A — Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92526996001, 92526996002, 92526996003, 92526996004, 92526996005, 92526996006, 92526996007, 92526996008, 92526996009

METHOD BLANK: 3206694 — Matrix: Water
Associated Lab Samples: 92526996001, 92526996002, 92526996003, 92526996004, 92526996005, 92526996006, 92526996007, 92526996008, 92526996009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	03/24/21 15:04	

LABORATORY CONTROL SAMPLE: 3206695

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.1	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3206696 3206697

Parameter	Units	92526996001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	54.2	1	1	55.7	55.2	157	106	75-125	1	20	M1

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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 McDonough AP-1
Pace Project No.: 92526996

QC Batch: 606644
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92526286004

METHOD BLANK: 3196234 Matrix: Water
Associated Lab Samples: 92526286004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	0.00035J	0.0030	0.00028	03/16/21 14:38	
Arsenic	mg/L	ND	0.0050	0.00078	03/16/21 14:38	
Barium	mg/L	ND	0.0050	0.00071	03/16/21 14:38	
Beryllium	mg/L	ND	0.00050	0.000046	03/16/21 14:38	
Boron	mg/L	ND	0.040	0.0052	03/16/21 14:38	
Cadmium	mg/L	ND	0.00050	0.00012	03/16/21 14:38	
Chromium	mg/L	ND	0.0050	0.00055	03/16/21 14:38	
Cobalt	mg/L	ND	0.0050	0.00038	03/16/21 14:38	
Lead	mg/L	ND	0.0010	0.000036	03/16/21 14:38	
Lithium	mg/L	ND	0.030	0.00081	03/16/21 14:38	
Molybdenum	mg/L	ND	0.010	0.00069	03/16/21 14:38	
Selenium	mg/L	ND	0.0050	0.0016	03/16/21 14:38	
Thallium	mg/L	ND	0.0010	0.00014	03/16/21 14:38	

LABORATORY CONTROL SAMPLE: 3196235

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.096	96	80-120	
Arsenic	mg/L	0.1	0.096	96	80-120	
Barium	mg/L	0.1	0.095	95	80-120	
Beryllium	mg/L	0.1	0.098	98	80-120	
Boron	mg/L	1	1.0	103	80-120	
Cadmium	mg/L	0.1	0.097	97	80-120	
Chromium	mg/L	0.1	0.10	100	80-120	
Cobalt	mg/L	0.1	0.099	99	80-120	
Lead	mg/L	0.1	0.094	94	80-120	
Lithium	mg/L	0.1	0.096	96	80-120	
Molybdenum	mg/L	0.1	0.094	94	80-120	
Selenium	mg/L	0.1	0.090	90	80-120	
Thallium	mg/L	0.1	0.093	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196236 3196237

Parameter	Units	92526031002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	0.00079J	0.1	0.1	0.098	0.099	98	98	75-125	0	20	
Arsenic	mg/L	ND	0.1	0.1	0.10	0.10	101	100	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 McDonough AP-1
Pace Project No.: 92526996

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196236 3196237

Parameter	Units	92526031002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.016	0.1	0.1	0.11	0.11	96	95	75-125	1	20	
Beryllium	mg/L	0.000097J	0.1	0.1	0.083	0.080	82	80	75-125	3	20	
Boron	mg/L	0.36	1	1	1.2	1.2	84	83	75-125	1	20	
Cadmium	mg/L	0.017	0.1	0.1	0.11	0.11	96	95	75-125	1	20	
Chromium	mg/L	0.00080J	0.1	0.1	0.092	0.092	92	91	75-125	0	20	
Cobalt	mg/L	0.019	0.1	0.1	0.11	0.11	93	92	75-125	1	20	
Lead	mg/L	0.00017J	0.1	0.1	0.088	0.087	88	86	75-125	2	20	
Lithium	mg/L	0.026J	0.1	0.1	0.11	0.11	82	81	75-125	1	20	
Molybdenum	mg/L	ND	0.1	0.1	0.093	0.092	93	91	75-125	2	20	
Selenium	mg/L	ND	0.1	0.1	0.10	0.097	100	96	75-125	4	20	
Thallium	mg/L	ND	0.1	0.1	0.089	0.087	89	86	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 McDonough AP-1
Pace Project No.: 92526996

QC Batch: 608839
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92526996001, 92526996002, 92526996003, 92526996004, 92526996005, 92526996006, 92526996007, 92526996008, 92526996009

METHOD BLANK: 3206767 Matrix: Water
Associated Lab Samples: 92526996001, 92526996002, 92526996003, 92526996004, 92526996005, 92526996006, 92526996007, 92526996008, 92526996009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	0.00047J	0.0030	0.00028	03/24/21 16:25	
Arsenic	mg/L	ND	0.0050	0.00078	03/24/21 16:25	
Barium	mg/L	ND	0.0050	0.00071	03/24/21 16:25	
Beryllium	mg/L	ND	0.00050	0.000046	03/24/21 16:25	
Boron	mg/L	ND	0.040	0.0052	03/24/21 16:25	
Cadmium	mg/L	ND	0.00050	0.00012	03/24/21 16:25	
Chromium	mg/L	ND	0.0050	0.00055	03/24/21 16:25	
Cobalt	mg/L	ND	0.0050	0.00038	03/24/21 16:25	
Lead	mg/L	ND	0.0010	0.000036	03/24/21 16:25	
Lithium	mg/L	ND	0.030	0.00081	03/24/21 16:25	
Molybdenum	mg/L	ND	0.010	0.00069	03/24/21 16:25	
Selenium	mg/L	ND	0.0050	0.0016	03/24/21 16:25	
Thallium	mg/L	ND	0.0010	0.00014	03/24/21 16:25	

LABORATORY CONTROL SAMPLE: 3206768

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	0.097	97	80-120	
Barium	mg/L	0.1	0.099	99	80-120	
Beryllium	mg/L	0.1	0.10	102	80-120	
Boron	mg/L	1	1.0	102	80-120	
Cadmium	mg/L	0.1	0.096	96	80-120	
Chromium	mg/L	0.1	0.10	100	80-120	
Cobalt	mg/L	0.1	0.099	99	80-120	
Lead	mg/L	0.1	0.098	98	80-120	
Lithium	mg/L	0.1	0.10	102	80-120	
Molybdenum	mg/L	0.1	0.099	99	80-120	
Selenium	mg/L	0.1	0.10	100	80-120	
Thallium	mg/L	0.1	0.096	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3206769 3206770

Parameter	Units	92526996001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	0.00032J	0.1	0.1	0.11	0.11	107	109	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 McDonough AP-1
Pace Project No.: 92526996

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3206769 3206770

Parameter	Units	92526996001 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	0.1	0.1	0.099	0.10	98	99	75-125	1	20	
Barium	mg/L	0.090	0.1	0.1	0.19	0.19	100	99	75-125	0	20	
Beryllium	mg/L	0.000061J	0.1	0.1	0.093	0.098	93	98	75-125	5	20	
Boron	mg/L	1.7	1	1	2.7	2.7	94	99	75-125	2	20	
Cadmium	mg/L	ND	0.1	0.1	0.098	0.10	98	100	75-125	1	20	
Chromium	mg/L	ND	0.1	0.1	0.098	0.099	97	98	75-125	1	20	
Cobalt	mg/L	ND	0.1	0.1	0.097	0.098	97	98	75-125	1	20	
Lead	mg/L	0.000067J	0.1	0.1	0.096	0.095	95	95	75-125	0	20	
Lithium	mg/L	ND	0.1	0.1	0.095	0.096	95	95	75-125	0	20	
Molybdenum	mg/L	0.20	0.1	0.1	0.30	0.30	106	102	75-125	1	20	
Selenium	mg/L	0.0017J	0.1	0.1	0.094	0.095	93	94	75-125	1	20	
Thallium	mg/L	ND	0.1	0.1	0.094	0.095	94	95	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 McDonough AP-1
Pace Project No.: 92526996

QC Batch: 605516
QC Batch Method: SM 2540C-2011
Analysis Method: SM 2540C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92526286004

METHOD BLANK: 3189891 Matrix: Water
Associated Lab Samples: 92526286004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	03/10/21 17:21	

LABORATORY CONTROL SAMPLE: 3189892

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	370	92	90-111	

SAMPLE DUPLICATE: 3189893

Parameter	Units	92524831026 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L		800			

SAMPLE DUPLICATE: 3189894

Parameter	Units	92526337002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	415	425	2	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(770)734-4200

QUALITY CONTROL DATA

Project: Plant McDonough AP-1
Pace Project No.: 92526996

QC Batch: 606580 | Analysis Method: SM 2540C-2011
QC Batch Method: SM 2540C-2011 | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92526996001, 92526996002, 92526996003, 92526996004, 92526996005

METHOD BLANK: 3195732 Matrix: Water
Associated Lab Samples: 92526996001, 92526996002, 92526996003, 92526996004, 92526996005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	03/15/21 12:47	

LABORATORY CONTROL SAMPLE: 3195733

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	386	96	90-111	

SAMPLE DUPLICATE: 3195734

Parameter	Units	92526988001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	790	840	6	10	

SAMPLE DUPLICATE: 3195735

Parameter	Units	92526996004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	ND	ND		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 McDonough AP-1
Pace Project No.: 92526996

QC Batch: 607316 | Analysis Method: SM 2540C-2011
QC Batch Method: SM 2540C-2011 | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92526996006, 92526996007, 92526996008, 92526996009

METHOD BLANK: 3199480 Matrix: Water
Associated Lab Samples: 92526996006, 92526996007, 92526996008, 92526996009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	03/17/21 17:40	

LABORATORY CONTROL SAMPLE: 3199481

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	400	100	90-111	

SAMPLE DUPLICATE: 3199482

Parameter	Units	92527256010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	279	278	0	10	

SAMPLE DUPLICATE: 3199483

Parameter	Units	92526996006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	255	258	1	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(770)734-4200

QUALITY CONTROL DATA

Project: Plant McDonough AP-1
Pace Project No.: 92526996

QC Batch: 606641
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92526286004

METHOD BLANK: 3196222 Matrix: Water
Associated Lab Samples: 92526286004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	03/16/21 04:09	
Fluoride	mg/L	ND	0.10	0.050	03/16/21 04:09	
Sulfate	mg/L	ND	1.0	0.50	03/16/21 04:09	

LABORATORY CONTROL SAMPLE: 3196223

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.5	99	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	50	52.2	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196224 3196225

Parameter	Units	92527305006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2170	50	50	2220	2220	100	95	90-110	0	10	
Fluoride	mg/L				8.8	8.5				3	10	M6
Sulfate	mg/L				1800	1790				0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196226 3196227

Parameter	Units	92527315001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1620	50	50	1640	1650	49	61	90-110	0	10	M6
Fluoride	mg/L	ND	2.5	2.5	ND	ND	0	0	90-110		10	M6
Sulfate	mg/L	25.1	50	50	70.0	71.8	90	93	90-110	2	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 McDonough AP-1
Pace Project No.: 92526996

QC Batch: 606815
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92526996001, 92526996002, 92526996003, 92526996004, 92526996005

METHOD BLANK: 3196953 Matrix: Water
Associated Lab Samples: 92526996001, 92526996002, 92526996003, 92526996004, 92526996005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	03/16/21 14:18	
Fluoride	mg/L	ND	0.10	0.050	03/16/21 14:18	
Sulfate	mg/L	ND	1.0	0.50	03/16/21 14:18	

LABORATORY CONTROL SAMPLE: 3196954

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	47.1	94	90-110	
Fluoride	mg/L	2.5	2.4	96	90-110	
Sulfate	mg/L	50	49.7	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196955 3196956

Parameter	Units	92526941004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	302	50	50	340	339	77	74	90-110	0	10	M6
Fluoride	mg/L	0.90	2.5	2.5	3.5	3.6	106	108	90-110	1	10	
Sulfate	mg/L	223	50	50	266	265	87	85	90-110	0	10	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196957 3196958

Parameter	Units	92525536004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	50.1	50.6	100	101	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.5	2.5	100	102	90-110	1	10	
Sulfate	mg/L	ND	50	50	52.8	53.5	106	107	90-110	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 McDonough AP-1
Pace Project No.: 92526996

QC Batch: 607751
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92526996006

METHOD BLANK: 3201757 Matrix: Water
Associated Lab Samples: 92526996006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	03/19/21 17:15	
Fluoride	mg/L	ND	0.10	0.050	03/19/21 17:15	
Sulfate	mg/L	ND	1.0	0.50	03/19/21 17:15	

LABORATORY CONTROL SAMPLE: 3201758

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.2	100	90-110	
Fluoride	mg/L	2.5	2.3	91	90-110	
Sulfate	mg/L	50	50.2	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3201759 3201760

Parameter	Units	92528475003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2510	50	50	2520	2520	27	27	90-110	0	10	M6
Fluoride	mg/L	4.6	2.5	2.5	12.1	11.9	302	294	90-110	2	10	M6
Sulfate	mg/L	1530	50	50	1510	1480	-49	-112	90-110	2	10	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3201761 3201762

Parameter	Units	92527256007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	5.9	50	50	58.9	57.5	106	103	90-110	2	10	
Fluoride	mg/L	ND	2.5	2.5	2.3	2.3	91	90	90-110	1	10	
Sulfate	mg/L	50.4	50	50	102	101	103	101	90-110	1	10	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Plant McDonough AP-1
Pace Project No.: 92526996

QC Batch: 607758
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92526996007, 92526996008, 92526996009

METHOD BLANK: 3201801 Matrix: Water
Associated Lab Samples: 92526996007, 92526996008, 92526996009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	03/20/21 19:43	
Fluoride	mg/L	ND	0.10	0.050	03/20/21 19:43	
Sulfate	mg/L	ND	1.0	0.50	03/20/21 19:43	

LABORATORY CONTROL SAMPLE: 3201802

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.0	100	90-110	
Fluoride	mg/L	2.5	2.6	103	90-110	
Sulfate	mg/L	50	53.0	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3201803 3201804

Parameter	Units	92526996007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	8.0	50	50	57.8	58.5	99	101	90-110	1	10	
Fluoride	mg/L	0.058J	2.5	2.5	2.5	2.6	98	100	90-110	2	10	
Sulfate	mg/L	154	50	50	255	259	201	210	90-110	2	10	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3201805 3201806

Parameter	Units	92527261012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.2	50	50	53.9	53.4	101	100	90-110	1	10	
Fluoride	mg/L	0.83	2.5	2.5	3.5	3.5	107	106	90-110	1	10	
Sulfate	mg/L	166	50	50	183	208	33	84	90-110	13	10	M1,R1

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 McDonough AP-1
Pace Project No.: 92526996

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
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 McDonough AP-1
Pace Project No.: 92526996

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92526286004	**DGWC-40**				
92526996001	**DGWC-68A**				
92526996002	**DGWC-69**				
92526996006	**DGWC-37**				
92526996007	**DGWC-38**				
92526996008	**DGWC-39**				
92526996009	**DGWC-67**				
92526286004	**DGWC-40**	EPA 3010A	606634	EPA 6010D	606723
92526996001	**DGWC-68A**	EPA 3010A	608824	EPA 6010D	608893
92526996002	**DGWC-69**	EPA 3010A	608824	EPA 6010D	608893
92526996003	**DUP-3**	EPA 3010A	608824	EPA 6010D	608893
92526996004	**FB-3**	EPA 3010A	608824	EPA 6010D	608893
92526996005	**EB-3**	EPA 3010A	608824	EPA 6010D	608893
92526996006	**DGWC-37**	EPA 3010A	608824	EPA 6010D	608893
92526996007	**DGWC-38**	EPA 3010A	608824	EPA 6010D	608893
92526996008	**DGWC-39**	EPA 3010A	608824	EPA 6010D	608893
92526996009	**DGWC-67**	EPA 3010A	608824	EPA 6010D	608893
92526286004	**DGWC-40**	EPA 3005A	606644	EPA 6020B	606712
92526996001	**DGWC-68A**	EPA 3005A	608839	EPA 6020B	608955
92526996002	**DGWC-69**	EPA 3005A	608839	EPA 6020B	608955
92526996003	**DUP-3**	EPA 3005A	608839	EPA 6020B	608955
92526996004	**FB-3**	EPA 3005A	608839	EPA 6020B	608955
92526996005	**EB-3**	EPA 3005A	608839	EPA 6020B	608955
92526996006	**DGWC-37**	EPA 3005A	608839	EPA 6020B	608955
92526996007	**DGWC-38**	EPA 3005A	608839	EPA 6020B	608955
92526996008	**DGWC-39**	EPA 3005A	608839	EPA 6020B	608955
92526996009	**DGWC-67**	EPA 3005A	608839	EPA 6020B	608955
92526286004	**DGWC-40**	SM 2540C-2011	605516		
92526996001	**DGWC-68A**	SM 2540C-2011	606580		
92526996002	**DGWC-69**	SM 2540C-2011	606580		
92526996003	**DUP-3**	SM 2540C-2011	606580		
92526996004	**FB-3**	SM 2540C-2011	606580		
92526996005	**EB-3**	SM 2540C-2011	606580		
92526996006	**DGWC-37**	SM 2540C-2011	607316		
92526996007	**DGWC-38**	SM 2540C-2011	607316		
92526996008	**DGWC-39**	SM 2540C-2011	607316		
92526996009	**DGWC-67**	SM 2540C-2011	607316		
92526286004	**DGWC-40**	EPA 300.0 Rev 2.1 1993	606641		
92526996001	**DGWC-68A**	EPA 300.0 Rev 2.1 1993	606815		
92526996002	**DGWC-69**	EPA 300.0 Rev 2.1 1993	606815		
92526996003	**DUP-3**	EPA 300.0 Rev 2.1 1993	606815		
92526996004	**FB-3**	EPA 300.0 Rev 2.1 1993	606815		
92526996005	**EB-3**	EPA 300.0 Rev 2.1 1993	606815		
92526996006	**DGWC-37**	EPA 300.0 Rev 2.1 1993	607751		

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant McDonough AP-1
Pace Project No.: 92526996

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92526996007	**DGWC-38**	EPA 300.0 Rev 2.1 1993	607758		
92526996008	**DGWC-39**	EPA 300.0 Rev 2.1 1993	607758		
92526996009	**DGWC-67**	EPA 300.0 Rev 2.1 1993	607758		

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GAPower

Project #:

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

Custody Seal Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☐ No

Date/Initials Person Examining Contents: 3/4/21

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☑ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

Thermometer: ☐ IR Gun ID: 233 **Type of Ice:** ☑ Wet ☐ Blue ☐ None

Cooler Temp: 3.9 **Correction Factor:** Add/Subtract (°C) +0.4

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 4.2

USDA Regulated Soil (☐ N/A, water sample)
Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☑ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☑ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☑ Yes	☐ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix:	W T			
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: _____ **Date:** _____

Project Manager SRF Review: _____ **Date:** _____

WO# : 92526996

Page 92526996

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: Georgia Power - Coal Combustion Residuals	Report To: Jinju Abraham	Attention: scservices@southernco.com
Address: 2480 Maner Road Atlanta GA 30339	Copy To: Golder	Company Name
Email: jabraham@southernco.com	Purchase Order #:	Address:
Phone: (404) 506-7239 Fax:	Project Name: Plant McDonough AP-1	Pace Quote
Requested Due Date: Standard	Project #: 186849621	Pace Project Manager: Kinzie Herring 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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	Preservatives: H2SO4	Preservatives: HNO3	Analyses Test: Y/N	Requested Analysis Filtered (Y/N): Y/N	Analyses Test: Metals App III and App IV Total	Analyses Test: Chloride, Fluoride, Sulfate	Analyses Test: Radium 226/228	Analyses Test: Total Dissolved Solids (TDS)	Residual Chlorine (Y/N)	
1	DGWC-68A	WT	G	3/10/2021	1149		5	2		3		N	X	X	X	X		pH: 6.74
2	DGWC-69	WT	G	3/10/2021	1006		5	2		3		N	X	X	X	X		pH: 6.13
3	DUP-3	WT	G	3/10/2021	----		5	2		3		N	X	X	X	X		
4	FB-3	WT	G	3/10/2021	1206		5	2		3		N	X	X	X	X		
5	EB-3	WT	G	3/10/2021	1455		5	2		3		N	X	X	X	X		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
*App III : Boron, Calcium	JW/GOLDER	3/11/21	810	TEIROC	3/11/21	820
*App IV: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Selenium, Thallium	TEIROC	3/11/21	850	Chandler Hunt	3/11/21	0850
* Exclude Mercury						

SAMPLE CONDITIONS			
TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
3.8	Y	N	Y

DATE Signed:

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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:	Joju Abraham	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Golder	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:		Pace Quote:	
Phone:	(404) 506-7239 Fax	Project Name:	Plant McDonough AP-1	Pace Project Manager:	Kevin Herring
Requested Due Date:	Standard	Project #:	166849621	Pace Profile #:	

Regulatory Agency	
State / Location	GA

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved - Ice	Preservatives: HNO3	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: Boron, Calcium	Sb, As, Ba, Be, Cd, Cr, Co	Pb, Li, Se, Tl	Choloride, Fluoride, Sulfate	Radium 226/228	Total Dissolved Solids (TDS)	Residual Chlorine (Y/N)	
										N	N	N	N					
1	DGWC-37	WT	G	3/11/2021	1312		5	2	3		X	X	X	X	X	X		pH: 6.49
2	DGWC-38	WT	G	3/11/2021	1158		5	2	3		X	X	X	X	X	X		pH: 6.22
3	DGWC-39	WT	G	3/11/2021	1102		5	2	3		X	X	X	X	X	X		pH: 6.66
4	DGWC-67	WT	G	3/11/2021	955		5	2	3		X	X	X	X	X	X		pH: 6.28
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
		3/12/21	1723		3/12/21	1723	

DATE Signed:

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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:	Joju Abraham	Attention:	scsservices@southernco.com
Address:	2480 Maner Road	Copy To:	Golder	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #		Pace Quote:	
Phone:	(404) 506-7239 Fax:	Project Name:	Plant McDonough AP-1	Pace Project Manager:	Kevin Herring
Requested Due Date:	Standard	Project #:	165349021	Pace Profile #:	

Regulatory Agency
State / Location
GA

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample IDs must be unique MATRIX: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	Preservatives: H2SO4	Preservatives: HNO3	Requested Analysis Filtered (Y/N): Y/N	Analyses Test	Requested Analysis Filtered (Y/N): N	Requested Analysis Filtered (Y/N): N	Requested Analysis Filtered (Y/N): N	Requested Analysis Filtered (Y/N): N	Residual Chlorine (Y/N)	
													"Metals App III and App IV Total	Chlorides, Fluoride, Sulfate	Radium 226/228	Total Dissolved Solids (TDS)		
1	DGWC-40	WT	G	3/8/2021	1202		5	2	3				X	X	X	X		pH: 4.79
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
*App III TO Metals = As, Ba, B, Be, Ca, Co, Cl, Cr, Pb, Li, Mo, Se, Th	JW/GOLDER	3/9/21		M. BATH	3/9/21	8:35				
	M. BATH	3-9-21	9:30	[illegible]	3/9/21	0930	2.1	Y	N	Y

DATE Signed:

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

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

May 13, 2021

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

RE: Project: Plant McDonough AP-1 RADS
Pace Project No.: 92527005

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between March 09, 2021 and March 12, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Greensburg

Revision 1 - This report replaces the April 2, 2021 report. This project was revised on April 28, 2021 in order to reflect the cancelation of Sample 92526280-001/B-74 as per client request. (Greensburg, PA)

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

Sincerely,

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

Enclosures

cc: Stephen Benda
Daniela Herrera, Golder
Ben Hodges, Georgia Power
Kristen Jurinko
J. Shelby Mobley
Charles Norton, Southern Company
Ms. Lauren Petty, Southern Company
Dawn Prell, Golder Associates Inc.
Tim Richards, Golder Associates - Atlanta

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: Plant McDonough AP-1 RADS
Pace Project No.: 92527005

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

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

SAMPLE SUMMARY

Project: Plant McDonough AP-1 RADS
Pace Project No.: 92527005

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92527005001	**DGWC-68A**	Water	03/10/21 11:40	03/11/21 08:50
92527005002	**DGWC-69**	Water	03/10/21 10:06	03/11/21 08:50
92527005003	**DUP-3**	Water	03/10/21 00:00	03/11/21 08:50
92527005004	**FB-3**	Water	03/10/21 12:00	03/11/21 08:50
92527005005	**EB-3**	Water	03/10/21 14:55	03/11/21 08:50
92527005006	**DGWC-37**	Water	03/11/21 13:12	03/12/21 17:23
92527005007	**DGWC-38**	Water	03/11/21 11:58	03/12/21 17:23
92527005008	**DGWC-39**	Water	03/11/21 11:02	03/12/21 17:23
92527005009	**DGWC-67**	Water	03/11/21 09:55	03/12/21 17:23
92526280004	**DGWC-40**	Water	03/08/21 12:02	03/09/21 09:30

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SAMPLE ANALYTE COUNT

Project: Plant McDonough AP-1 RADS
Pace Project No.: 92527005

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92527005001	**DGWC-68A**	EPA 9315	CLA	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92527005002	**DGWC-69**	EPA 9315	CLA	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92527005003	**DUP-3**	EPA 9315	CLA	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92527005004	**FB-3**	EPA 9315	CLA	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92527005005	**EB-3**	EPA 9315	CLA	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92527005006	**DGWC-37**	EPA 9315	CLA	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92527005007	**DGWC-38**	EPA 9315	CLA	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92527005008	**DGWC-39**	EPA 9315	CLA	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92527005009	**DGWC-67**	EPA 9315	CLA	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92526280004	**DGWC-40**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant McDonough AP-1 RADS
Pace Project No.: 92527005

Sample: DGWC-68A **Lab ID: 92527005001** Collected: 03/10/21 11:40 Received: 03/11/21 08:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0288 ± 0.152 (0.387) C:84% T:NA**	pCi/L	03/29/21 07:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.539 ± 0.455 (0.923) C:73% T:81%**	pCi/L	04/07/21 12:39	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.568 ± 0.607 (1.31)**	pCi/L	04/08/21 10:32	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant McDonough AP-1 RADS
Pace Project No.: 92527005

Sample: DGWC-69 **Lab ID: 92527005002** Collected: 03/10/21 10:06 Received: 03/11/21 08:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.867 ± 0.334 (0.435) C:88% T:NA**	pCi/L	03/29/21 07:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.728 ± 0.480 (0.923) C:68% T:81%**	pCi/L	04/07/21 12:39	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.60 ± 0.814 (1.36)**	pCi/L	04/08/21 10:32	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant McDonough AP-1 RADS
Pace Project No.: 92527005

Sample: DUP-3 **Lab ID: 92527005003** Collected: 03/10/21 00:00 Received: 03/11/21 08:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**1.01 ± 0.359 (0.379) C:85% T:NA**	pCi/L	03/29/21 07:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.543 ± 0.466 (0.945) C:73% T:82%**	pCi/L	04/07/21 15:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.55 ± 0.825 (1.32)**	pCi/L	04/08/21 10:32	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant McDonough AP-1 RADS
Pace Project No.: 92527005

Sample: FB-3 **Lab ID: 92527005004** Collected: 03/10/21 12:00 Received: 03/11/21 08:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0266 ± 0.100 (0.257) C:95% T:NA**	pCi/L	03/29/21 07:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**-0.0421 ± 0.428 (0.993) C:75% T:83%**	pCi/L	04/07/21 15:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.0266 ± 0.528 (1.25)**	pCi/L	04/08/21 10:32	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant McDonough AP-1 RADS
Pace Project No.: 92527005

Sample: EB-3 **Lab ID: 92527005005** Collected: 03/10/21 14:55 Received: 03/11/21 08:50 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**-0.00976 ± 0.173 (0.441) C:96% T:NA**	pCi/L	03/29/21 07:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.613 ± 0.518 (1.05) C:73% T:79%**	pCi/L	04/07/21 15:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.613 ± 0.691 (1.49)**	pCi/L	04/08/21 10:32	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant McDonough AP-1 RADS
Pace Project No.: 92527005

Sample: DGWC-37 **Lab ID: 92527005006** Collected: 03/11/21 13:12 Received: 03/12/21 17:23 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.369 ± 0.235 (0.441) C:72% T:NA**	pCi/L	03/29/21 07:33	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.587 ± 0.472 (0.946) C:75% T:79%**	pCi/L	04/07/21 15:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.956 ± 0.707 (1.39)**	pCi/L	04/08/21 10:32	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant McDonough AP-1 RADS
Pace Project No.: 92527005

Sample: DGWC-38 **Lab ID: 92527005007** Collected: 03/11/21 11:58 Received: 03/12/21 17:23 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0784 ± 0.170 (0.399) C:77% T:NA**	pCi/L	03/29/21 07:33	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**-0.0501 ± 0.408 (0.949) C:77% T:83%**	pCi/L	04/07/21 15:56	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.0784 ± 0.578 (1.35)**	pCi/L	04/08/21 10:32	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant McDonough AP-1 RADS
Pace Project No.: 92527005

Sample: DGWC-39 **Lab ID: 92527005008** Collected: 03/11/21 11:02 Received: 03/12/21 17:23 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0788 ± 0.189 (0.443) C:71% T:NA**	pCi/L	03/29/21 07:34	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.890 ± 0.499 (0.910) C:75% T:77%**	pCi/L	04/07/21 15:56	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.969 ± 0.688 (1.35)**	pCi/L	04/08/21 10:32	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant McDonough AP-1 RADS
Pace Project No.: 92527005

Sample: DGWC-67 **Lab ID: 92527005009** Collected: 03/11/21 09:55 Received: 03/12/21 17:23 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.249 ± 0.219 (0.435) C:71% T:NA**	pCi/L	03/29/21 07:34	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.30 ± 0.599 (1.02) C:72% T:75%**	pCi/L	04/07/21 15:56	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.55 ± 0.818 (1.46)**	pCi/L	04/08/21 10:32	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant McDonough AP-1 RADS
Pace Project No.: 92527005

Sample: DGWC-40 **Lab ID: 92526280004** Collected: 03/08/21 12:02 Received: 03/09/21 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.147 ± 0.177 (0.350) C:70% T:NA**	pCi/L	03/26/21 11:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.567 ± 0.472 (0.948) C:72% T:68%**	pCi/L	04/01/21 12:41	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.714 ± 0.649 (1.30)**	pCi/L	04/02/21 14:31	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant McDonough AP-1 RADS
Pace Project No.: 92527005

QC Batch: 440194 | Analysis Method: EPA 9320
QC Batch Method: EPA 9320 | Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92527005001, 92527005002, 92527005003, 92527005004, 92527005005, 92527005006, 92527005007, 92527005008, 92527005009

METHOD BLANK: 2125114 Matrix: Water
Associated Lab Samples: 92527005001, 92527005002, 92527005003, 92527005004, 92527005005, 92527005006, 92527005007, 92527005008, 92527005009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.922 ± 0.466 (0.823) C:75% T:77%	pCi/L	04/07/21 12:38	

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

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant McDonough AP-1 RADS
Pace Project No.: 92527005

QC Batch: 440196
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples:

METHOD BLANK: 2125122 Matrix: Water
Associated Lab Samples:

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.624 ± 0.351 (0.633) C:78% T:86%	pCi/L	04/09/21 12:05	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant McDonough AP-1 RADS
Pace Project No.: 92527005

QC Batch: 439298
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92526280004

METHOD BLANK: 2120869
Matrix: Water
Associated Lab Samples: 92526280004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.265 ± 0.289 (0.590) C:61% T:NA	pCi/L	03/26/21 10:47	

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.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant McDonough AP-1 RADS
Pace Project No.: 92527005

QC Batch: 440497
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples:

METHOD BLANK: 2126659 Matrix: Water
Associated Lab Samples:

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0621 ± 0.152 (0.366) C:63% T:NA	pCi/L	04/05/21 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 McDonough AP-1 RADS
Pace Project No.: 92527005

QC Batch: 439300
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92526280004

METHOD BLANK: 2120874 Matrix: Water
Associated Lab Samples: 92526280004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.143 ± 0.352 (0.785) C:76% T:73%	pCi/L	04/01/21 12:42	

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.

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant McDonough AP-1 RADS
Pace Project No.: 92527005

QC Batch: 439773 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92527005001, 92527005002, 92527005003, 92527005004, 92527005005, 92527005006, 92527005007, 92527005008, 92527005009

METHOD BLANK: 2123469 Matrix: Water
Associated Lab Samples: 92527005001, 92527005002, 92527005003, 92527005004, 92527005005, 92527005006, 92527005007, 92527005008, 92527005009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0133 ± 0.113 (0.309) C:70% T:NA	pCi/L	03/29/21 07:58	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Plant McDonough AP-1 RADS
Pace Project No.: 92527005

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant McDonough AP-1 RADS
Pace Project No.: 92527005

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92526280004	**DGWC-40**	EPA 9315	439298		
92527005001	**DGWC-68A**	EPA 9315	439773		
92527005002	**DGWC-69**	EPA 9315	439773		
92527005003	**DUP-3**	EPA 9315	439773		
92527005004	**FB-3**	EPA 9315	439773		
92527005005	**EB-3**	EPA 9315	439773		
92527005006	**DGWC-37**	EPA 9315	439773		
92527005007	**DGWC-38**	EPA 9315	439773		
92527005008	**DGWC-39**	EPA 9315	439773		
92527005009	**DGWC-67**	EPA 9315	439773		
92526280004	**DGWC-40**	EPA 9320	439300		
92527005001	**DGWC-68A**	EPA 9320	440194		
92527005002	**DGWC-69**	EPA 9320	440194		
92527005003	**DUP-3**	EPA 9320	440194		
92527005004	**FB-3**	EPA 9320	440194		
92527005005	**EB-3**	EPA 9320	440194		
92527005006	**DGWC-37**	EPA 9320	440194		
92527005007	**DGWC-38**	EPA 9320	440194		
92527005008	**DGWC-39**	EPA 9320	440194		
92527005009	**DGWC-67**	EPA 9320	440194		
92526280004	**DGWC-40**	Total Radium Calculation	441617		
92527005001	**DGWC-68A**	Total Radium Calculation	442420		
92527005002	**DGWC-69**	Total Radium Calculation	442420		
92527005003	**DUP-3**	Total Radium Calculation	442420		
92527005004	**FB-3**	Total Radium Calculation	442420		
92527005005	**EB-3**	Total Radium Calculation	442420		
92527005006	**DGWC-37**	Total Radium Calculation	442420		
92527005007	**DGWC-38**	Total Radium Calculation	442420		
92527005008	**DGWC-39**	Total Radium Calculation	442420		
92527005009	**DGWC-67**	Total Radium Calculation	442420		

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:

Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GAPower

Project #:

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

Custody Seal Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☐ No

Date/Initials Person Examining Contents: 3/4/21

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☑ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

Thermometer: ☐ IR Gun ID: 233 **Type of Ice:** ☑ Wet ☐ Blue ☐ None

Cooler Temp: 3.9 **Correction Factor:** Add/Subtract (°C) +0.4

Temp should be above freezing to 6°C

☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 4.2

USDA Regulated Soil (☐ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☑ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☑ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☑ Yes	☐ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: WT				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: _____ **Date:** _____

Project Manager SRF Review: _____ **Date:** _____

WO# : 92526996

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Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:	
Company: Georgia Power - Coal Combustion Residuals	Report To: Jinju Abraham	Attention: scservices@southernco.com	Regulatory Agency
Address: 2480 Maner Road Atlanta GA 30339	Copy To: Golder	Company Name	
Email: jabraham@southernco.com	Purchase Order #:	Address:	
Phone: (404) 506-7239 Fax:	Project Name: Plant McDonough AP-1	Pace Quote	
Requested Due Date: Standard	Project #: 186849621	Pace Project Manager: Kinzie Herring	State / Location: GA
		Pace Profile #:	

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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	Preservatives: H2SO4	Preservatives: HNO3	Analyses Test: Y/N	Requested Analysis Filtered (Y/N): Y/N	Analyses Test: Metals App III and App IV Total	Analyses Test: Chloride, Fluoride, Sulfate	Analyses Test: Radium 226/228	Analyses Test: Total Dissolved Solids (TDS)	Residual Chlorine (Y/N)	
1	DGWC-68A	WT	G	3/10/2021	1149		5	2		3		N	X	X	X	X		pH: 6.74
2	DGWC-69	WT	G	3/10/2021	1006		5	2		3		N	X	X	X	X		pH: 6.13
3	DUP-3	WT	G	3/10/2021	----		5	2		3		N	X	X	X	X		
4	FB-3	WT	G	3/10/2021	1206		5	2		3		N	X	X	X	X		
5	EB-3	WT	G	3/10/2021	1455		5	2		3		N	X	X	X	X		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		

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)
*App III: Boron, Calcium	JW/GOLDER	3/11/21	0710	TEIROC	3/11/21	820				
*App IV: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Selenium, Thallium	TEIROC	3/11/21	450	Chandler Hunt	3/11/21	0850	3.8	Y	N	Y
* Exclude Mercury										

DATE Signed:

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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:	Joju Abraham	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Golder	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:		Pace Quote:	
Phone:	(404) 506-7239 Fax	Project Name:	Plant McDonough AP-1	Pace Project Manager:	Kevin Herring
Requested Due Date:	Standard	Project #:	166849621	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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved - Ice	Preservatives: HNO3	Analyses Test Y/N	Boron, Calcium	Sb, As, Ba, Be, Cd, Cr, Co	Pb, Li, Se, Tl	Choloride, Fluoride, Sulfate	Radium 226/228	Total Dissolved Solids (TDS)	Residual Chlorine (Y/N)	
	MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS									Requested Analysis Filtered (Y/N)	N	N	N	N				
1	DGWC-37	WT	G	3/11/2021	1312		5	2	3		X	X	X	X	X	X		pH: 6.49
2	DGWC-38	WT	G	3/11/2021	1158		5	2	3		X	X	X	X	X	X		pH: 6.22
3	DGWC-39	WT	G	3/11/2021	1102		5	2	3		X	X	X	X	X	X		pH: 6.66
4	DGWC-67	WT	G	3/11/2021	955		5	2	3		X	X	X	X	X	X		pH: 6.28
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
		3/12/21	1723		3/12/21	1723	

DATE Signed:

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A — Required Client Information:

Company:	Georgia Power - Coal Combustion Residuals
Address:	2480 Maner Road
	Atlanta, GA 30339
Email:	jabraham@southernco.com
Phone:	(404) 506-7239
Fax:	
Requested Due Date:	Standard

Section B — Required Project Information:

Report To:	Joju Abraham
Copy To:	Golder
Purchase Order #:	
Project Name:	Plant McDonough AP-1
Project #:	165349021

Section C — Invoice Information:

Attention:	scservices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	

Regulatory Agency:

State / Location: GA

Requested Analysis Filtered (Y/N)

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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	Preservatives: HNO3	Analyses Test Y/N	Metals App III and App IV Total	Chlorides, Fluoride, Sulfate	Radium 226/228	Total Dissolved Solids (TDS)	Residual Chlorine (Y/N)	
	MATRIX CODE: Drinking Water=DW, Water=WT, Waste Water=WW, Product=P, Soil/Solid=SL, Oil=OL, Wipe=WP, Air=AR, Other=OT, Tissue=TS									Y/N	N	N	N	N		
1	DGWC-40	WT	G	3/8/2021	1202		5	2	3		X	X	X	X		pH: 4.79
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
*App III TO Metals = Al, Sb, B, Ba, Be, Ca, Co, Cr, Cd, Pb, Li, Mo, Se, Tl	JW/GOLDER	3/9/21		M. BAH	3/9/21	8:35
	M. BAH	3-9-21	9:30	[illegible]	3/9/21	0930

SAMPLE CONDITIONS

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
2.1	Y	N	Y

DATE Signed:

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	CLA
Date:	3/26/2021
Worklist:	59450
Matrix:	DW

Method Blank Assessment	
MB Sample ID	2123469
MB concentration:	0.013
MB Counting Uncertainty:	0.113
MB MDC:	0.309
MB Numerical Performance Indicator:	0.23
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCS (Y or N)?	Y
	LCS59450	LCSD59450
Count Date:	3/29/2021	3/29/2021
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.039	24.039
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.505	0.504
Target Conc. (pCi/L, g, F):	4.763	4.773
Uncertainty (Calculated):	0.057	0.057
Result (pCi/L, g, F):	4.437	5.482
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.594	0.737
Numerical Performance Indicator:	-1.07	1.88
Percent Recovery:	93.15%	114.86%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS59450	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD59450	
Sample Result (pCi/L, g, F):	4.437	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.594	
Sample Duplicate Result (pCi/L, g, F):	5.482	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.737	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-2.166	92527256001
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	20.88%	92527258001DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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:		
% RPD Limit:		

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

Comments:

jAm 3/29/21

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-228
Analyst: CLA
Date: 3/26/2021
Worklist: 59450
Matrix: DW

Method Blank Assessment	
MB Sample ID	2123469
MB concentration:	0.013
MB Counting Uncertainty:	0.113
MB MDC:	0.309
MB Numerical Performance Indicator:	0.23
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS59450	LCSD59450
Count Date:	3/29/2021	
Spike I.D.:	19-033	
Decay Corrected Spike Concentration (pCi/mL):	24.039	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.505	
Target Conc. (pCi/L, g, F):	4.763	
Uncertainty (Calculated):	0.057	
Result (pCi/L, g, F):	4.437	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.594	
Numerical Performance Indicator:	-1.07	
Percent Recovery:	93.15%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Sample I.D.:	92527258001	
Duplicate Sample I.D.	92527258001DUP	
Sample Result (pCi/L, g, F):	-0.074	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.070	
Sample Duplicate Result (pCi/L, g, F):	0.120	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.145	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	-2.367	92527258001
Duplicate RPD:	852.72%	92527258001DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail	
% RPD Limit:	25%	

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:		
% RPD Limit:		

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.

CMK 3/26/2021

Quality Control Sample Performance Assessment

Pace Analytical

Test:	Ra-226
Analyst:	LAL
Date:	4/5/2021
Worklist:	59558
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2126659
MB concentration:	0.062
MB Counting Uncertainty:	0.152
MB MDC:	0.366
MB Numerical Performance Indicator:	0.80
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS59558	LCSD59558
Count Date:	4/5/2021	
Spike I.D.:	19-033	
Decay Corrected Spike Concentration (pCi/mL):	24.039	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.504	
Target Conc. (pCi/L, g, F):	4.767	
Uncertainty (Calculated):	0.057	
Result (pCi/L, g, F):	4.602	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.640	
Numerical Performance Indicator:	-0.50	
Percent Recovery:	96.54%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	92527242024	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	92527242024DUP	
Sample Result (pCi/L, g, F):	0.093	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.130	
Sample Duplicate Result (pCi/L, g, F):	0.308	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.260	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	-1.453	92527242024
Duplicate RPD:	107.60%	92527242024DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	
% RPD Limit:	25%	

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:		
% RPD Limit:		

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***~~

LAL 4/5/21

LAL 4/5/21

Quality Control Sample Performance Assessment

Test: Ra-226
Analyst: LAL
Date: 4/5/2021
Worklist: 59558
Matrix: DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2126659
MB concentration:	0.062
MB Counting Uncertainty:	0.152
MB MDC:	0.366
MB Numerical Performance Indicator:	0.80
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS59558	LCSD59558
Count Date:	4/5/2021	4/5/2021
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.039	24.039
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.504	0.511
Target Conc. (pCi/L, g, F):	4.767	4.705
Uncertainty (Calculated):	0.057	0.056
Result (pCi/L, g, F):	4.602	4.903
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.540	0.628
Numerical Performance Indicator:	-0.50	0.62
Percent Recovery:	96.54%	104.21%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS59558	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD59558	
Sample Result (pCi/L, g, F):	4.602	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.540	
Sample Duplicate Result (pCi/L, g, F):	4.903	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.628	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-0.658	92527242024
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	7.65%	92527242024DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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:		
% RPD Limit:		

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

Comments:

Quality Control Sample Performance Assessment

Pace Analytical

Test: Ra-228
Analyst: VAL
Date: 4/5/2021
Worklist: 59501
Matrix: WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2125122
MB concentration:	0.624
MB 2 Sigma CSU:	0.351
MB MDC:	0.633
MB Numerical Performance Indicator:	3.48
MB Status vs Numerical Indicator:	Fail*
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS59501	LCSD59501
Count Date:	4/9/2021	4/9/2021
Spike I.D.:	21-003	21-003
Decay Corrected Spike Concentration (pCi/mL):	39.142	39.142
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.811	0.812
Target Conc. (pCi/L, g, F):	4.704	4.697
Uncertainty (Calculated):	0.230	0.230
Result (pCi/L, g, F):	4.512	5.514
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.029	1.197
Numerical Performance Indicator:	-0.36	1.31
Percent Recovery:	95.93%	117.38%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS59501	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.:	LCSD59501	
Sample Result (pCi/L, g, F):	4.512	
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.029	
Sample Duplicate Result (pCi/L, g, F):	5.514	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.197	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-1.244	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	20.11%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	36%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit:		

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

Comments:
~~If the lowest activity sample in this batch is greater than ten times the blank value, the blank is acceptable; otherwise this batch must be re-prepped.~~ MB < MDC, Pass

4/12/21

CWL 4/8/21

Quality Control Sample Performance Assessment

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-228
Analyst:	VAL
Date:	4/2/2021
Worklist:	59499
Matrix:	WT

Method Blank Assessment	
MB Sample ID	2125114
MB concentration	0.922
MB 2 Sigma CSU	0.466
MB MDC	0.823
MB Numerical Performance Indicator	3.88
MB Status vs Numerical Indicator	Fail*
MB Status vs. MDC	See Comment*

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS59498	LCSD59499
Count Date	4/7/2021	4/7/2021
Spike I.D.	21-003	21-003
Decay Corrected Spike Concentration (pCi/mL)	38.167	38.167
Volume Used (mL)	0.10	0.10
Aliquot Volume (L, g, F)	0.815	0.814
Target Conc. (pCi/L, g, F)	4.686	4.686
Uncertainty (Calculated)	0.230	0.230
Result (pCi/L, g, F)	4.985	4.724
LCS/LCSD 2 Sigma CSU (pCi/L, g, F)	1.122	1.103
Numerical Performance Indicator	0.51	0.07
Percent Recovery	106.39%	100.80%
Status vs Numerical Indicator	N/A	N/A
Status vs Recovery	Pass	Pass
Upper % Recovery Limits	135%	135%
Lower % Recovery Limits	60%	60%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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)		
MS Spike Uncertainty (calculated)		
MSD Spike Uncertainty (calculated)		
Sample Result		
Sample Result 2 Sigma CSU (pCi/L, g, F)		
Sample Matrix Spike Result		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F)		
Sample Matrix Spike Duplicate Result		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F)		
MS Numerical Performance Indicator		
MSD Numerical Performance Indicator		
MS Percent Recovery		
MSD Percent Recovery		
MS Status vs Numerical Indicator		
MSD Status vs Numerical Indicator		
MS Status vs Recovery		
MSD Status vs Recovery		
MS/MSD Upper % Recovery Limits		
MS/MSD Lower % Recovery Limits		

Duplicate Sample Assessment		
Sample I.D.	LCS59499	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD59499	
Sample Result (pCi/L, g, F)	4.985	
Sample Result 2 Sigma CSU (pCi/L, g, F)	1.122	
Sample Duplicate Result (pCi/L, g, F)	4.724	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F)	1.103	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator	0.326	
[Based on the LCS/LCSD Percent Recoveries] Duplicate RPD	5.40%	
Duplicate Status vs Numerical Indicator	Pass	
Duplicate Status vs RPD	Pass	
% RPD Limit	35%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F)		
Sample Matrix Spike Duplicate Result		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F)		
Duplicate Numerical Performance Indicator		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD		
MS/ MSD Duplicate Status vs Numerical Indicator		
MS/ MSD Duplicate Status vs RPD		
% RPD Limit		

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

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

4/5/21

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

May 13, 2021

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

RE: Project: PLANT MCDONOUGH AP-1 MISC
Pace Project No.: 92527014

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between March 09, 2021 and March 12, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

cc: Stephen Benda
Daniela Herrera, Golder
Ben Hodges, Georgia Power
Kristen Jurinko
J. Shelby Mobley
Charles Norton, Southern Company
Ms. Lauren Petty, Southern Company
Dawn Prell, Golder Associates Inc.
Tim Richards, Golder Associates - Atlanta

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: PLANT MCDONOUGH AP-1 MISC
Pace Project No.: 92527014

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

Pace Analytical Services Peachtree Corners
110 Technology Pkwy, Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001

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SAMPLE SUMMARY

Project: PLANT MCDONOUGH AP-1 MISC
Pace Project No.: 92527014

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92527014001	**DGWC-68A**	Water	03/10/21 10:40	03/11/21 08:50
92527014002	**DGWC-69**	Water	03/10/21 10:06	03/11/21 08:50
92527014003	**DUP-3**	Water	03/10/21 00:00	03/11/21 08:50
92527014004	**FB-3**	Water	03/10/21 12:00	03/11/21 08:50
92527014005	**EB-3**	Water	03/10/21 14:55	03/11/21 08:50
92527014006	**DGWC-37**	Water	03/11/21 13:12	03/12/21 17:23
92527014007	**DGWC-38**	Water	03/11/21 11:58	03/12/21 17:23
92527014008	**DGWC-39**	Water	03/11/21 11:02	03/12/21 17:23
92527014009	**DGWC-67**	Water	03/11/21 09:55	03/12/21 17:23
92526291004	**DGWC-40**	Water	03/08/21 12:02	03/09/21 09:30

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SAMPLE ANALYTE COUNT

Project: PLANT MCDONOUGH AP-1 MISC
Pace Project No.: 92527014

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92527014001	**DGWC-68A**	EPA 6010D	KH	3
		SM 2320B-2011	ECH	3
92527014002	**DGWC-69**	EPA 6010D	KH	3
		SM 2320B-2011	ECH	3
92527014003	**DUP-3**	EPA 6010D	KH	3
		SM 2320B-2011	ECH	3
92527014004	**FB-3**	EPA 6010D	KH	3
		SM 2320B-2011	ECH	3
92527014005	**EB-3**	EPA 6010D	KH	3
		SM 2320B-2011	ECH	3
92527014006	**DGWC-37**	EPA 6010D	KH	3
		SM 2320B-2011	ECH	3
92527014007	**DGWC-38**	EPA 6010D	KH	3
		SM 2320B-2011	ECH	3
92527014008	**DGWC-39**	EPA 6010D	KH	3
		SM 2320B-2011	ECH	3
92527014009	**DGWC-67**	EPA 6010D	KH	3
		SM 2320B-2011	ECH	3
92526291004	**DGWC-40**	EPA 6010D	DRB	3
		SM 2320B-2011	ECH	3

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte
PASI-GA = Pace Analytical Services - Peachtree Corners, GA

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ANALYTICAL RESULTS

Project: PLANT MCDONOUGH AP-1 MISC
Pace Project No.: 92527014

Sample: DGWC-68A **Lab ID: 92527014001** Collected: 03/10/21 10:40 Received: 03/11/21 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:57		
pH	**6.74**	Std. Units			1		03/22/21 11:57		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Potassium	**4.0**	mg/L	0.20	0.056	1	03/24/21 10:08	03/24/21 15:13	7440-09-7	
Sodium	**10.0**	mg/L	1.0	0.26	1	03/24/21 10:08	03/24/21 15:13	7440-23-5	
Magnesium	**18.7**	mg/L	0.050	0.0076	1	03/24/21 10:08	03/24/21 15:13	7439-95-4	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**208**	mg/L	5.0	5.0	1		03/23/21 20:44		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/23/21 20:44		
Alkalinity, Total as CaCO3	**208**	mg/L	5.0	5.0	1		03/23/21 20:44		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: PLANT MCDONOUGH AP-1 MISC
Pace Project No.: 92527014

Sample: DGWC-69 **Lab ID: 92527014002** Collected: 03/10/21 10:06 Received: 03/11/21 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:57		
pH	**6.13**	Std. Units			1		03/22/21 11:57		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Potassium	**2.4**	mg/L	0.20	0.056	1	03/24/21 10:08	03/24/21 15:49	7440-09-7	
Sodium	**9.8**	mg/L	1.0	0.26	1	03/24/21 10:08	03/24/21 15:49	7440-23-5	
Magnesium	**2.3**	mg/L	0.050	0.0076	1	03/24/21 10:08	03/24/21 15:49	7439-95-4	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**38.3**	mg/L	5.0	5.0	1		03/23/21 20:59		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/23/21 20:59		
Alkalinity, Total as CaCO3	**38.3**	mg/L	5.0	5.0	1		03/23/21 20:59		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: PLANT MCDONOUGH AP-1 MISC
Pace Project No.: 92527014

Sample: DUP-3 **Lab ID: 92527014003** Collected: 03/10/21 00:00 Received: 03/11/21 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Potassium	**2.4**	mg/L	0.20	0.056	1	03/24/21 10:08	03/24/21 15:54	7440-09-7	
Sodium	**9.7**	mg/L	1.0	0.26	1	03/24/21 10:08	03/24/21 15:54	7440-23-5	
Magnesium	**2.3**	mg/L	0.050	0.0076	1	03/24/21 10:08	03/24/21 15:54	7439-95-4	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**38.0**	mg/L	5.0	5.0	1		03/23/21 21:07		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/23/21 21:07		
Alkalinity, Total as CaCO3	**38.0**	mg/L	5.0	5.0	1		03/23/21 21:07		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PLANT MCDONOUGH AP-1 MISC
Pace Project No.: 92527014

Sample: FB-3 **Lab ID: 92527014004** Collected: 03/10/21 12:00 Received: 03/11/21 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Potassium	ND	mg/L	0.20	0.056	1	03/24/21 10:08	03/24/21 15:59	7440-09-7	
Sodium	ND	mg/L	1.0	0.26	1	03/24/21 10:08	03/24/21 15:59	7440-23-5	
Magnesium	ND	mg/L	0.050	0.0076	1	03/24/21 10:08	03/24/21 15:59	7439-95-4	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/23/21 21:15		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/23/21 21:15		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		03/23/21 21:15		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: PLANT MCDONOUGH AP-1 MISC
Pace Project No.: 92527014

Sample: EB-3 **Lab ID: 92527014005** Collected: 03/10/21 14:55 Received: 03/11/21 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Potassium	ND	mg/L	0.20	0.056	1	03/24/21 10:08	03/24/21 16:03	7440-09-7	
Sodium	ND	mg/L	1.0	0.26	1	03/24/21 10:08	03/24/21 16:03	7440-23-5	
Magnesium	ND	mg/L	0.050	0.0076	1	03/24/21 10:08	03/24/21 16:03	7439-95-4	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/23/21 21:27		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/23/21 21:27		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		03/23/21 21:27		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: PLANT MCDONOUGH AP-1 MISC
Pace Project No.: 92527014

Sample: DGWC-37 **Lab ID: 92527014006** Collected: 03/11/21 13:12 Received: 03/12/21 17:23 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:57		
pH	**6.49**	Std. Units			1		03/22/21 11:57		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Potassium	**3.9**	mg/L	0.20	0.056	1	03/24/21 10:08	03/24/21 16:08	7440-09-7	
Sodium	**10.7**	mg/L	1.0	0.26	1	03/24/21 10:08	03/24/21 16:08	7440-23-5	
Magnesium	**12.0**	mg/L	0.050	0.0076	1	03/24/21 10:08	03/24/21 16:08	7439-95-4	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**132**	mg/L	5.0	5.0	1		03/24/21 13:12		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/24/21 13:12		
Alkalinity, Total as CaCO3	**132**	mg/L	5.0	5.0	1		03/24/21 13:12		

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: PLANT MCDONOUGH AP-1 MISC
Pace Project No.: 92527014

Sample: DGWC-38 **Lab ID: 92527014007** Collected: 03/11/21 11:58 Received: 03/12/21 17:23 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:57		
pH	**66.22**	Std. Units			1		03/22/21 11:57		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Potassium	**4.3**	mg/L	0.20	0.056	1	03/24/21 10:08	03/24/21 16:13	7440-09-7	
Sodium	**12.1**	mg/L	1.0	0.26	1	03/24/21 10:08	03/24/21 16:13	7440-23-5	
Magnesium	**25.7**	mg/L	0.050	0.0076	1	03/24/21 10:08	03/24/21 16:13	7439-95-4	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**84.6**	mg/L	5.0	5.0	1		03/24/21 13:24		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/24/21 13:24		
Alkalinity, Total as CaCO3	**84.6**	mg/L	5.0	5.0	1		03/24/21 13:24		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: PLANT MCDONOUGH AP-1 MISC
Pace Project No.: 92527014

Sample: DGWC-39 **Lab ID: 92527014008** Collected: 03/11/21 11:02 Received: 03/12/21 17:23 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:57		
pH	**6.66**	Std. Units			1		03/22/21 11:57		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Potassium	**2.4**	mg/L	0.20	0.056	1	03/24/21 10:08	03/24/21 16:18	7440-09-7	
Sodium	**14.4**	mg/L	1.0	0.26	1	03/24/21 10:08	03/24/21 16:18	7440-23-5	
Magnesium	**22.6**	mg/L	0.050	0.0076	1	03/24/21 10:08	03/24/21 16:18	7439-95-4	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**245**	mg/L	5.0	5.0	1		03/24/21 16:15		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/24/21 16:15		
Alkalinity, Total as CaCO3	**245**	mg/L	5.0	5.0	1		03/24/21 16:15		

Pace Analytical Services, LLC
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(770)734-4200

ANALYTICAL RESULTS

Project: PLANT MCDONOUGH AP-1 MISC
Pace Project No.: 92527014

Sample: DGWC-67 **Lab ID: 92527014009** Collected: 03/11/21 09:55 Received: 03/12/21 17:23 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:57		
pH	**6.28**	Std. Units			1		03/22/21 11:57		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Potassium	**4.0**	mg/L	0.20	0.056	1	03/24/21 10:08	03/24/21 16:23	7440-09-7	
Sodium	**10.6**	mg/L	1.0	0.26	1	03/24/21 10:08	03/24/21 16:23	7440-23-5	
Magnesium	**18.1**	mg/L	0.050	0.0076	1	03/24/21 10:08	03/24/21 16:23	7439-95-4	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**98.0**	mg/L	5.0	5.0	1		03/24/21 13:46		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/24/21 13:46		
Alkalinity, Total as CaCO3	**98.0**	mg/L	5.0	5.0	1		03/24/21 13:46		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: PLANT MCDONOUGH AP-1 MISC
Pace Project No.: 92527014

Sample: DGWC-40 **Lab ID: 92526291004** Collected: 03/08/21 12:02 Received: 03/09/21 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:50		
pH	**4.79**	Std. Units			1		03/22/21 11:50		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Potassium	**6.0**	mg/L	0.20	0.056	1	03/15/21 14:10	03/19/21 15:35	7440-09-7	
Magnesium	**18.8**	mg/L	0.050	0.0076	1	03/15/21 14:10	03/19/21 15:35	7439-95-4	
Sodium	**20.7**	mg/L	1.0	0.26	1	03/15/21 14:10	03/19/21 04:08	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/18/21 16:20		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/18/21 16:20		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		03/18/21 16:20		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: PLANT MCDONOUGH AP-1 MISC
Pace Project No.: 92527014

QC Batch: 606634
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92526291004

METHOD BLANK: 3196175 Matrix: Water
Associated Lab Samples: 92526291004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Magnesium	mg/L	ND	0.050	0.0076	03/19/21 03:10	
Potassium	mg/L	ND	0.20	0.056	03/19/21 03:10	
Sodium	mg/L	ND	1.0	0.26	03/19/21 03:10	

LABORATORY CONTROL SAMPLE: 3196176

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Magnesium	mg/L	1	1.0	104	80-120	
Potassium	mg/L	1	1.1	113	80-120	
Sodium	mg/L	1	1.1	115	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196177 3196178

Parameter	Units	92526031001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Magnesium	mg/L	66.1	1	1	67.0	65.6	86	-56	75-125	2	20	M1
Potassium	mg/L	14.1	1	1	15.3	15.0	122	90	75-125	2	20	
Sodium	mg/L	51.4	1	1	52.6	51.1	123	-27	75-125	3	20	M1

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(770)734-4200

QUALITY CONTROL DATA

Project: PLANT MCDONOUGH AP-1 MISC
Pace Project No.: 92527014

QC Batch: 608824
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92527014001, 92527014002, 92527014003, 92527014004, 92527014005, 92527014006, 92527014007, 92527014008, 92527014009

METHOD BLANK: 3206694 Matrix: Water
Associated Lab Samples: 92527014001, 92527014002, 92527014003, 92527014004, 92527014005, 92527014006, 92527014007, 92527014008, 92527014009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Magnesium	mg/L	ND	0.050	0.0076	03/24/21 15:04	
Potassium	mg/L	ND	0.20	0.056	03/24/21 15:04	
Sodium	mg/L	ND	1.0	0.26	03/24/21 15:04	

LABORATORY CONTROL SAMPLE: 3206695

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Magnesium	mg/L	1	1.1	106	80-120	
Potassium	mg/L	1	1.1	109	80-120	
Sodium	mg/L	1	1.1	112	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3206696 3206697

Parameter	Units	92526996001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Magnesium	mg/L	18.7	1	1	20.0	19.9	128	125	75-125	0	20	M1
Potassium	mg/L	4.0	1	1	5.2	5.1	113	106	75-125	1	20	
Sodium	mg/L	10.0	1	1	11.1	11.0	107	96	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: PLANT MCDONOUGH AP-1 MISC
Pace Project No.: 92527014

QC Batch: 607521
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92526291004

METHOD BLANK: 3200444 Matrix: Water
Associated Lab Samples: 92526291004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	03/18/21 13:02	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	03/18/21 13:02	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	03/18/21 13:02	

LABORATORY CONTROL SAMPLE: 3200445

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	49.8	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3200446 3200447

Parameter	Units	92526458001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	69.7	50	50	121	120	102	101	80-120	1	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3200448 3200449

Parameter	Units	92526968011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	186	50	50	233	240	93	108	80-120	3	25	

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REPORT OF LABORATORY ANALYSIS

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(770)734-4200

QUALITY CONTROL DATA

Project: PLANT MCDONOUGH AP-1 MISC
Pace Project No.: 92527014

QC Batch: 607911
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92527014001, 92527014002, 92527014003, 92527014004, 92527014005

METHOD BLANK: 3202328 Matrix: Water
Associated Lab Samples: 92527014001, 92527014002, 92527014003, 92527014004, 92527014005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	03/23/21 18:20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	03/23/21 18:20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	03/23/21 18:20	

LABORATORY CONTROL SAMPLE: 3202329

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	52.7	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3205394 3205395

Parameter	Units	92528425001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	71.1	50	50	121	120	100	98	80-120	1	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3205396 3205397

Parameter	Units	92528425002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	61.7	50	50	112	114	101	105	80-120	1	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
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: PLANT MCDONOUGH AP-1 MISC
Pace Project No.: 92527014

QC Batch: 608537
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92527014006, 92527014007, 92527014008, 92527014009

METHOD BLANK: 3205445 Matrix: Water
Associated Lab Samples: 92527014006, 92527014007, 92527014008, 92527014009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	03/24/21 11:50	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	03/24/21 11:50	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	03/24/21 11:50	

LABORATORY CONTROL SAMPLE: 3205446

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	52.2	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3206750 3206751

Parameter	Units	92528425003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	87.1	50	50	135	135	96	96	80-120	0	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3206752 3206753

Parameter	Units	92528425004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	ND	50	50	54.6	54.3	106	106	80-120	1	25	

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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 MCDONOUGH AP-1 MISC
Pace Project No.: 92527014

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PLANT MCDONOUGH AP-1 MISC
Pace Project No.: 92527014

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92526291004	**DGWC-40**				
92527014001	**DGWC-68A**				
92527014002	**DGWC-69**				
92527014006	**DGWC-37**				
92527014007	**DGWC-38**				
92527014008	**DGWC-39**				
92527014009	**DGWC-67**				
92526291004	**DGWC-40**	EPA 3010A	606634	EPA 6010D	606723
92527014001	**DGWC-68A**	EPA 3010A	608824	EPA 6010D	608893
92527014002	**DGWC-69**	EPA 3010A	608824	EPA 6010D	608893
92527014003	**DUP-3**	EPA 3010A	608824	EPA 6010D	608893
92527014004	**FB-3**	EPA 3010A	608824	EPA 6010D	608893
92527014005	**EB-3**	EPA 3010A	608824	EPA 6010D	608893
92527014006	**DGWC-37**	EPA 3010A	608824	EPA 6010D	608893
92527014007	**DGWC-38**	EPA 3010A	608824	EPA 6010D	608893
92527014008	**DGWC-39**	EPA 3010A	608824	EPA 6010D	608893
92527014009	**DGWC-67**	EPA 3010A	608824	EPA 6010D	608893
92526291004	**DGWC-40**	SM 2320B-2011	607521		
92527014001	**DGWC-68A**	SM 2320B-2011	607911		
92527014002	**DGWC-69**	SM 2320B-2011	607911		
92527014003	**DUP-3**	SM 2320B-2011	607911		
92527014004	**FB-3**	SM 2320B-2011	607911		
92527014005	**EB-3**	SM 2320B-2011	607911		
92527014006	**DGWC-37**	SM 2320B-2011	608537		
92527014007	**DGWC-38**	SM 2320B-2011	608537		
92527014008	**DGWC-39**	SM 2320B-2011	608537		
92527014009	**DGWC-67**	SM 2320B-2011	608537		

Pace Analytical®	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:

Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GAPower

Project #:

Courier: ☐ Commercial ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ Other:____

Custody Seal Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☐ No

Date/Initials Person Examining Contents: 3/4/21

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☑ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

Thermometer: ☐ IR Gun ID: 233 **Type of Ice:** ☑ Wet ☐ Blue ☐ None

Cooler Temp: 3.9 **Correction Factor:** Add/Subtract (°C) +0.4

Temp should be above freezing to 6°C

☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 4.2

USDA Regulated Soil (☐ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☑ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☑ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☑ Yes	☐ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: WT				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: _____ **Date:** _____

Project Manager SRF Review: _____ **Date:** _____

WO# : 92527014

92527014

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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:	Jeju Abraham	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Golder	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:		Pace Quote:	
Phone:	(404) 506-7239 Fax	Project Name:	Plant McDonough AP 1	Pace Project Manager:	Kevin Herring
Requested Due Date:	Standard	Project #:	166849621	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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	Preservatives: HNO3	Analyses Test: Y/N	Requested Analysis Filtered (Y/N): Potassium	Bicarbonate Alkalinity	Carbonate Alkalinity	Sodium	Magnesium	Residual Chlorine (Y/N)	
	MATRIX: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS																
1	DGWC-68A	WT	G	3/10/2021	1140		5	2	3		X	X	X	X	X		pH: 6.74
2	DGWC-69	WT	G	3/10/2021	1006		5	2	3		X	X	X	X	X		pH: 6.13
3	DUP-3	WT	G	3/10/2021	-----		5	2	3		X	X	X	X	X		
4	FB-3	WT	G	3/10/2021	1200		5	2	3		X	X	X	X	X		
5	EB-3	WT	G	3/10/2021	1455		5	2	3		X	X	X	X	X		
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
*Major Ions = potassium, bicarbonate alkalinity, carbonate alkalinity, sodium, magnesium	JW/GOLDER	3/11/21	810	TE/IOC	3/11/21	810				
	TE/IOC	3/11/21	850	Charles Hunter	3/11/21	0850	3.8	Y	N	Y

DATE Signed:

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

6490

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately

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: Jojo Abraham	Attention: pcsinvoices3@southernco.com
Address: 2480 Maner Road Atlanta, GA 30339	Copy To: Golder	Company Name: Address:
Email: jabraham@southernco.com	Purchase Order #:	Pace Quote:
Phone: (404) 506-7230 Fax:	Project Name: Plant McDonough AP 1	Pace Project Manager: Kevin Herring
Requested Due Date: Standard	Project #: 166849621	Pace Profile #:

Regulatory Agency: State / Location: GA

Requested Analysis Filtered (Y/N)

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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	Y/N	Analytes Test	Potassium	Bicarbonate Alkalinity	Carbonate Alkalinity	Sodium	Magnesium	Residual Chlorine (Y/N)	
1	DGWC-37	WT	G	3/11/2021	1312		5	2	3				X	X	X	X	X		pH: 6.49
2	DGWC-38	WT	G	3/11/2021	1156		5	2	3				X	X	X	X	X		pH: 6.22
3	DGWC-39	WT	G	3/11/2021	1102		5	2	3				X	X	X	X	X		pH: 6.66
4	DGWC-67	WT	G	3/11/2021	955		5	2	3				X	X	X	X	X		pH: 6.28
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Analytes = potassium, bicarbonate alkalinity, carbonate alkalinity, sodium, magnesium		3-12-21	723		3/12/21	1723	

DATE Signed:

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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:	Joju Abraham	Attention:	gcainvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Golder	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #		Pace Quote:	
Phone:	(404) 506-7239 Fax:	Project Name:	Plant McDonough AP-1	Pace Project Manager:	Kevin Herring
Requested Due Date:	Standard	Project #:	186849821	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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	Preservatives: H2SO4	Preservatives: HNO3	Preservatives:	Preservatives:	Preservatives:	Preservatives:	Preservatives:	Preservatives:	Preservatives:	Y/N	Analyses Test: Potassium	Bicarbonate Alkalinity	Carbonate Alkalinity	Sodium	Magnesium								Residual Chlorine (Y/N)	
	Requested Analysis Filtered (Y/N)																	N	N	N	N	N									
1	DGWC-40	WT	G	3/8/2021	1202		5	2	3									X	X	X	X	X									pH: 4.78
2																															
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															
13																															
14																															
15																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
*Major ions + potassium, bicarbonate alkalinity, carbonate alkalinity, sodium, magnesium	JW/Golder	3/9/21		M · BAH	3-9-21	8:35				
	M · BAH	3-9-21	9:30	[illegible]	3/9/21	0930	2.4	Y	N	Y

DATE Signed:

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

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

May 13, 2021

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

RE: Project: MCDONOUGH AP-1
Pace Project No.: 92526286

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between March 09, 2021 and March 17, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

cc: Stephen Benda
Daniela Herrera, Golder
Ben Hodges, Georgia Power
Kristen Jurinko
J. Shelby Mobley
Charles Norton, Southern Company
Ms. Lauren Petty, Southern Company
Dawn Prell, Golder Associates Inc.
Tim Richards, Golder Associates - Atlanta

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: MCDONOUGH AP-1
Pace Project No.: 92526286

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

Pace Analytical Services Peachtree Corners
110 Technology Pkwy, Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001

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

SAMPLE SUMMARY

Project: MCDONOUGH AP-1
Pace Project No.: 92526286

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92526286002	**B-100**	Water	03/08/21 14:23	03/09/21 09:30
92526286003	**B-105D**	Water	03/08/21 13:30	03/09/21 09:30
92526996010	**B-110D**	Water	03/16/21 12:20	03/17/21 09:12

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

SAMPLE ANALYTE COUNT

Project: MCDONOUGH AP-1
Pace Project No.: 92526286

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92526286002	**B-100**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	JLH	3
92526286003	**B-105D**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	JLH	3
92526996010	**B-110D**	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	JLH	3

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte
PASI-GA = Pace Analytical Services - Peachtree Corners, GA

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH AP-1
Pace Project No.: 92526286

Sample: B-100 **Lab ID: 92526286002** Collected: 03/08/21 14:23 Received: 03/09/21 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:50		
pH	**5.32**	Std. Units			1		03/22/21 11:50		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**47.7**	mg/L	1.0	0.070	1	03/15/21 14:10	03/19/21 03:59	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.0017J**	mg/L	0.0030	0.00028	1	03/15/21 14:35	03/16/21 15:18	7440-36-0	B
Arsenic	ND	mg/L	0.0050	0.00078	1	03/15/21 14:35	03/16/21 15:18	7440-38-2	
Barium	**0.022**	mg/L	0.0050	0.00071	1	03/15/21 14:35	03/16/21 15:18	7440-39-3	
Beryllium	**0.00046J**	mg/L	0.00050	0.000046	1	03/15/21 14:35	03/16/21 15:18	7440-41-7	
Boron	**0.24**	mg/L	0.040	0.0052	1	03/15/21 14:35	03/16/21 15:18	7440-42-8	
Cadmium	**0.00027J**	mg/L	0.00050	0.00012	1	03/15/21 14:35	03/16/21 15:18	7440-43-9	
Chromium	**0.00057J**	mg/L	0.0050	0.00055	1	03/15/21 14:35	03/16/21 15:18	7440-47-3	
Cobalt	**0.029**	mg/L	0.0050	0.00038	1	03/15/21 14:35	03/16/21 15:18	7440-48-4	
Lead	**0.00018J**	mg/L	0.0010	0.000036	1	03/15/21 14:35	03/16/21 15:18	7439-92-1	
Lithium	**0.0024J**	mg/L	0.030	0.00081	1	03/15/21 14:35	03/16/21 15:18	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	03/15/21 14:35	03/16/21 15:18	7439-98-7	
Selenium	**0.0019J**	mg/L	0.0050	0.0016	1	03/15/21 14:35	03/16/21 15:18	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	03/15/21 14:35	03/16/21 15:18	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**660**	mg/L	20.0	20.0	1		03/10/21 17:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**12.9**	mg/L	1.0	0.60	1		03/16/21 09:54	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/16/21 09:54	16984-48-8	
Sulfate	**388**	mg/L	8.0	4.0	8		03/16/21 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: MCDONOUGH AP-1
Pace Project No.: 92526286

Sample: B-105D **Lab ID: 92526286003** Collected: 03/08/21 13:30 Received: 03/09/21 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:50		
pH	**6.37**	Std. Units			1		03/22/21 11:50		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**79.6**	mg/L	1.0	0.070	1	03/15/21 14:10	03/19/21 04:03	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.00069J**	mg/L	0.0030	0.00028	1	03/15/21 14:35	03/16/21 15:24	7440-36-0	B
Arsenic	**0.0025J**	mg/L	0.0050	0.00078	1	03/15/21 14:35	03/16/21 15:24	7440-38-2	
Barium	**0.041**	mg/L	0.0050	0.00071	1	03/15/21 14:35	03/16/21 15:24	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	03/15/21 14:35	03/16/21 15:24	7440-41-7	
Boron	**0.64**	mg/L	0.040	0.0052	1	03/15/21 14:35	03/16/21 15:24	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	03/15/21 14:35	03/16/21 15:24	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	03/15/21 14:35	03/16/21 15:24	7440-47-3	
Cobalt	**0.0042J**	mg/L	0.0050	0.00038	1	03/15/21 14:35	03/16/21 15:24	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	03/15/21 14:35	03/16/21 15:24	7439-92-1	
Lithium	**0.015J**	mg/L	0.030	0.00081	1	03/15/21 14:35	03/16/21 15:24	7439-93-2	
Molybdenum	**0.0011J**	mg/L	0.010	0.00069	1	03/15/21 14:35	03/16/21 15:24	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	03/15/21 14:35	03/16/21 15:24	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	03/15/21 14:35	03/16/21 15:24	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**477**	mg/L	10.0	10.0	1		03/10/21 17:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**17.4**	mg/L	1.0	0.60	1		03/16/21 10:08	16887-00-6	
Fluoride	**0.32**	mg/L	0.10	0.050	1		03/16/21 10:08	16984-48-8	
Sulfate	**228**	mg/L	5.0	2.5	5		03/16/21 16:34	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH AP-1
Pace Project No.: 92526286

Sample: B-110D **Lab ID: 92526996010** Collected: 03/16/21 12:20 Received: 03/17/21 09:12 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:56		
pH	**7.53**	Std. Units			1		03/22/21 11:56		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**49.9**	mg/L	1.0	0.070	1	03/24/21 10:08	03/24/21 16:28	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	03/24/21 10:11	03/24/21 18:22	7440-36-0	
Arsenic	**0.0036J**	mg/L	0.0050	0.00078	1	03/24/21 10:11	03/24/21 18:22	7440-38-2	
Barium	**0.0061**	mg/L	0.0050	0.00071	1	03/24/21 10:11	03/24/21 18:22	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	03/24/21 10:11	03/24/21 18:22	7440-41-7	
Boron	**0.28**	mg/L	0.040	0.0052	1	03/24/21 10:11	03/24/21 18:22	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	03/24/21 10:11	03/24/21 18:22	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	03/24/21 10:11	03/24/21 18:22	7440-47-3	
Cobalt	**0.00083J**	mg/L	0.0050	0.00038	1	03/24/21 10:11	03/24/21 18:22	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	03/24/21 10:11	03/24/21 18:22	7439-92-1	
Lithium	**0.013J**	mg/L	0.030	0.00081	1	03/24/21 10:11	03/24/21 18:22	7439-93-2	
Molybdenum	**0.076**	mg/L	0.010	0.00069	1	03/24/21 10:11	03/24/21 18:22	7439-98-7	
Selenium	**0.0016J**	mg/L	0.0050	0.0016	1	03/24/21 10:11	03/24/21 18:22	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	03/24/21 10:11	03/24/21 18:22	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**194**	mg/L	10.0	10.0	1		03/22/21 15:50		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**2.0**	mg/L	1.0	0.60	1		03/20/21 21:17	16887-00-6	
Fluoride	**0.76**	mg/L	0.10	0.050	1		03/20/21 21:17	16984-48-8	
Sulfate	**51.4**	mg/L	1.0	0.50	1		03/20/21 21:17	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: MCDONOUGH AP-1
Pace Project No.: 92526286

QC Batch: 606634
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92526286002, 92526286003

METHOD BLANK: 3196175 Matrix: Water
Associated Lab Samples: 92526286002, 92526286003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	03/19/21 03:10	

LABORATORY CONTROL SAMPLE: 3196176

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196177 3196178

Parameter	Units	92526031001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	207	1	1	209	202	181	-447	75-125	3	20	M1

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MCDONOUGH AP-1
Pace Project No.: 92526286

QC Batch: 608824
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92526996010

METHOD BLANK: 3206694 Matrix: Water
Associated Lab Samples: 92526996010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	03/24/21 15:04	

LABORATORY CONTROL SAMPLE: 3206695

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.1	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3206696 3206697

Parameter	Units	92526996001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	54.2	1	1	55.7	55.2	157	106	75-125	1	20	M1

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MCDONOUGH AP-1
Pace Project No.: 92526286

QC Batch: 606644
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92526286002, 92526286003

METHOD BLANK: 3196234 Matrix: Water
Associated Lab Samples: 92526286002, 92526286003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	0.00035J	0.0030	0.00028	03/16/21 14:38	
Arsenic	mg/L	ND	0.0050	0.00078	03/16/21 14:38	
Barium	mg/L	ND	0.0050	0.00071	03/16/21 14:38	
Beryllium	mg/L	ND	0.00050	0.000046	03/16/21 14:38	
Boron	mg/L	ND	0.040	0.0052	03/16/21 14:38	
Cadmium	mg/L	ND	0.00050	0.00012	03/16/21 14:38	
Chromium	mg/L	ND	0.0050	0.00055	03/16/21 14:38	
Cobalt	mg/L	ND	0.0050	0.00038	03/16/21 14:38	
Lead	mg/L	ND	0.0010	0.000036	03/16/21 14:38	
Lithium	mg/L	ND	0.030	0.00081	03/16/21 14:38	
Molybdenum	mg/L	ND	0.010	0.00069	03/16/21 14:38	
Selenium	mg/L	ND	0.0050	0.0016	03/16/21 14:38	
Thallium	mg/L	ND	0.0010	0.00014	03/16/21 14:38	

LABORATORY CONTROL SAMPLE: 3196235

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.096	96	80-120	
Arsenic	mg/L	0.1	0.096	96	80-120	
Barium	mg/L	0.1	0.095	95	80-120	
Beryllium	mg/L	0.1	0.098	98	80-120	
Boron	mg/L	1	1.0	103	80-120	
Cadmium	mg/L	0.1	0.097	97	80-120	
Chromium	mg/L	0.1	0.10	100	80-120	
Cobalt	mg/L	0.1	0.099	99	80-120	
Lead	mg/L	0.1	0.094	94	80-120	
Lithium	mg/L	0.1	0.096	96	80-120	
Molybdenum	mg/L	0.1	0.094	94	80-120	
Selenium	mg/L	0.1	0.090	90	80-120	
Thallium	mg/L	0.1	0.093	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196236 3196237

Parameter	Units	92526031002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	0.00079J	0.1	0.1	0.098	0.099	98	98	75-125	0	20	
Arsenic	mg/L	ND	0.1	0.1	0.10	0.10	101	100	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: MCDONOUGH AP-1
Pace Project No.: 92526286

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196236 3196237

Parameter	Units	92526031002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.016	0.1	0.1	0.11	0.11	96	95	75-125	1	20	
Beryllium	mg/L	0.000097J	0.1	0.1	0.083	0.080	82	80	75-125	3	20	
Boron	mg/L	0.36	1	1	1.2	1.2	84	83	75-125	1	20	
Cadmium	mg/L	0.017	0.1	0.1	0.11	0.11	96	95	75-125	1	20	
Chromium	mg/L	0.00080J	0.1	0.1	0.092	0.092	92	91	75-125	0	20	
Cobalt	mg/L	0.019	0.1	0.1	0.11	0.11	93	92	75-125	1	20	
Lead	mg/L	0.00017J	0.1	0.1	0.088	0.087	88	86	75-125	2	20	
Lithium	mg/L	0.026J	0.1	0.1	0.11	0.11	82	81	75-125	1	20	
Molybdenum	mg/L	ND	0.1	0.1	0.093	0.092	93	91	75-125	2	20	
Selenium	mg/L	ND	0.1	0.1	0.10	0.097	100	96	75-125	4	20	
Thallium	mg/L	ND	0.1	0.1	0.089	0.087	89	86	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: MCDONOUGH AP-1
Pace Project No.: 92526286

QC Batch: 608839
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92526996010

METHOD BLANK: 3206767 Matrix: Water
Associated Lab Samples: 92526996010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	0.00047J	0.0030	0.00028	03/24/21 16:25	
Arsenic	mg/L	ND	0.0050	0.00078	03/24/21 16:25	
Barium	mg/L	ND	0.0050	0.00071	03/24/21 16:25	
Beryllium	mg/L	ND	0.00050	0.000046	03/24/21 16:25	
Boron	mg/L	ND	0.040	0.0052	03/24/21 16:25	
Cadmium	mg/L	ND	0.00050	0.00012	03/24/21 16:25	
Chromium	mg/L	ND	0.0050	0.00055	03/24/21 16:25	
Cobalt	mg/L	ND	0.0050	0.00038	03/24/21 16:25	
Lead	mg/L	ND	0.0010	0.000036	03/24/21 16:25	
Lithium	mg/L	ND	0.030	0.00081	03/24/21 16:25	
Molybdenum	mg/L	ND	0.010	0.00069	03/24/21 16:25	
Selenium	mg/L	ND	0.0050	0.0016	03/24/21 16:25	
Thallium	mg/L	ND	0.0010	0.00014	03/24/21 16:25	

LABORATORY CONTROL SAMPLE: 3206768

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	0.097	97	80-120	
Barium	mg/L	0.1	0.099	99	80-120	
Beryllium	mg/L	0.1	0.10	102	80-120	
Boron	mg/L	1	1.0	102	80-120	
Cadmium	mg/L	0.1	0.096	96	80-120	
Chromium	mg/L	0.1	0.10	100	80-120	
Cobalt	mg/L	0.1	0.099	99	80-120	
Lead	mg/L	0.1	0.098	98	80-120	
Lithium	mg/L	0.1	0.10	102	80-120	
Molybdenum	mg/L	0.1	0.099	99	80-120	
Selenium	mg/L	0.1	0.10	100	80-120	
Thallium	mg/L	0.1	0.096	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3206769 3206770

Parameter	Units	92526996001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	0.00032J	0.1	0.1	0.11	0.11	107	109	75-125	2	20	
Arsenic	mg/L	ND	0.1	0.1	0.099	0.10	98	99	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MCDONOUGH AP-1
Pace Project No.: 92526286

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3206769 3206770

Parameter	Units	92526996001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.090	0.1	0.1	0.19	0.19	100	99	75-125	0	20	
Beryllium	mg/L	0.000061J	0.1	0.1	0.093	0.098	93	98	75-125	5	20	
Boron	mg/L	1.7	1	1	2.7	2.7	94	99	75-125	2	20	
Cadmium	mg/L	ND	0.1	0.1	0.098	0.10	98	100	75-125	1	20	
Chromium	mg/L	ND	0.1	0.1	0.098	0.099	97	98	75-125	1	20	
Cobalt	mg/L	ND	0.1	0.1	0.097	0.098	97	98	75-125	1	20	
Lead	mg/L	0.000067J	0.1	0.1	0.096	0.095	95	95	75-125	0	20	
Lithium	mg/L	ND	0.1	0.1	0.095	0.096	95	95	75-125	0	20	
Molybdenum	mg/L	0.20	0.1	0.1	0.30	0.30	106	102	75-125	1	20	
Selenium	mg/L	0.0017J	0.1	0.1	0.094	0.095	93	94	75-125	1	20	
Thallium	mg/L	ND	0.1	0.1	0.094	0.095	94	95	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MCDONOUGH AP-1
Pace Project No.: 92526286

QC Batch: 605516
QC Batch Method: SM 2540C-2011
Analysis Method: SM 2540C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92526286002, 92526286003

METHOD BLANK: 3189891 Matrix: Water
Associated Lab Samples: 92526286002, 92526286003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	03/10/21 17:21	

LABORATORY CONTROL SAMPLE: 3189892

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	370	92	90-111	

SAMPLE DUPLICATE: 3189893

Parameter	Units	92524831026 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L		800			

SAMPLE DUPLICATE: 3189894

Parameter	Units	92526337002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	415	425	2	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: MCDONOUGH AP-1
Pace Project No.: 92526286

QC Batch: 608135
QC Batch Method: SM 2540C-2011
Analysis Method: SM 2540C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92526996010

METHOD BLANK: 3203645 Matrix: Water
Associated Lab Samples: 92526996010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	03/22/21 15:47	

LABORATORY CONTROL SAMPLE: 3203646

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	388	97	90-111	

SAMPLE DUPLICATE: 3203647

Parameter	Units	92527943001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	494	490	1	10	

SAMPLE DUPLICATE: 3203649

Parameter	Units	92527835007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	255	298	16	10	D6

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MCDONOUGH AP-1
Pace Project No.: 92526286

QC Batch: 606641
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92526286002, 92526286003

METHOD BLANK: 3196222 Matrix: Water
Associated Lab Samples: 92526286002, 92526286003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	03/16/21 04:09	
Fluoride	mg/L	ND	0.10	0.050	03/16/21 04:09	
Sulfate	mg/L	ND	1.0	0.50	03/16/21 04:09	

LABORATORY CONTROL SAMPLE: 3196223

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.5	99	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	50	52.2	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196224 3196225

Parameter	Units	92527305006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2170	50	50	2220	2220	100	95	90-110	0	10	
Fluoride	mg/L				8.8	8.5				3	10	M6
Sulfate	mg/L				1800	1790				0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196226 3196227

Parameter	Units	92527315001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1620	50	50	1640	1650	49	61	90-110	0	10	M6
Fluoride	mg/L	ND	2.5	2.5	ND	ND	0	0	90-110		10	M6
Sulfate	mg/L	25.1	50	50	70.0	71.8	90	93	90-110	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCDONOUGH AP-1
Pace Project No.: 92526286

QC Batch: 607982
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92526996010

METHOD BLANK: 3202733 Matrix: Water
Associated Lab Samples: 92526996010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	03/20/21 17:54	
Fluoride	mg/L	ND	0.10	0.050	03/20/21 17:54	
Sulfate	mg/L	ND	1.0	0.50	03/20/21 17:54	

LABORATORY CONTROL SAMPLE: 3202734

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	51.7	103	90-110	
Fluoride	mg/L	2.5	2.6	102	90-110	
Sulfate	mg/L	50	52.5	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3202737 3202738

Parameter	Units	92528140001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	57.9	50	50	105	105	94	94	90-110	0	10	
Fluoride	mg/L	ND	2.5	2.5	1.9	2.0	73	74	90-110	2	10	M6
Sulfate	mg/L	17.2	50	50	66.0	66.0	98	98	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3203204 3203205

Parameter	Units	92528440001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	319	50	50	332	332	26	27	90-110	0	10	M6
Fluoride	mg/L	0.34	2.5	2.5	2.6	2.7	90	94	90-110	3	10	
Sulfate	mg/L	132	50	50	178	179	94	94	90-110	0	10	

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REPORT OF LABORATORY ANALYSIS

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(770)734-4200

QUALIFIERS

Project: MCDONOUGH AP-1
Pace Project No.: 92526286

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
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: MCDONOUGH AP-1
Pace Project No.: 92526286

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92526286002	**B-100**				
92526286003	**B-105D**				
92526996010	**B-110D**				
92526286002	**B-100**	EPA 3010A	606634	EPA 6010D	606723
92526286003	**B-105D**	EPA 3010A	606634	EPA 6010D	606723
92526996010	**B-110D**	EPA 3010A	608824	EPA 6010D	608893
92526286002	**B-100**	EPA 3005A	606644	EPA 6020B	606712
92526286003	**B-105D**	EPA 3005A	606644	EPA 6020B	606712
92526996010	**B-110D**	EPA 3005A	608839	EPA 6020B	608955
92526286002	**B-100**	SM 2540C-2011	605516		
92526286003	**B-105D**	SM 2540C-2011	605516		
92526996010	**B-110D**	SM 2540C-2011	608135		
92526286002	**B-100**	EPA 300.0 Rev 2.1 1993	606641		
92526286003	**B-105D**	EPA 300.0 Rev 2.1 1993	606641		
92526996010	**B-110D**	EPA 300.0 Rev 2.1 1993	607982		

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GA Power

Project #: WO# : 92526286

92526286

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

Custody Seal Present? ☐ Yes ☑ No Seals Intact? ☐ Yes ☑ No

Date/Initials Person Examining Contents: MT 3/9/21

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☑ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

Thermometer: ☐ IR Gun ID: 233 ☑ Wet ☐ Blue ☐ None

Type of Ice:

Cooler Temp: 2.4 Correction Factor: Add/Subtract (°C) ± 0.4

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 2.8

USDA Regulated Soil (☐ N/A, water sample)
Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☑ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☑ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☑ No	☐ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: WT				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: _____ Date: _____

Project Manager SRF Review: _____ Date: _____

***Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.**

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

****Bottom half of box is to list number of bottles**

Project # WO#: 92526286

PM: KLH1 Due Date: 03/23/21

CLIENT: GA-GA Power

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SPST-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	BP1N	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1		1	1			1																		2				
2		1	1			1																		2				
3		1	1			1																		2				
4		1	1			1																		2				
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

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

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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:	Joju Abraham	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Golder	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:		Pace Quote:	
Phone:	(404) 506-7239 Fax:	Project Name:	Plant McDonough AP-1	Pace Project Manager:	Kevin Herring
Requested Due Date:	Standard	Project #:	166849621	Pace Profile #:	

Regulatory Agency	State / Location
	GA

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique MATRIX: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved = Ice	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Analysis Test Y/N	Requested Analysis Filtered (Y/N): *Metals App III and App IV Total	Cl, F, SO4	Radium 226/228	TDS	Residual Chlorine (Y/N)	
																Y/N	N	N	N	N		
1	B-100	WT	G	3/8/2021	1423		5	2		3							X	X	X	X		pH 5.32
2	B-105D	WT	G	3/8/2021	1330		5	2		3							X	X	X	X		pH 6.37
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

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)
*App III/IV Metals = As, Sb, B, Ba, Be, Ca, Cd, Cr, Co, Pb, Li, Mo, Se, Tl	JW/GOLDER	3/9/21	8:35	M. BAH	3-9-21	8:35				
	M. BAH	3-9-21	9:30	[illegible]	3/9/21	0930	24	Y	N	Y

DATE Signed:

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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:	Jaja Abraham	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Golder	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	PurchaseOrder #:		Pace Quote:	
Phone:	(404) 506-7238 Fax:	Project Name:	Plant McDonough AP-1	Pace Project Manager:	Kevin Herring
Requested Due Date:	10 Day TAT	Project #:	165949821	Pace Profile #:	

Regulatory Agency: —

State / Location: GA

Requested Analysis Filtered (Y/N)

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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Analysis Test Y/N	*Metals App III and App IV Total	Cl, F, SO4	Radium 226/228	TDS	Residual Chlorine (Y/N)	
		Matrix Codes: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS														Y/N	N	N	N	N		
1	B-1100	WT	G	3/16/2021	12:20		5	2		3						X	X	X	X	X		pH: 7.53
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
*App III / IV Metals = As, Sb, B, Ba, Be, Ca, Cd, Cr, Co, Pb, Li, Mo, Se, Tl	JW/GOLDER	3/17/21	9:12	[signature] Pace	3/17/21	0912	1.4	Y	N	Y
*Contains Mercury										

	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
JW				

DATE Signed: 3/17/21

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

June 03, 2021

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

RE: Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92526280

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between March 09, 2021 and March 17, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Greensburg

Revision 1 - This report replaces the April 2, 2021 report. This project was revised on April 28, 2021 in order to reflect the cancelation of Sample 92526280-001/B-74 as per client request. (Greensburg, PA)

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

Sincerely,

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

Enclosures

cc: Stephen Benda
Daniela Herrera, Golder
Ben Hodges, Georgia Power
Kristen Jurinko
J. Shelby Mobley
Charles Norton, Southern Company
Ms. Lauren Petty, Southern Company
Dawn Prell, Golder Associates Inc.
Tim Richards, Golder Associates - Atlanta

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92526280

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

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

SAMPLE SUMMARY

Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92526280

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92526280002	**B-100**	Water	03/08/21 14:23	03/09/21 09:30
92526280003	**B-105D**	Water	03/08/21 13:30	03/09/21 09:30
92527005010	**B-110D**	Water	03/16/21 12:20	03/17/21 09:12

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(770)734-4200

SAMPLE ANALYTE COUNT

Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92526280

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92526280002	**B-100**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92526280003	**B-105D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92527005010	**B-110D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92526280

Sample: B-100 **Lab ID: 92526280002** Collected: 03/08/21 14:23 Received: 03/09/21 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.145 ± 0.162 (0.314) C:82% T:NA**	pCi/L	03/26/21 11:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.0231 ± 0.379 (0.871) C:72% T:83%**	pCi/L	04/01/21 12:41	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.168 ± 0.541 (1.19)**	pCi/L	04/02/21 14:31	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: MCDONOUGH AP-1 RADS
Pace Project No.: 92526280

Sample: B-105D **Lab ID: 92526280003** Collected: 03/08/21 13:30 Received: 03/09/21 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.363 ± 0.286 (0.524) C:69% T:NA**	pCi/L	03/26/21 11:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.51 ± 0.560 (0.863) C:77% T:78%**	pCi/L	04/01/21 12:41	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.87 ± 0.846 (1.39)**	pCi/L	04/02/21 14:31	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: MCDONOUGH AP-1 RADS
Pace Project No.: 92526280

Sample: B-110D **Lab ID: 92527005010** Collected: 03/16/21 12:20 Received: 03/17/21 09:12 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.447 ± 0.243 (0.341) C:73% T:NA**	pCi/L	04/05/21 09:32	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.809 ± 0.443 (0.811) C:72% T:85%**	pCi/L	04/09/21 15:21	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.26 ± 0.686 (1.15)**	pCi/L	04/12/21 12:06	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: MCDONOUGH AP-1 RADS
Pace Project No.: 92526280

QC Batch: 440194
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples:

METHOD BLANK: 2125114 Matrix: Water

Associated Lab Samples:

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.922 ± 0.466 (0.823) C:75% T:77%	pCi/L	04/07/21 12:38	

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92526280

QC Batch: 440196
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92527005010

METHOD BLANK: 2125122 Matrix: Water
Associated Lab Samples: 92527005010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.624 ± 0.351 (0.633) C:78% T:86%	pCi/L	04/09/21 12:05	

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92526280

QC Batch: 439298
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92526280002, 92526280003

METHOD BLANK: 2120869
Matrix: Water
Associated Lab Samples: 92526280002, 92526280003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.265 ± 0.289 (0.590) C:61% T:NA	pCi/L	03/26/21 10:47	

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.

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92526280

QC Batch: 439300
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92526280002, 92526280003

METHOD BLANK: 2120874 Matrix: Water
Associated Lab Samples: 92526280002, 92526280003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.143 ± 0.352 (0.785) C:76% T:73%	pCi/L	04/01/21 12:42	

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

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92526280

QC Batch: 440497
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92527005010

METHOD BLANK: 2126659
Matrix: Water
Associated Lab Samples: 92527005010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0621 ± 0.152 (0.366) C:63% T:NA	pCi/L	04/05/21 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

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92526280

QC Batch: 439773
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples:

METHOD BLANK: 2123469 Matrix: Water

Associated Lab Samples:

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0133 ± 0.113 (0.309) C:70% T:NA	pCi/L	03/29/21 07:58	

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: MCDONOUGH AP-1 RADS
Pace Project No.: 92526280

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92526280

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92526280002	**B-100**	EPA 9315	439298		
92526280003	**B-105D**	EPA 9315	439298		
92527005010	**B-110D**	EPA 9315	440497		
92526280002	**B-100**	EPA 9320	439300		
92526280003	**B-105D**	EPA 9320	439300		
92527005010	**B-110D**	EPA 9320	440196		
92526280002	**B-100**	Total Radium Calculation	441617		
92526280003	**B-105D**	Total Radium Calculation	441617		
92527005010	**B-110D**	Total Radium Calculation	442867		

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GA Power

Project # WO# : 92526280

92526280

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

Custody Seal Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☑ No

Date/Initials Person Examining Contents: MT 3/9/21

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☑ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

Thermometer: ☐ IR Gun ID: 233 ☑ Wet ☐ Blue ☐ None

Type of Ice:

Cooler Temp: 2.4 **Correction Factor: Add/Subtract (°C)** ±0.4

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 2.8

USDA Regulated Soil (☐ N/A, water sample)
Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☑ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☑ No	☐ N/A	8.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☑ Yes	☐ No	☐ N/A	9.
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: _____ Date: _____

Project Manager SRF Review: _____ Date: _____

***Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.**

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

****Bottom half of box is to list number of bottles**

Project # WO#: 92526280

PM: KLH1 Due Date: 03/30/21

CLIENT: GA-GA Power

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SPST-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	BPIN	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1		1	1			1																			2				
2		1	1			1																			2				
3		1	1			1																			2				
4		1	1			1																			2				
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

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

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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:	Jinju Abraham	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Golder	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:		Pace Quote:	
Phone:	(404) 506-7239 Fax:	Project Name:	Plant McDonough AP-1	Pace Project Manager:	Kevin Herring
Requested Due Date:	Standard	Project #:	166849621	Pace Profile #:	

Regulatory Agency	State / Location
	GA

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved - Ice	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals App III and App IV Total	Cl, F, SO4	Radium 226/228	TDS	Residual Chlorine (Y/N)	
																Y/N	N	N	N	N		
1	B-100	WT	G	3/8/2021	1423		5	2		3							X	X	X	X		pH 5.32
2	B-105D	WT	G	3/8/2021	1330		5	2		3							X	X	X	X		pH 6.37
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
*App III / IV Metals = As, Ba, B, Be, Be, Ca, Cd, Cr, Co, Pb, Li, Mo, Se, Th	JW/Golder	3/9/21	8:35	M. BAH	3-9-21	8:35
	M. BAH	3-9-21	9:30		3/9/21	0930

SAMPLE CONDITIONS			
24	Y	N	Y

DATE Signed:

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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:	Jaja Abraham	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Golder	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	PurchaseOrder #:		Pace Quote:	
Phone:	(404) 506-7238 Fax:	Project Name:	Plant McDonough AP-1	Pace Project Manager:	Kevin Herring
Requested Due Date:	10 Day TAT	Project #:	165949821	Pace Profile #:	

Regulatory Agency: —

State / Location: GA

Requested Analysis Filtered (Y/N)

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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Analysis Test Y/N	*Metals App III and App IV Total	Cl, F, SO4	Radium 226/228	TDS	Residual Chlorine (Y/N)	
																Y/N	N	N	N	N		
1	B-1100	WT	G	3/16/2021	12:20		5	2		3						X	X	X	X	X		pH: 7.53
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
*App III / IV Metals = As, Ba, B, Be, Ba, Ca, Cd, Cr, Co, Pb, Li, Mo, Se, Tl	JW/GOLDER	3/17/21	9:12	[signature] Pace	3/17/21	0912	1.4	Y	N	Y
*Analyze Mercury										

DATE Signed: 3/17/21

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-228
Analyst:	LAL
Date:	3/25/2021
Worklist:	59396
Matrix:	DW

Method Blank Assessment	
MB Sample ID	2120869
MB concentration:	0.265
MB Counting Uncertainty:	0.286
MB MDC:	0.590
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)?	Y
	LCS59396	LCSD59396
Count Date:	3/26/2021	3/26/2021
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.039	24.039
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.500	0.506
Target Conc. (pCi/L, g, F):	4.804	4.747
Uncertainty [Calculated]:	0.058	0.057
Result (pCi/L, g, F):	4.932	5.803
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.736	0.852
Numerical Performance Indicator:	0.34	2.42
Percent Recovery:	102.66%	122.24%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS59396	Enter Duplicate sample IDs if other than LCS/LCSD in the space below
Duplicate Sample I.D.	LCSD59396	
Sample Result (pCi/L, g, F):	4.932	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.736	
Sample Duplicate Result (pCi/L, g, F):	5.803	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.852	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-1.516	92526935001
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	17.41%	92526935001DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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:		
% RPD Limit:		

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

Comments:

CMB 3/29/21

LAM 3/26/21

Quality Control Sample Performance Assessment

Test: Ra-226
Analyst: LAL
Date: 3/25/2021
Worklist: 59396
Matrix: DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2120869
MB concentration:	0.265
MB Counting Uncertainty:	0.286
MB MDC:	0.590
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
	LCS59396	LCSD59396
Count Date:	3/26/2021	
Spike I.D.:	19-033	
Decay Corrected Spike Concentration (pCi/mL):	24.039	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.500	
Target Conc. (pCi/L, g, F):	4.804	
Uncertainty (Calculated):	0.058	
Result (pCi/L, g, F):	4.932	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.736	
Numerical Performance Indicator:	0.34	
Percent Recovery:	102.66%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	92526936001	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	92526935001DUP	
Sample Result (pCi/L, g, F):	-0.103	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.156	
Sample Duplicate Result (pCi/L, g, F):	0.047	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.133	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	-1.435	92526935001
Duplicate RPD:	-544.97%	92526935001DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	20%	

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:		
% RPD Limit:		

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

Comments:

3/27/21

LAM 3/26/21

Quality Control Sample Performance Assessment

Pace Analytical

Test:	Ra-226
Analyst:	VAL
Date:	3/30/2021
Worklist:	59397
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2120974
MB concentration:	0.143
MB 2 Sigma CSU:	0.352
MB MDC:	0.785
MB Numerical Performance Indicator:	0.80
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS59397	LCSD59397
Count Date:	4/1/2021	4/1/2021
Spike I.D.:	21-003	21-003
Decay Corrected Spike Concentration (pCi/mL):	39.242	39.242
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.826	0.817
Target Conc. (pCi/L, g, F):	4.628	4.693
Uncertainty (Calculated):	0.227	0.229
Result (pCi/L, g, F):	4.306	4.750
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.014	1.092
Numerical Performance Indicator:	-0.61	0.12
Percent Recovery:	93.05%	101.42%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS59397	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD59397	
Sample Result (pCi/L, g, F):	4.306	
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.014	
Sample Duplicate Result (pCi/L, g, F):	4.750	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.092	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-0.583	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	9.61%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	36%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit:		

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

Comments:

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

April 02, 2021

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

RE: Project: B-62 III & IV
Pace Project No.: 92531031

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on March 12, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

cc: Stephen Benda
Daniela Herrera, Golder
Ben Hodges, Georgia Power
Jimmy Jones, Golder Associates Inc.
Kristen Jurinko
Julie Lehrman, Golder Associates Inc.
J. Shelby Mobley
Charles Norton, Southern Company
Ms. Lauren Petty, Southern Company
Dawn Prell, Golder Associates Inc.
Tim Richards, Golder Associates - Atlanta

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: B-62 III & IV
Pace Project No.: 92531031

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

Pace Analytical Services Peachtree Corners
110 Technology Pkwy, Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001

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

SAMPLE SUMMARY

Project: B-62 III & IV
Pace Project No.: 92531031

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92526988002	**B-62**	Water	03/12/21 14:27	03/12/21 17:23

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

SAMPLE ANALYTE COUNT

Project: B-62 III & IV
Pace Project No.: 92531031

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92526988002	**B-62**	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	JLH	3

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte
PASI-GA = Pace Analytical Services - Peachtree Corners, GA

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

ANALYTICAL RESULTS

Project: B-62 III & IV
Pace Project No.: 92531031

Sample: B-62 **Lab ID: 92526988002** Collected: 03/12/21 14:27 Received: 03/12/21 17:23 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:54		
pH	**6.34**	Std. Units			1		03/22/21 11:54		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**28.8**	mg/L	1.0	0.070	1	03/18/21 12:20	03/20/21 02:40	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.015	0.0014	5	03/23/21 13:05	03/24/21 13:11	7440-36-0	D3
Arsenic	ND	mg/L	0.025	0.0039	5	03/23/21 13:05	03/24/21 13:11	7440-38-2	D3
Barium	**0.027**	mg/L	0.025	0.0036	5	03/23/21 13:05	03/24/21 13:11	7440-39-3	
Beryllium	ND	mg/L	0.0025	0.00023	5	03/23/21 13:05	03/24/21 13:11	7440-41-7	D3
Boron	**0.092J**	mg/L	0.20	0.026	5	03/23/21 13:05	03/24/21 13:11	7440-42-8	D3
Cadmium	ND	mg/L	0.0025	0.00059	5	03/23/21 13:05	03/24/21 13:11	7440-43-9	D3
Chromium	ND	mg/L	0.025	0.0028	5	03/23/21 13:05	03/24/21 13:11	7440-47-3	D3
Cobalt	ND	mg/L	0.025	0.0019	5	03/23/21 13:05	03/24/21 13:11	7440-48-4	D3
Lead	ND	mg/L	0.0050	0.00018	5	03/23/21 13:05	03/24/21 13:11	7439-92-1	D3
Lithium	**0.0087J**	mg/L	0.15	0.0040	5	03/23/21 13:05	03/24/21 13:11	7439-93-2	D3
Molybdenum	ND	mg/L	0.050	0.0034	5	03/23/21 13:05	03/24/21 13:11	7439-98-7	D3
Selenium	ND	mg/L	0.025	0.0078	5	03/23/21 13:05	03/24/21 13:11	7782-49-2	D3
Thallium	ND	mg/L	0.0050	0.00072	5	03/23/21 13:05	03/24/21 13:11	7440-28-0	D3
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	03/25/21 08:05	03/25/21 14:04	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**172**	mg/L	10.0	10.0	1		03/17/21 17:40		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5.9**	mg/L	1.0	0.60	1		03/20/21 05:28	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	0.050	1		03/20/21 05:28	16984-48-8	
Sulfate	**46.5**	mg/L	1.0	0.50	1		03/20/21 05:28	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: B-62 III & IV
Pace Project No.: 92531031

QC Batch: 607584
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92526988002

METHOD BLANK: 3200680 Matrix: Water
Associated Lab Samples: 92526988002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	03/20/21 00:30	

LABORATORY CONTROL SAMPLE: 3200681

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.1	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3200682 3200683

Parameter	Units	92524632021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	35.7	1	1	39.0	38.7	328	296	75-125	1	20	M1

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: B-62 III & IV
Pace Project No.: 92531031

QC Batch: 608528
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92526988002

METHOD BLANK: 3205426 Matrix: Water
Associated Lab Samples: 92526988002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	03/23/21 18:59	
Arsenic	mg/L	ND	0.0050	0.00078	03/23/21 18:59	
Barium	mg/L	ND	0.0050	0.00071	03/23/21 18:59	
Beryllium	mg/L	ND	0.00050	0.000046	03/23/21 18:59	
Boron	mg/L	ND	0.040	0.0052	03/23/21 18:59	
Cadmium	mg/L	ND	0.00050	0.00012	03/23/21 18:59	
Chromium	mg/L	ND	0.0050	0.00055	03/23/21 18:59	
Cobalt	mg/L	ND	0.0050	0.00038	03/23/21 18:59	
Lead	mg/L	ND	0.0010	0.000036	03/24/21 12:59	
Lithium	mg/L	ND	0.030	0.00081	03/23/21 18:59	
Molybdenum	mg/L	ND	0.010	0.00069	03/23/21 18:59	
Selenium	mg/L	ND	0.0050	0.0016	03/23/21 18:59	
Thallium	mg/L	ND	0.0010	0.00014	03/23/21 18:59	

LABORATORY CONTROL SAMPLE: 3205427

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.099	99	80-120	
Arsenic	mg/L	0.1	0.092	92	80-120	
Barium	mg/L	0.1	0.092	92	80-120	
Beryllium	mg/L	0.1	0.095	95	80-120	
Boron	mg/L	1	0.96	96	80-120	
Cadmium	mg/L	0.1	0.094	94	80-120	
Chromium	mg/L	0.1	0.093	93	80-120	
Cobalt	mg/L	0.1	0.091	91	80-120	
Lead	mg/L	0.1	0.10	102	80-120	
Lithium	mg/L	0.1	0.097	97	80-120	
Molybdenum	mg/L	0.1	0.095	95	80-120	
Selenium	mg/L	0.1	0.091	91	80-120	
Thallium	mg/L	0.1	0.087	87	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3205457 3205458

Parameter	Units	92527018001 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	0.10	0.096	100	96	75-125	3	20	
Arsenic	mg/L	1.6J ug/L	0.1	0.1	0.095	0.091	93	89	75-125	4	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: B-62 III & IV
Pace Project No.: 92531031

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3205457 3205458

Parameter	Units	92527018001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	14.8 ug/L	0.1	0.1	0.11	0.10	92	88	75-125	3	20	
Beryllium	mg/L	2.6 ug/L	0.1	0.1	0.091	0.089	89	87	75-125	2	20	
Boron	mg/L	4230 ug/L	1	1	5.1	5.1	92	84	75-125	2	20	
Cadmium	mg/L	1.2 ug/L	0.1	0.1	0.094	0.090	92	89	75-125	4	20	
Chromium	mg/L	ND	0.1	0.1	0.093	0.090	92	90	75-125	3	20	
Cobalt	mg/L	12.5 ug/L	0.1	0.1	0.10	0.10	90	88	75-125	1	20	
Lead	mg/L	ND	0.1	0.1	0.084	0.083	84	83	75-125	1	20	
Lithium	mg/L	5.9J ug/L	0.1	0.1	0.096	0.094	90	89	75-125	2	20	
Molybdenum	mg/L	ND	0.1	0.1	0.097	0.093	96	93	75-125	4	20	
Selenium	mg/L	6.9 ug/L	0.1	0.1	0.10	0.093	93	86	75-125	7	20	
Thallium	mg/L	0.18J ug/L	0.1	0.1	0.083	0.082	83	82	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: B-62 III & IV
Pace Project No.: 92531031

QC Batch: 609136
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92526988002

METHOD BLANK: 3208288 Matrix: Water
Associated Lab Samples: 92526988002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.000078	03/25/21 13:28	

LABORATORY CONTROL SAMPLE: 3208289

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0024	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3208290 3208291

Parameter	Units	92528826006 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	0.0026	0.0023	102	92	75-125	10	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: B-62 III & IV
Pace Project No.: 92531031

QC Batch: 607316
QC Batch Method: SM 2450C-2011
Analysis Method: SM 2450C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92526988002

METHOD BLANK: 3199480 Matrix: Water
Associated Lab Samples: 92526988002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	03/17/21 17:40	

LABORATORY CONTROL SAMPLE: 3199481

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	400	100	90-111	

SAMPLE DUPLICATE: 3199482

Parameter	Units	92527256010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	279	278	0	10	

SAMPLE DUPLICATE: 3199483

Parameter	Units	92526996006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	255	258	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: B-62 III & IV
Pace Project No.: 92531031

QC Batch: 607751
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92526988002

METHOD BLANK: 3201757 Matrix: Water
Associated Lab Samples: 92526988002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	03/19/21 17:15	
Fluoride	mg/L	ND	0.10	0.050	03/19/21 17:15	
Sulfate	mg/L	ND	1.0	0.50	03/19/21 17:15	

LABORATORY CONTROL SAMPLE: 3201758

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.2	100	90-110	
Fluoride	mg/L	2.5	2.3	91	90-110	
Sulfate	mg/L	50	50.2	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3201759 3201760

Parameter	Units	92528475003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2510	50	50	2520	2520	27	27	90-110	0	10	M6
Fluoride	mg/L	4.6	2.5	2.5	12.1	11.9	302	294	90-110	2	10	M6
Sulfate	mg/L	1530	50	50	1510	1480	-49	-112	90-110	2	10	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3201761 3201762

Parameter	Units	92527256007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	5.9	50	50	58.9	57.5	106	103	90-110	2	10	
Fluoride	mg/L	ND	2.5	2.5	2.3	2.3	91	90	90-110	1	10	
Sulfate	mg/L	50.4	50	50	102	101	103	101	90-110	1	10	

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REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: B-62 III & IV
Pace Project No.: 92531031

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
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: B-62 III & IV
Pace Project No.: 92531031

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92526988002	**B-62**				
92526988002	**B-62**	EPA 3010A	607584	EPA 6010D	607676
92526988002	**B-62**	EPA 3005A	608528	EPA 6020B	608679
92526988002	**B-62**	EPA 7470A	609136	EPA 7470A	609168
92526988002	**B-62**	SM 2450C-2011	607316		
92526988002	**B-62**	EPA 300.0 Rev 2.1 1993	607751		

Pace Analytical	Document Name: Sample Condition Upon Receipt (SCUR)	Effective Date: October 16, 2006 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GA Power

Project #:

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

Custody Seal Present? ☐ Yes ☑ No Seals Intact? ☐ Yes ☐ No

Date/Initials Person Examining Contents: 3/13/24 AH

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

Thermometer: ☑ IR Gun ID: 230 Type of Ice: ☑ Wet ☐ Blue ☐ None

Cooler Temp: 2.1 Correction Factor: Add/Subtract (°C) 0.0

Cooler Temp Corrected (°C): 2.1

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil (☐ N/A, water sample)
Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: W				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

**Bottom half of box is to list number of bottles

Project #

1 of 1

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass Jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SPST-125 mL Sterile Plastic (N/A – lab)	SPST-250 mL Sterile Plastic (N/A – lab)	BP1N	BP3A-250 mL Plastic (NH4)2SO4 (9.3-9.7)	AGDU-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1						✓																						
2																												
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

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.

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A — Required Client Information:

Company: Georgia Power - Coal Combustion Residuals
Address: 2480 Maner Road
Atlanta, GA 30339
Email: jabraham@southernco.com
Phone: (404) 506-7239 Fax:
Requested Due Date: 10 Day TAT

Section B — Required Project Information:

Report To: Jeju Abraham
Copy To: Golder
Purchase Order #:
Project Name: Plant McDonough AP-1 and AP-2 3M
Project #: 106849621

Section C — Invoice Information:

Attention: scpinvoices@southernco.com
Company Name:
Address:
Pace Quote:
Pace Project Manager: Kevin Herring
Pace Profile #:

Site Location — State: GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample IDs must be unique)	MATRIX CODE (drinking water DW, water WT, waste water WW, product P, soil/solid SL, oil OL, wipe WP, air AR, other OT, tissue TS)	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	Y/N	Analyses Test	Y/N	Analyses Filtered (Y/N)	Residual Chlorine (Y/N)	
2	6-62	WT	G	3/12/2021	1427		5	2	3			Radium App Cl and App IV Total	N	N		pH: 6.34
												Chloride, Fluoride, Sulfate				
												Total Dissolved Solid				
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																

ADDITIONAL COMMENTS: App III/IV Metals = As, Be, B, Ba, Br, Ca, Cd, Cl, Co, Pb, Li, Mo, Se, Tl, Hg

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
[signature]	3-12-21	1733	[signature]	3/12/21	1723	

DATE Signed:

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER:

SAMPLE CONDITIONS			
Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)	

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

May 13, 2021

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

RE: Project: B-62 RAD
Pace Project No.: 92531033

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on March 12, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Greensburg

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

Sincerely,

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

Enclosures

cc: Stephen Benda
Daniela Herrera, Golder
Ben Hodges, Georgia Power
Kristen Jurinko
J. Shelby Mobley
Charles Norton, Southern Company
Ms. Lauren Petty, Southern Company
Dawn Prell, Golder Associates Inc.
Tim Richards, Golder Associates - Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
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CERTIFICATIONS

Project: B-62 RAD
Pace Project No.: 92531033

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: B-62 RAD
Pace Project No.: 92531033

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92526990002	**B-62**	Water	03/12/21 14:27	03/12/21 17:23

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(770)734-4200

SAMPLE ANALYTE COUNT

Project: B-62 RAD
Pace Project No.: 92531033

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92526990002	**B-62**	EPA 9315	CLA	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: B-62 RAD
Pace Project No.: 92531033

Sample: B-62 **Lab ID: 92526990002** Collected: 03/12/21 14:27 Received: 03/12/21 17:23 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.815 ± 0.336 (0.437) C:78% T:NA**	pCi/L	03/29/21 07:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.369 ± 0.467 (0.995) C:68% T:82%**	pCi/L	04/07/21 12:39	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.18 ± 0.803 (1.43)**	pCi/L	04/08/21 10:35	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: B-62 RAD
Pace Project No.: 92531033

QC Batch: 440194
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92526990002

METHOD BLANK: 2125114
Matrix: Water
Associated Lab Samples: 92526990002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.922 ± 0.466 (0.823) C:75% T:77%	pCi/L	04/07/21 12:38	

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: B-62 RAD
Pace Project No.: 92531033

QC Batch: 439779
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92526990002

METHOD BLANK: 2123480 Matrix: Water
Associated Lab Samples: 92526990002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.00660 ± 0.163 (0.432) C:92% T:NA	pCi/L	03/29/21 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
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: B-62 RAD
Pace Project No.: 92531033

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: B-62 RAD
Pace Project No.: 92531033

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92526990002	**B-62**	EPA 9315	439779		
92526990002	**B-62**	EPA 9320	440194		
92526990002	**B-62**	Total Radium Calculation	442421		

Pace Analytical	Document Name: Sample Condition Upon Receipt (SCUR)	Effective Date: October 16, 2006 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GA Power

Project #:

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

Custody Seal Present? ☐ Yes ☑ No Seals Intact? ☐ Yes ☐ No

Date/Initials Person Examining Contents: 3/13/26 AH

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

Thermometer: ☑ IR Gun ID: 230 Type of Ice: ☑ Wet ☐ Blue ☐ None

Cooler Temp: 2.1 Correction Factor: Add/Subtract (°C) 0.0

Cooler Temp Corrected (°C): 2.1

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil (☐ N/A, water sample)
Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: W				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

**Bottom half of box is to list number of bottles

Project #

1 of 1

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass Jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SPST-125 mL Sterile Plastic (N/A – lab)	SPST-250 mL Sterile Plastic (N/A – lab)	BP1N	BP3A-250 mL Plastic (NH4)2SO4 (9.3-9.7)	AGDU-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1						✓																						
2																												
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

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.

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A — Required Client Information:

Company:	Georgia Power - Coal Combustion Residuals
Address:	2480 Maner Road
	Atlanta, GA 30339
Email:	jabraham@southernco.com
Phone:	(404) 506-7239
Fax:	
Requested Due Date:	10 Day TAT

Section B — Required Project Information:

Report To:	Jeju Abraham
Copy To:	Golder
Purchase Order #:	
Project Name:	Plant McDonough AP-1 and AP-2 3M
Project #:	10684621

Section C — Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	

Site Location — State: GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample IDs must be unique)	MATRIX CODE (drinking water, DW; water, WT; waste water, WW; product, P; soil/solid, SL; oil, OL; wipe, WP; air, AR; other, OT; tissue, TS)	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	Analyses Test Y/N	Radium 226 and 228 Combined	Chloride, Fluoride, Sulfate	Total Dissolved Solids	Residual Chlorine (Y/N)	
											Y/N	N	N	N		
2	B-62	WT	G	3/12/2021	1427		5	2	3			X	X	X		pH: 8.34
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
App III/IV Metals = As, Be, B, Ba, Co, Ca, Cd, Cr, Ce, Pb, Li, Mo, Se, Th, Hg		3-12-21	1733		3/12/21	1723	

DATE Signed:

SAMPLE CONDITIONS	
Received on Ice (Y/N)	
Custody Sealed Cooler (Y/N)	
Samples Intact (Y/N)	

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	CLA
Date:	3/26/2021
Worklist:	59453
Matrix:	DW

Method Blank Assessment	
MB Sample ID	2123480
MB concentration:	-0.007
MB Counting Uncertainty:	0.163
MB MDC:	0.432
MB Numerical Performance Indicator:	-0.03
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS59453	LCSD59453
Count Date:	3/29/2021	3/29/2021
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.039	24.039
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.503	0.505
Target Conc. (pCi/L, g, F):	4.780	4.759
Uncertainty (Calculated):	0.057	0.057
Result (pCi/L, g, F):	3.897	3.978
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.623	0.583
Numerical Performance Indicator:	-2.77	-2.61
Percent Recovery:	81.54%	83.59%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS59453	Enter Duplicate
Duplicate Sample I.D.	LCSD59453	sample IDs if
Sample Result (pCi/L, g, F):	3.897	other than
Sample Result Counting Uncertainty (pCi/L, g, F):	0.623	LCS/LCSD in
Sample Duplicate Result (pCi/L, g, F):	3.978	the space below.
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.583	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-0.186	92527242019
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	2.46%	92527242019DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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:		
% RPD Limit:		

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

Comments:

VM 3/30/21

VM3/30/21

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Test: Ra-226
Analyst: CLA
Date: 3/26/2021
Worklist: 59453
Matrix: DW

Analyst Must Manually Enter All Fields Highlighted in Yellow

Method Blank Assessment	
MB Sample ID	2123480
MB concentration:	-0.007
MB Counting Uncertainty:	0.163
MB MDC:	0.432
MB Numerical Performance Indicator:	-0.08
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS59453	LCSD59453
Count Date:	3/29/2021	
Spike I.D.:	19-033	
Decay Corrected Spike Concentration (pCi/mL):	24.039	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.503	
Target Conc. (pCi/L, g, F):	4.780	
Uncertainty (Calculated):	0.057	
Result (pCi/L, g, F):	3.897	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.623	
Numerical Performance Indicator:	-2.77	
Percent Recovery:	81.54%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Sample I.D.:	92527242019	
Duplicate Sample I.D.	92527242019DUP	
Sample Result (pCi/L, g, F):	1.172	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.336	
Sample Duplicate Result (pCi/L, g, F):	0.742	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.339	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	1.768	92527242019
Duplicate RPD:	22.99%	92527242019DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail**	
% RPD Limit:	25%	

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:		
% RPD Limit:		

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.~~ N/A LAM 3/30/21

Results < 5x MDC, NI = Acceptable JW 3/30/21

LAM 3/30/21

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-228
Analyst:	VAL
Date:	4/2/2021
Worklist:	59499
Matrix:	WT

Method Blank Assessment	
MB Sample ID	2125114
MB concentration	0.922
MB 2 Sigma CSU	0.466
MB MDC	0.823
MB Numerical Performance Indicator	3.69
MB Status vs Numerical Indicator	Fail*
MB Status vs. MDC	See Comment*

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS59498	LCSD59499
Count Date	4/7/2021	4/7/2021
Spike I.D.	21-003	21-003
Decay Corrected Spike Concentration (pCi/mL)	38.167	38.167
Volume Used (mL)	0.10	0.10
Aliquot Volume (L, g, F)	0.815	0.814
Target Conc. (pCi/L, g, F)	4.686	4.686
Uncertainty (Calculated)	0.230	0.230
Result (pCi/L, g, F)	4.985	4.724
LCS/LCSD 2 Sigma CSU (pCi/L, g, F)	1.122	1.103
Numerical Performance Indicator	0.51	0.07
Percent Recovery	106.39%	100.80%
Status vs Numerical Indicator	N/A	N/A
Status vs Recovery	Pass	Pass
Upper % Recovery Limits	135%	135%
Lower % Recovery Limits	60%	60%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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)		
MS Spike Uncertainty (calculated)		
MSD Spike Uncertainty (calculated)		
Sample Result		
Sample Result 2 Sigma CSU (pCi/L, g, F)		
Sample Matrix Spike Result		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F)		
Sample Matrix Spike Duplicate Result		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F)		
MS Numerical Performance Indicator		
MSD Numerical Performance Indicator		
MS Percent Recovery		
MSD Percent Recovery		
MS Status vs Numerical Indicator		
MSD Status vs Numerical Indicator		
MS Status vs Recovery		
MSD Status vs Recovery		
MS/MSD Upper % Recovery Limits		
MS/MSD Lower % Recovery Limits		

Duplicate Sample Assessment		
Sample I.D.	LCS59499	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD59499	
Sample Result (pCi/L, g, F)	4.985	
Sample Result 2 Sigma CSU (pCi/L, g, F)	1.122	
Sample Duplicate Result (pCi/L, g, F)	4.724	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F)	1.103	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator	0.326	
[Based on the LCS/LCSD Percent Recoveries] Duplicate RPD	5.40%	
Duplicate Status vs Numerical Indicator	Pass	
Duplicate Status vs RPD	Pass	
% RPD Limit	35%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F)		
Sample Matrix Spike Duplicate Result		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F)		
Duplicate Numerical Performance Indicator		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD		
MS/ MSD Duplicate Status vs Numerical Indicator		
MS/ MSD Duplicate Status vs RPD		
% RPD Limit		

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

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

4/5/21

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

May 13, 2021

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

RE: Project: MCDONOUGH AP-1 MISC
Pace Project No.: 92526291

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between March 09, 2021 and March 17, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

cc: Stephen Benda
Daniela Herrera, Golder
Ben Hodges, Georgia Power
Kristen Jurinko
J. Shelby Mobley
Charles Norton, Southern Company
Ms. Lauren Petty, Southern Company
Dawn Prell, Golder Associates Inc.
Tim Richards, Golder Associates - Atlanta

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: MCDONOUGH AP-1 MISC
Pace Project No.: 92526291

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

Pace Analytical Services Peachtree Corners
110 Technology Pkwy, Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001

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SAMPLE SUMMARY

Project: MCDONOUGH AP-1 MISC
Pace Project No.: 92526291

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92526291002	**B-100**	Water	03/08/21 14:23	03/09/21 09:30
92526291003	**B-105D**	Water	03/08/21 13:30	03/09/21 09:30
92527014010	**B-110D**	Water	03/16/21 12:20	03/17/21 09:12

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SAMPLE ANALYTE COUNT

Project: MCDONOUGH AP-1 MISC
Pace Project No.: 92526291

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92526291002	**B-100**	EPA 6010D	DRB	3
		SM 2320B-2011	ECH	3
92526291003	**B-105D**	EPA 6010D	DRB	3
		SM 2320B-2011	ECH	3
92527014010	**B-110D**	EPA 6010D	KH	3
		SM 2320B-2011	ECH	3

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte
PASI-GA = Pace Analytical Services - Peachtree Corners, GA

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ANALYTICAL RESULTS

Project: MCDONOUGH AP-1 MISC
Pace Project No.: 92526291

Sample: B-100 **Lab ID: 92526291002** Collected: 03/08/21 14:23 Received: 03/09/21 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:50		
pH	**5.32**	Std. Units			1		03/22/21 11:50		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Sodium	**28.8**	mg/L	1.0	0.26	1	03/15/21 14:10	03/19/21 03:59	7440-23-5	
Magnesium	**48.8**	mg/L	0.050	0.0076	1	03/15/21 14:10	03/19/21 03:59	7439-95-4	
Potassium	**1.3**	mg/L	0.20	0.056	1	03/15/21 14:10	03/19/21 15:25	7440-09-7	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**34.1**	mg/L	5.0	5.0	1		03/18/21 16:06		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/18/21 16:06		
Alkalinity, Total as CaCO3	**34.1**	mg/L	5.0	5.0	1		03/18/21 16:06		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH AP-1 MISC
Pace Project No.: 92526291

Sample: B-105D **Lab ID: 92526291003** Collected: 03/08/21 13:30 Received: 03/09/21 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:50		
pH	**6.37**	Std. Units			1		03/22/21 11:50		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Sodium	**19.5**	mg/L	1.0	0.26	1	03/15/21 14:10	03/19/21 04:03	7440-23-5	
Magnesium	**24.8**	mg/L	0.050	0.0076	1	03/15/21 14:10	03/19/21 04:03	7439-95-4	
Potassium	**10.4**	mg/L	0.20	0.056	1	03/15/21 14:10	03/19/21 15:30	7440-09-7	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**91.1**	mg/L	5.0	5.0	1		03/18/21 16:12		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/18/21 16:12		
Alkalinity, Total as CaCO3	**91.1**	mg/L	5.0	5.0	1		03/18/21 16:12		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: MCDONOUGH AP-1 MISC
Pace Project No.: 92526291

Sample: B-110D **Lab ID: 92527014010** Collected: 03/16/21 12:20 Received: 03/17/21 09:12 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/22/21 11:57		
pH	**7.53**	Std. Units			1		03/22/21 11:57		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Potassium	**2.4**	mg/L	0.20	0.056	1	03/24/21 10:08	03/24/21 16:28	7440-09-7	
Sodium	**18.4**	mg/L	1.0	0.26	1	03/24/21 10:08	03/24/21 16:28	7440-23-5	
Magnesium	**7.0**	mg/L	0.050	0.0076	1	03/24/21 10:08	03/24/21 16:28	7439-95-4	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**151**	mg/L	5.0	5.0	1		03/26/21 15:28		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/26/21 15:28		
Alkalinity, Total as CaCO3	**151**	mg/L	5.0	5.0	1		03/26/21 15:28		

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QUALITY CONTROL DATA

Project: MCDONOUGH AP-1 MISC
Pace Project No.: 92526291

QC Batch: 606634
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92526291002, 92526291003

METHOD BLANK: 3196175 Matrix: Water
Associated Lab Samples: 92526291002, 92526291003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Magnesium	mg/L	ND	0.050	0.0076	03/19/21 03:10	
Potassium	mg/L	ND	0.20	0.056	03/19/21 03:10	
Sodium	mg/L	ND	1.0	0.26	03/19/21 03:10	

LABORATORY CONTROL SAMPLE: 3196176

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Magnesium	mg/L	1	1.0	104	80-120	
Potassium	mg/L	1	1.1	113	80-120	
Sodium	mg/L	1	1.1	115	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196177 3196178

Parameter	Units	92526031001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Magnesium	mg/L	66.1	1	1	67.0	65.6	86	-56	75-125	2	20	M1
Potassium	mg/L	14.1	1	1	15.3	15.0	122	90	75-125	2	20	
Sodium	mg/L	51.4	1	1	52.6	51.1	123	-27	75-125	3	20	M1

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

REPORT OF LABORATORY ANALYSIS

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Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: MCDONOUGH AP-1 MISC
Pace Project No.: 92526291

QC Batch: 608824
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92527014010

METHOD BLANK: 3206694 Matrix: Water
Associated Lab Samples: 92527014010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Magnesium	mg/L	ND	0.050	0.0076	03/24/21 15:04	
Potassium	mg/L	ND	0.20	0.056	03/24/21 15:04	
Sodium	mg/L	ND	1.0	0.26	03/24/21 15:04	

LABORATORY CONTROL SAMPLE: 3206695

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Magnesium	mg/L	1	1.1	106	80-120	
Potassium	mg/L	1	1.1	109	80-120	
Sodium	mg/L	1	1.1	112	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3206696 3206697

Parameter	Units	92526996001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Magnesium	mg/L	18.7	1	1	20.0	19.9	128	125	75-125	0	20	M1
Potassium	mg/L	4.0	1	1	5.2	5.1	113	106	75-125	1	20	
Sodium	mg/L	10.0	1	1	11.1	11.0	107	96	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(770)734-4200

QUALITY CONTROL DATA

Project: MCDONOUGH AP-1 MISC
Pace Project No.: 92526291

QC Batch: 607521
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92526291002, 92526291003

METHOD BLANK: 3200444 Matrix: Water
Associated Lab Samples: 92526291002, 92526291003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	03/18/21 13:02	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	03/18/21 13:02	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	03/18/21 13:02	

LABORATORY CONTROL SAMPLE: 3200445

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	49.8	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3200446 3200447

Parameter	Units	92526458001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	69.7	50	50	121	120	102	101	80-120	1	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3200448 3200449

Parameter	Units	92526968011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	186	50	50	233	240	93	108	80-120	3	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
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: MCDONOUGH AP-1 MISC
Pace Project No.: 92526291

QC Batch: 609170
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92527014010

METHOD BLANK: 3208477 Matrix: Water
Associated Lab Samples: 92527014010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	03/26/21 12:39	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	03/26/21 12:39	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	03/26/21 12:39	

LABORATORY CONTROL SAMPLE: 3208478

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.5	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3208481 3208482

Parameter	Units	92527508015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	ND	50	50	58.4	58.2	115	115	80-120	0	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3210468 3210469

Parameter	Units	92527185015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	161	50	50	210	212	99	102	80-120	1	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
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: MCDONOUGH AP-1 MISC
Pace Project No.: 92526291

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCDONOUGH AP-1 MISC
Pace Project No.: 92526291

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92526291002	**B-100**				
92526291003	**B-105D**				
92527014010	**B-110D**				
92526291002	**B-100**	EPA 3010A	606634	EPA 6010D	606723
92526291003	**B-105D**	EPA 3010A	606634	EPA 6010D	606723
92527014010	**B-110D**	EPA 3010A	608824	EPA 6010D	608893
92526291002	**B-100**	SM 2320B-2011	607521		
92526291003	**B-105D**	SM 2320B-2011	607521		
92527014010	**B-110D**	SM 2320B-2011	609170		

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GA Power

Project #: WO# : 92526291

92526291

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

Custody Seal Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☑ No

Date/Initials Person Examining Contents: MT 3/9/21

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☑ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

Thermometer: ☐ IR Gun ID: 233 ☑ Wet ☐ Blue ☐ None

Type of Ice:

Cooler Temp: 2.4 **Correction Factor:** Add/Subtract (°C) ± 0.4

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 2.8

USDA Regulated Soil (☐ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☑ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☑ No	☐ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: WT				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ **Date/Time:** _____

Project Manager SCURF Review: _____ **Date:** _____

Project Manager SRF Review: _____ **Date:** _____

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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:	Jon Abraham	Attention:	scsinvoices@southernco.com
Address	2480 Maner Road	Copy To:	Golder	Company Name:	
	Atlanta, GA 30339			Address:	
Email	jabraham@southernco.com	Purchase Order #:		Pace Quote:	
Phone	(404) 506-7239 Fax	Project Name:	Plant McDonough AP-1	Pace Project Manager:	Kevin Herring
Requested Due Date	Standard	Project #:	166849621	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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	Preservatives: Ice	Preservatives: HNO3	Analyses Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	
	MATRIX: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS										Y/N	N N N N		
											Analyses Test	Potassium; Bicarbonate Alkalinity; Carbonate Alkalinity; Sodium; Magnesium		
1	B-100	WT	G	3/8/2021	1423		5	2	3			X X X X X		pH 5.32
2	B-105D	WT	G	3/8/2021	1330		5	2	3			X X X X X		pH 6.37
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														

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)
*Major Ions = potassium, bicarbonate alkalinity, carbonate alkalinity, sodium, magnesium	JW/Golder	3/9/21		M BAH	3921	8:35				
	M. BAH	3-9-21	9:30	[illegible]	3/9/21	0930	2.4	Y	N	Y

DATE Signed:

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A
Required Client Information:
Company: Georgia Power - Coal Combustion Residuals
Address: 2480 Maner Road
Atlanta, GA 30339
Email: jabraham@southernco.com
Phone: (404) 506-7239 Fax:
Requested Due Date: 10 Day TAT

Section B
Required Project Information:
Report To: Jojo Abraham
Copy To: Goldie
Purchase Order #:
Project Name: Plant McDonough AP-1
Project #: 166840621

Section C
Invoice Information:
Attention: scainvoices@southernco.com
Company Name:
Address:
Pace Quote:
Pace Project Manager: Kevin Herring
Pace Profile #:

Regulatory Agency
State / Location: GA

Requested Analysis Filtered (Y/N)

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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	Preservatives: H2SO4	Analyses Test Y/N	Potassium	Bicarbonate Alkalinity	Carbonate Alkalinity	Sodium	Magnesium	Residual Chlorine (Y/N)	
1	B-1100	WT	G	3/16/2021	12:20		4	2	5		X	X	X	X	X		pH 7.53
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	JW/GOLDER	3/17/21	9:12	K. Herring/Pace	3/17/21	0912	1.4	Y	N	Y

DATE Signed: 3/17/21

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

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

April 05, 2021

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

RE: Project: B-62 MAJOR IONS
Pace Project No.: 92531032

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on March 12, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

cc: Stephen Benda
Daniela Herrera, Golder
Ben Hodges, Georgia Power
Jimmy Jones, Golder Associates Inc.
Kristen Jurinko
Julie Lehrman, Golder Associates Inc.
J. Shelby Mobley
Charles Norton, Southern Company
Ms. Lauren Petty, Southern Company
Dawn Prell, Golder Associates Inc.
Tim Richards, Golder Associates - Atlanta

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: B-62 MAJOR IONS
Pace Project No.: 92531032

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

Pace Analytical Services Peachtree Corners
110 Technology Pkwy, Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: B-62 MAJOR IONS
Pace Project No.: 92531032

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92526978002	**B-62**	Water	03/12/21 14:27	03/12/21 17:23

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

SAMPLE ANALYTE COUNT

Project: B-62 MAJOR IONS
Pace Project No.: 92531032

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92526978002	**B-62**	EPA 6010D	DRB	3
		SM 2320B-2011	ECH	3

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

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: B-62 MAJOR IONS
Pace Project No.: 92531032

Sample: B-62 **Lab ID: 92526978002** Collected: 03/12/21 14:27 Received: 03/12/21 17:23 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Sodium	**10.4**	mg/L	1.0	0.26	1	03/18/21 12:20	03/20/21 16:55	7440-23-5	
Magnesium	**5.6**	mg/L	0.050	0.0076	1	03/18/21 12:20	03/20/21 16:55	7439-95-4	
Potassium	**2.2**	mg/L	0.20	0.056	1	03/18/21 12:20	03/22/21 15:16	7440-09-7	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**67.4**	mg/L	5.0	5.0	1		03/24/21 12:53		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/24/21 12:53		
Alkalinity, Total as CaCO3	**67.4**	mg/L	5.0	5.0	1		03/24/21 12:53		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: B-62 MAJOR IONS
Pace Project No.: 92531032

QC Batch: 607584
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92526978002

METHOD BLANK: 3200680 Matrix: Water
Associated Lab Samples: 92526978002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Magnesium	mg/L	0.0082J	0.050	0.0076	03/20/21 00:30	
Potassium	mg/L	ND	0.20	0.056	03/20/21 00:30	
Sodium	mg/L	ND	1.0	0.26	03/20/21 00:30	

LABORATORY CONTROL SAMPLE: 3200681

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Magnesium	mg/L	1	1.0	101	80-120	
Potassium	mg/L	1	1.1	106	80-120	
Sodium	mg/L	1	1.1	111	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3200682 3200683

Parameter	Units	92524632021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Magnesium	mg/L	18.4	1	1	20.6	20.4	221	194	75-125	1	20	M1
Potassium	mg/L	0.75	1	1	1.9	2.0	115	121	75-125	3	20	
Sodium	mg/L	2.1	1	1	3.3	3.3	124	120	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: B-62 MAJOR IONS
Pace Project No.: 92531032

QC Batch: 608537
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92526978002

METHOD BLANK: 3205445 Matrix: Water
Associated Lab Samples: 92526978002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	03/24/21 11:50	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	03/24/21 11:50	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	03/24/21 11:50	

LABORATORY CONTROL SAMPLE: 3205446

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	52.2	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3206750 3206751

Parameter	Units	92528425003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	87.1	50	50	135	135	96	96	80-120	0	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3206752 3206753

Parameter	Units	92528425004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	ND	50	50	54.6	54.3	106	106	80-120	1	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
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: B-62 MAJOR IONS
Pace Project No.: 92531032

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: B-62 MAJOR IONS
Pace Project No.: 92531032

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92526978002	**B-62**	EPA 3010A	607584	EPA 6010D	607676
92526978002	**B-62**	SM 2320B-2011	608537		

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2010 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GA Power

Project #:

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

Custody Seal Present? ☐ Yes ☑ No Seals Intact? ☐ Yes ☐ No

Date/Initials Person Examining Contents: 3/12/26 CR

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

Thermometer: ☑ IR Gun ID: 230

Type of Ice: ☐ Wet ☐ Blue ☐ None

Cooler Temp: 2.1 Correction Factor: Add/Subtract (°C) 0.0

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 2.1

USDA Regulated Soil (☐ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: W	☑ Yes	☐ No	☐ N/A	9.
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: _____ **Date:** _____

Project Manager SRF Review: _____ **Date:** _____

***Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.**

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

****Bottom half of box is to list number of bottles**

Project # 1 of 1

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A	BP2N-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-175 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass Jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	BP	BP3A-250 mL Plastic (NH4)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1		—	—			✓																							
2																													
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

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

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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:	Joju Abraham	Attention:	scainvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Golder	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:		Pace Quote:	
Phone:	(404) 506-7239	Project Name:	Plant McDonough AP-1 and AP-2,3/4	Pace Project Manager:	Kevin Herring
Requested Due Date:	10 Day TAT	Project #:	16684621	Pace Profile #:	

Regulatory Agency: | State / Location: GA

Requested Analysis Filtered (Y/N)

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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	Analyses Test: Y/N	Potassium	Bicarbonate Alkalinity	Carbonate Alkalinity	Sodium	Magnesium	Residual Chlorine (Y/N)	
2	B-82	WT	G	3/12/2021	1427		5	2	3		N	X	X	X	X	X		pH: 6.34
4											N							
5											N							
6											N							
7											N							
8											N							
9											N							
10											N							
11											N							
12											N							
13											N							
14											N							
15											N							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*Major ions = potassium, bicarbonate alkalinity, carbonate alkalinity, sodium, magnesium.	[signature]	3/12/21	1723	Charla Hesler	3/12/21	1723	

DATE Signed:

SAMPLE CONDITIONS: TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

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

April 30, 2021

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

RE: Project: MCDONOUGH AP-1 III & IV
Pace Project No.: 92533251

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between April 14, 2021 and April 16, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

cc: Stephen Benda
Daniela Herrera, Golder
Ben Hodges, Georgia Power
Kristen Jurinko
J. Shelby Mobley
Charles Norton, Southern Company
Ms. Lauren Petty, Southern Company
Dawn Prell, Golder Associates Inc.
Tim Richards, Golder Associates - Atlanta

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: MCDONOUGH AP-1 III & IV
Pace Project No.: 92533251

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

Pace Analytical Services Peachtree Corners
110 Technology Pkwy, Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001

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

SAMPLE SUMMARY

Project: MCDONOUGH AP-1 III & IV
Pace Project No.: 92533251

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92533251001	**EB-1**	Water	04/14/21 13:05	04/14/21 16:00
92533251002	**FB-1**	Water	04/14/21 13:05	04/14/21 16:00
92533251003	**B-113D**	Water	04/16/21 09:45	04/16/21 13:15
92533251004	**DUP-1**	Water	04/15/21 00:00	04/16/21 13:15
92533251005	**B-112D**	Water	04/15/21 11:53	04/16/21 13:15

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SAMPLE ANALYTE COUNT

Project: MCDONOUGH AP-1 III & IV
Pace Project No.: 92533251

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92533251001	**EB-1**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92533251002	**FB-1**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92533251003	**B-113D**	EPA 6010D	DRB	1
		EPA 6020B	KH	13
		EPA 7470A	VB	1
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	JLH	3
92533251004	**DUP-1**	EPA 6010D	DRB	1
		EPA 6020B	KH	13
		EPA 7470A	VB	1
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	JLH	3
92533251005	**B-112D**	EPA 6010D	DRB	1
		EPA 6020B	KH	13
		EPA 7470A	VB	1
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	JLH	3

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte
PASI-GA = Pace Analytical Services - Peachtree Corners, GA

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCDONOUGH AP-1 III & IV
Pace Project No.: 92533251

Sample: EB-1 **Lab ID: 92533251001** Collected: 04/14/21 13:05 Received: 04/14/21 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	ND	mg/L	1.0	0.070	1	04/16/21 10:55	04/16/21 17:18	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	04/16/21 10:53	04/16/21 16:59	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	04/16/21 10:53	04/16/21 16:59	7440-38-2	
Barium	ND	mg/L	0.0050	0.00071	1	04/16/21 10:53	04/16/21 16:59	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	04/16/21 10:53	04/16/21 16:59	7440-41-7	
Boron	ND	mg/L	0.040	0.0052	1	04/16/21 10:53	04/16/21 16:59	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	04/16/21 10:53	04/16/21 16:59	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	04/16/21 10:53	04/16/21 16:59	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	04/16/21 10:53	04/16/21 16:59	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	04/16/21 10:53	04/16/21 16:59	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	04/16/21 10:53	04/16/21 16:59	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	04/16/21 10:53	04/16/21 16:59	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	04/16/21 10:53	04/16/21 16:59	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	04/16/21 10:53	04/16/21 16:59	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	04/22/21 07:30	04/22/21 17:50	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		04/21/21 21:43		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		04/20/21 00:56	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		04/20/21 00:56	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		04/20/21 00:56	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCDONOUGH AP-1 III & IV
Pace Project No.: 92533251

Sample: FB-1 **Lab ID: 92533251002** Collected: 04/14/21 13:05 Received: 04/14/21 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	ND	mg/L	1.0	0.070	1	04/16/21 10:55	04/16/21 18:02	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	04/16/21 10:53	04/16/21 17:05	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	04/16/21 10:53	04/16/21 17:05	7440-38-2	
Barium	ND	mg/L	0.0050	0.00071	1	04/16/21 10:53	04/16/21 17:05	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	04/16/21 10:53	04/16/21 17:05	7440-41-7	
Boron	ND	mg/L	0.040	0.0052	1	04/16/21 10:53	04/16/21 17:05	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	04/16/21 10:53	04/16/21 17:05	7440-43-9	
Chromium	**0.0012J**	mg/L	0.0050	0.00055	1	04/16/21 10:53	04/16/21 17:05	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	04/16/21 10:53	04/16/21 17:05	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	04/16/21 10:53	04/16/21 17:05	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	04/16/21 10:53	04/16/21 17:05	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	04/16/21 10:53	04/16/21 17:05	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	04/16/21 10:53	04/16/21 17:05	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	04/16/21 10:53	04/16/21 17:05	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	04/22/21 07:30	04/22/21 17:53	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		04/21/21 21:43		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		04/20/21 01:11	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		04/20/21 01:11	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		04/20/21 01:11	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCDONOUGH AP-1 III & IV
Pace Project No.: 92533251

Sample: B-113D **Lab ID: 92533251003** Collected: 04/16/21 09:45 Received: 04/16/21 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		04/16/21 14:29		
pH	**7.77**	Std. Units			1		04/16/21 14:29		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**47.2**	mg/L	1.0	0.070	1	04/20/21 11:05	04/21/21 23:46	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.0021J**	mg/L	0.0030	0.00028	1	04/20/21 12:49	04/26/21 17:13	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	04/20/21 12:49	04/26/21 17:13	7440-38-2	
Barium	**0.0032J**	mg/L	0.0050	0.00071	1	04/20/21 12:49	04/26/21 17:13	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	04/20/21 12:49	04/26/21 17:13	7440-41-7	
Boron	**0.16**	mg/L	0.040	0.0052	1	04/20/21 12:49	04/26/21 17:13	7440-42-8	
Cadmium	**0.00019J**	mg/L	0.00050	0.00012	1	04/20/21 12:49	04/26/21 17:13	7440-43-9	
Chromium	**0.0011J**	mg/L	0.0050	0.00055	1	04/20/21 12:49	04/26/21 17:13	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	04/20/21 12:49	04/26/21 17:13	7440-48-4	
Lead	**0.00014J**	mg/L	0.0010	0.000036	1	04/20/21 12:49	04/26/21 17:13	7439-92-1	
Lithium	**0.013J**	mg/L	0.030	0.00081	1	04/20/21 12:49	04/26/21 17:13	7439-93-2	
Molybdenum	**0.078**	mg/L	0.010	0.00069	1	04/20/21 12:49	04/26/21 17:13	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	04/20/21 12:49	04/26/21 17:13	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	04/20/21 12:49	04/26/21 17:13	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	04/22/21 07:30	04/22/21 18:12	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**229**	mg/L	10.0	10.0	1		04/21/21 23:10		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**6.7**	mg/L	1.0	0.60	1		04/22/21 08:07	16887-00-6	
Fluoride	**0.71**	mg/L	0.10	0.050	1		04/22/21 08:07	16984-48-8	
Sulfate	**46.5**	mg/L	1.0	0.50	1		04/22/21 08:07	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCDONOUGH AP-1 III & IV
Pace Project No.: 92533251

Sample: DUP-1 **Lab ID: 92533251004** Collected: 04/15/21 00:00 Received: 04/16/21 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**33.6**	mg/L	1.0	0.070	1	04/20/21 11:05	04/21/21 23:50	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.00071J**	mg/L	0.0030	0.00028	1	04/20/21 12:49	04/26/21 17:19	7440-36-0	
Arsenic	**0.00081J**	mg/L	0.0050	0.00078	1	04/20/21 12:49	04/26/21 17:19	7440-38-2	
Barium	**0.026**	mg/L	0.0050	0.00071	1	04/20/21 12:49	04/26/21 17:19	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	04/20/21 12:49	04/26/21 17:19	7440-41-7	
Boron	**0.25**	mg/L	0.040	0.0052	1	04/20/21 12:49	04/26/21 17:19	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	04/20/21 12:49	04/26/21 17:19	7440-43-9	
Chromium	**0.00059J**	mg/L	0.0050	0.00055	1	04/20/21 12:49	04/26/21 17:19	7440-47-3	
Cobalt	**0.0025J**	mg/L	0.0050	0.00038	1	04/20/21 12:49	04/26/21 17:19	7440-48-4	
Lead	**0.00015J**	mg/L	0.0010	0.000036	1	04/20/21 12:49	04/26/21 17:19	7439-92-1	
Lithium	**0.0044J**	mg/L	0.030	0.00081	1	04/20/21 12:49	04/26/21 17:19	7439-93-2	
Molybdenum	**0.036**	mg/L	0.010	0.00069	1	04/20/21 12:49	04/26/21 17:19	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	04/20/21 12:49	04/26/21 17:19	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	04/20/21 12:49	04/26/21 17:19	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	04/22/21 07:30	04/22/21 18:14	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**267**	mg/L	10.0	10.0	1		04/21/21 23:10		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**11.6**	mg/L	1.0	0.60	1		04/22/21 08:22	16887-00-6	
Fluoride	**0.30**	mg/L	0.10	0.050	1		04/22/21 08:22	16984-48-8	
Sulfate	**93.8**	mg/L	2.0	1.0	2		04/22/21 11:00	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCDONOUGH AP-1 III & IV
Pace Project No.: 92533251

Sample: B-112D **Lab ID: 92533251005** Collected: 04/15/21 11:53 Received: 04/16/21 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		04/16/21 14:29		
pH	**6.83**	Std. Units			1		04/16/21 14:29		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**34.6**	mg/L	1.0	0.070	1	04/20/21 11:05	04/21/21 23:55	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.00041J**	mg/L	0.0030	0.00028	1	04/20/21 12:49	04/26/21 17:25	7440-36-0	
Arsenic	**0.00078J**	mg/L	0.0050	0.00078	1	04/20/21 12:49	04/26/21 17:25	7440-38-2	
Barium	**0.026**	mg/L	0.0050	0.00071	1	04/20/21 12:49	04/26/21 17:25	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	04/20/21 12:49	04/26/21 17:25	7440-41-7	
Boron	**0.26**	mg/L	0.040	0.0052	1	04/20/21 12:49	04/26/21 17:25	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	04/20/21 12:49	04/26/21 17:25	7440-43-9	
Chromium	**0.00085J**	mg/L	0.0050	0.00055	1	04/20/21 12:49	04/26/21 17:25	7440-47-3	
Cobalt	**0.0025J**	mg/L	0.0050	0.00038	1	04/20/21 12:49	04/26/21 17:25	7440-48-4	
Lead	**0.00014J**	mg/L	0.0010	0.000036	1	04/20/21 12:49	04/26/21 17:25	7439-92-1	
Lithium	**0.0045J**	mg/L	0.030	0.00081	1	04/20/21 12:49	04/26/21 17:25	7439-93-2	
Molybdenum	**0.037**	mg/L	0.010	0.00069	1	04/20/21 12:49	04/26/21 17:25	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	04/20/21 12:49	04/26/21 17:25	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	04/20/21 12:49	04/26/21 17:25	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	04/22/21 07:30	04/22/21 18:17	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**289**	mg/L	10.0	10.0	1		04/21/21 23:10		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**10.0**	mg/L	1.0	0.60	1		04/22/21 08:36	16887-00-6	
Fluoride	**0.30**	mg/L	0.10	0.050	1		04/22/21 08:36	16984-48-8	
Sulfate	**95.6**	mg/L	2.0	1.0	2		04/22/21 11:15	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: MCDONOUGH AP-1 III & IV
Pace Project No.: 92533251

QC Batch: 614102
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92533251001, 92533251002

METHOD BLANK: 3232176 Matrix: Water
Associated Lab Samples: 92533251001, 92533251002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	04/16/21 17:08	

LABORATORY CONTROL SAMPLE: 3232177

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.1	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3232178 3232179

Parameter	Units	92533251001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	ND	1	1	1.0	1.0	103	101	75-125	1	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCDONOUGH AP-1 III & IV
Pace Project No.: 92533251

QC Batch: 614871
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92533251003, 92533251004, 92533251005

METHOD BLANK: 3235675 Matrix: Water
Associated Lab Samples: 92533251003, 92533251004, 92533251005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	04/21/21 23:26	

LABORATORY CONTROL SAMPLE: 3235676

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.1	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3235677 3235678

Parameter	Units	92533757001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	31700 ug/L	1	1	31.5	31.7	-27	-3	75-125	1	20	M1

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCDONOUGH AP-1 III & IV
Pace Project No.: 92533251

QC Batch: 614104
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92533251001, 92533251002

METHOD BLANK: 3232186 Matrix: Water
Associated Lab Samples: 92533251001, 92533251002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	0.00035J	0.0030	0.00028	04/16/21 15:17	
Arsenic	mg/L	ND	0.0050	0.00078	04/16/21 15:17	
Barium	mg/L	ND	0.0050	0.00071	04/16/21 15:17	
Beryllium	mg/L	ND	0.00050	0.000046	04/16/21 15:17	
Boron	mg/L	ND	0.040	0.0052	04/16/21 15:17	
Cadmium	mg/L	ND	0.00050	0.00012	04/16/21 15:17	
Chromium	mg/L	ND	0.0050	0.00055	04/16/21 15:17	
Cobalt	mg/L	ND	0.0050	0.00038	04/16/21 15:17	
Lead	mg/L	ND	0.0010	0.000036	04/16/21 15:17	
Lithium	mg/L	ND	0.030	0.00081	04/16/21 15:17	
Molybdenum	mg/L	ND	0.010	0.00069	04/16/21 15:17	
Selenium	mg/L	ND	0.0050	0.0016	04/16/21 15:17	
Thallium	mg/L	ND	0.0010	0.00014	04/16/21 15:17	

LABORATORY CONTROL SAMPLE: 3232187

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.11	114	80-120	
Arsenic	mg/L	0.1	0.096	96	80-120	
Barium	mg/L	0.1	0.098	98	80-120	
Beryllium	mg/L	0.1	0.099	99	80-120	
Boron	mg/L	1	1.0	102	80-120	
Cadmium	mg/L	0.1	0.097	97	80-120	
Chromium	mg/L	0.1	0.098	98	80-120	
Cobalt	mg/L	0.1	0.098	98	80-120	
Lead	mg/L	0.1	0.099	99	80-120	
Lithium	mg/L	0.1	0.098	98	80-120	
Molybdenum	mg/L	0.1	0.10	102	80-120	
Selenium	mg/L	0.1	0.098	98	80-120	
Thallium	mg/L	0.1	0.098	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3232188 3232189

Parameter	Units	92533251002 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	108	107	75-125	1	20	
Arsenic	mg/L	ND	0.1	0.1	0.094	0.096	94	96	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: MCDONOUGH AP-1 III & IV
Pace Project No.: 92533251

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3232188 3232189

Parameter	Units	92533251002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	ND	0.1	0.1	0.098	0.10	98	100	75-125	3	20	
Beryllium	mg/L	ND	0.1	0.1	0.10	0.10	100	101	75-125	0	20	
Boron	mg/L	ND	1	1	1.0	1.1	103	106	75-125	3	20	
Cadmium	mg/L	ND	0.1	0.1	0.096	0.097	96	97	75-125	1	20	
Chromium	mg/L	0.0012J	0.1	0.1	0.10	0.10	100	100	75-125	0	20	
Cobalt	mg/L	ND	0.1	0.1	0.098	0.10	98	101	75-125	3	20	
Lead	mg/L	ND	0.1	0.1	0.098	0.097	98	97	75-125	1	20	
Lithium	mg/L	ND	0.1	0.1	0.10	0.11	102	105	75-125	3	20	
Molybdenum	mg/L	ND	0.1	0.1	0.098	0.098	98	98	75-125	0	20	
Selenium	mg/L	ND	0.1	0.1	0.096	0.098	96	98	75-125	3	20	
Thallium	mg/L	ND	0.1	0.1	0.096	0.095	96	95	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: MCDONOUGH AP-1 III & IV
Pace Project No.: 92533251

QC Batch: 614897
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92533251003, 92533251004, 92533251005

METHOD BLANK: 3235846 Matrix: Water
Associated Lab Samples: 92533251003, 92533251004, 92533251005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	04/26/21 16:37	
Arsenic	mg/L	ND	0.0050	0.00078	04/26/21 16:37	
Barium	mg/L	ND	0.0050	0.00071	04/26/21 16:37	
Beryllium	mg/L	ND	0.00050	0.000046	04/26/21 16:37	
Boron	mg/L	ND	0.040	0.0052	04/26/21 16:37	
Cadmium	mg/L	ND	0.00050	0.00012	04/26/21 16:37	
Chromium	mg/L	ND	0.0050	0.00055	04/26/21 16:37	
Cobalt	mg/L	ND	0.0050	0.00038	04/26/21 16:37	
Lead	mg/L	ND	0.0010	0.000036	04/26/21 16:37	
Lithium	mg/L	ND	0.030	0.00081	04/26/21 16:37	
Molybdenum	mg/L	ND	0.010	0.00069	04/26/21 16:37	
Selenium	mg/L	ND	0.0050	0.0016	04/26/21 16:37	
Thallium	mg/L	ND	0.0010	0.00014	04/26/21 16:37	

LABORATORY CONTROL SAMPLE: 3235847

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	104	80-120	
Arsenic	mg/L	0.1	0.094	94	80-120	
Barium	mg/L	0.1	0.097	97	80-120	
Beryllium	mg/L	0.1	0.097	97	80-120	
Boron	mg/L	1	0.99	99	80-120	
Cadmium	mg/L	0.1	0.095	95	80-120	
Chromium	mg/L	0.1	0.098	98	80-120	
Cobalt	mg/L	0.1	0.097	97	80-120	
Lead	mg/L	0.1	0.098	98	80-120	
Lithium	mg/L	0.1	0.098	98	80-120	
Molybdenum	mg/L	0.1	0.098	98	80-120	
Selenium	mg/L	0.1	0.094	94	80-120	
Thallium	mg/L	0.1	0.10	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3235848 3235849

Parameter	Units	92533711014 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	0.10	0.10	102	100	75-125	3	20	
Arsenic	mg/L	ND	0.1	0.1	0.096	0.096	96	95	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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(770)734-4200

QUALITY CONTROL DATA

Project: MCDONOUGH AP-1 III & IV
Pace Project No.: 92533251

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3235848 3235849

Parameter	Units	92533711014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	35.9 ug/L	0.1	0.1	0.13	0.13	97	93	75-125	3	20	
Beryllium	mg/L	ND	0.1	0.1	0.10	0.10	99	100	75-125	0	20	
Boron	mg/L	ND	1	1	0.98	1.0	97	100	75-125	3	20	
Cadmium	mg/L	ND	0.1	0.1	0.095	0.094	95	94	75-125	1	20	
Chromium	mg/L	ND	0.1	0.1	0.10	0.10	99	100	75-125	1	20	
Cobalt	mg/L	ND	0.1	0.1	0.098	0.099	97	99	75-125	2	20	
Lead	mg/L	ND	0.1	0.1	0.097	0.094	97	94	75-125	3	20	
Lithium	mg/L	ND	0.1	0.1	0.097	0.099	96	98	75-125	2	20	
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.097	99	97	75-125	3	20	
Selenium	mg/L	ND	0.1	0.1	0.096	0.093	95	92	75-125	3	20	
Thallium	mg/L	ND	0.1	0.1	0.099	0.096	99	96	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MCDONOUGH AP-1 III & IV
Pace Project No.: 92533251

QC Batch: 615195
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92533251001, 92533251002, 92533251003, 92533251004, 92533251005

METHOD BLANK: 3237403 Matrix: Water
Associated Lab Samples: 92533251001, 92533251002, 92533251003, 92533251004, 92533251005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.000078	04/22/21 17:46	

LABORATORY CONTROL SAMPLE: 3237404

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0028	114	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3237405 3237406

Parameter	Units	92533808001 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	0.0025	0.0026	100	100	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: MCDONOUGH AP-1 III & IV
Pace Project No.: 92533251

QC Batch: 615202
QC Batch Method: SM 2540C-2011
Analysis Method: SM 2540C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92533251001, 92533251002

METHOD BLANK: 3237449 Matrix: Water
Associated Lab Samples: 92533251001, 92533251002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	04/21/21 21:42	

LABORATORY CONTROL SAMPLE: 3237450

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	403	101	90-111	

SAMPLE DUPLICATE: 3237451

Parameter	Units	92533049012 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	51.0	64.0	23	10	D6

SAMPLE DUPLICATE: 3237452

Parameter	Units	92533275001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	13800	17100	21	10	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCDONOUGH AP-1 III & IV
Pace Project No.: 92533251

QC Batch: 615203
QC Batch Method: SM 2540C-2011
Analysis Method: SM 2540C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92533251003, 92533251004, 92533251005

METHOD BLANK: 3237454 Matrix: Water
Associated Lab Samples: 92533251003, 92533251004, 92533251005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	04/21/21 23:09	

LABORATORY CONTROL SAMPLE: 3237455

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	395	99	90-111	

SAMPLE DUPLICATE: 3237456

Parameter	Units	92533757001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	137	148	8	10	

SAMPLE DUPLICATE: 3237457

Parameter	Units	92533251003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	229	222	3	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCDONOUGH AP-1 III & IV
Pace Project No.: 92533251

QC Batch: 614679
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92533251001, 92533251002

METHOD BLANK: 3234945 Matrix: Water
Associated Lab Samples: 92533251001, 92533251002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	04/19/21 21:27	
Fluoride	mg/L	ND	0.10	0.050	04/19/21 21:27	
Sulfate	mg/L	ND	1.0	0.50	04/19/21 21:27	

LABORATORY CONTROL SAMPLE: 3234946

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	47.8	96	90-110	
Fluoride	mg/L	2.5	2.3	93	90-110	
Sulfate	mg/L	50	47.8	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3234947 3234948

Parameter	Units	92533709002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	5.4	50	50	56.0	55.8	101	101	90-110	0	10	
Fluoride	mg/L	0.81	2.5	2.5	3.1	3.1	92	91	90-110	0	10	
Sulfate	mg/L	21.9	50	50	72.6	72.2	101	101	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3234949 3234950

Parameter	Units	92533252001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.2	50	50	52.3	54.8	98	103	90-110	5	10	
Fluoride	mg/L	ND	2.5	2.5	2.5	2.6	97	102	90-110	5	10	
Sulfate	mg/L	1.3	50	50	50.2	52.7	98	103	90-110	5	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCDONOUGH AP-1 III & IV
Pace Project No.: 92533251

QC Batch: 615178
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92533251003, 92533251004, 92533251005

METHOD BLANK: 3237353 Matrix: Water
Associated Lab Samples: 92533251003, 92533251004, 92533251005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	04/22/21 01:55	
Fluoride	mg/L	ND	0.10	0.050	04/22/21 01:55	
Sulfate	mg/L	ND	1.0	0.50	04/22/21 01:55	

LABORATORY CONTROL SAMPLE: 3237354

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	48.7	97	90-110	
Fluoride	mg/L	2.5	2.4	97	90-110	
Sulfate	mg/L	50	48.2	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3237355 3237356

Parameter	Units	92534146001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	973	50	50	987	991	30	37	90-110	0	10	M6
Fluoride	mg/L	2.9	2.5	2.5	4.2	4.4	50	60	90-110	6	10	M6
Sulfate	mg/L	1170	50	50	1180	1190	24	35	90-110	0	10	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3237357 3237358

Parameter	Units	92534192004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	7630	50	50	7420	7430	-415	-402	90-110	0	10	M6
Fluoride	mg/L	5.6J	2.5	2.5	7.9J	8.0J	92	96	90-110		10	D3
Sulfate	mg/L	942	50	50	963	968	41	53	90-110	1	10	M6

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REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: MCDONOUGH AP-1 III & IV
Pace Project No.: 92533251

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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.
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
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Peachtree Corners, GA 30092
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCDONOUGH AP-1 III & IV
Pace Project No.: 92533251

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92533251003	**B-113D**				
92533251005	**B-112D**				
92533251001	**EB-1**	EPA 3010A	614102	EPA 6010D	614291
92533251002	**FB-1**	EPA 3010A	614102	EPA 6010D	614291
92533251003	**B-113D**	EPA 3010A	614871	EPA 6010D	614918
92533251004	**DUP-1**	EPA 3010A	614871	EPA 6010D	614918
92533251005	**B-112D**	EPA 3010A	614871	EPA 6010D	614918
92533251001	**EB-1**	EPA 3005A	614104	EPA 6020B	614308
92533251002	**FB-1**	EPA 3005A	614104	EPA 6020B	614308
92533251003	**B-113D**	EPA 3005A	614897	EPA 6020B	614991
92533251004	**DUP-1**	EPA 3005A	614897	EPA 6020B	614991
92533251005	**B-112D**	EPA 3005A	614897	EPA 6020B	614991
92533251001	**EB-1**	EPA 7470A	615195	EPA 7470A	615468
92533251002	**FB-1**	EPA 7470A	615195	EPA 7470A	615468
92533251003	**B-113D**	EPA 7470A	615195	EPA 7470A	615468
92533251004	**DUP-1**	EPA 7470A	615195	EPA 7470A	615468
92533251005	**B-112D**	EPA 7470A	615195	EPA 7470A	615468
92533251001	**EB-1**	SM 2540C-2011	615202		
92533251002	**FB-1**	SM 2540C-2011	615202		
92533251003	**B-113D**	SM 2540C-2011	615203		
92533251004	**DUP-1**	SM 2540C-2011	615203		
92533251005	**B-112D**	SM 2540C-2011	615203		
92533251001	**EB-1**	EPA 300.0 Rev 2.1 1993	614679		
92533251002	**FB-1**	EPA 300.0 Rev 2.1 1993	614679		
92533251003	**B-113D**	EPA 300.0 Rev 2.1 1993	615178		
92533251004	**DUP-1**	EPA 300.0 Rev 2.1 1993	615178		
92533251005	**B-112D**	EPA 300.0 Rev 2.1 1993	615178		

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

aboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GA Power

Project #: WO# : 92533251

92533251

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

ustody Seal Present? ☐ Yes ☑ No Seals Intact? ☐ Yes ☐ No

Date/Initials Person Examining Contents: 4/14/26 DM

acking Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

hermometer: ☑ IR Gun ID: 233 ☑ Wet ☐ Blue ☐ None Type of Ice:

ooler Temp: 3.4 Correction Factor: Add/Subtract (°C) -0.2

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

ooler Temp Corrected (°C): 3.2

SDA Regulated Soil (☐ N/A, water sample)

id samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☐ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: W				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A — Required Client Information:

Company	Georgia Power - Coal Combustion Products
Address	3480 Maner Road Atlanta, GA 30339
Email	abrahams@southernco.com
Phone	(404) 506-7239

Section B — Required Project Information:

Report To	Jay Abrahams
Copy To	Golder
Purchase Order #	
Project Name	Plant McDonough AP-1 Special
Project #	168849821

Section C — Invoice Information:

Attention	accountspayable@southernco.com
Company Name	
Address	
Pace Quote	
Pace Project Manager	Kevin Herring
Pace Profile #	

Requested Due Date: Standard

Regulatory Agency: State / Location: GA

SAMPLE ID

One Character per box.
(A-Z, 0-9 / -)
Sample IDs must be unique

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved / H2SO4 / HNO3	Analyses Test: App IV Appendix	Chlorides, Fluoride, Sulfate	Radium 226/228	Total Dissolved Solids (TDS)	Residual Chlorine (Y/N)	Remarks / Lab ID
1	[illegible]	WT	G											
2	[illegible]	WT	G											
3	[illegible]	WT	G	4/14/21	1305				X	X	X	X		
4	[illegible]	WT	G	4/14/21	1305				X	X	X	X		
5	[illegible]	WT	G						X	X	X	X		
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	[signature]	4/14/21	16:06	[signature] / MEC	4/14/21	1600	

DATE Signed:

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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: Jay Ahlstrom	Attention: scsinvoices@southernco.com
Address: 2480 Maner Road	Copy To: Golder	Company Name:
Atlanta, GA 30339		Address:
Email: gpmhsm@southernco.com	Purchase Order #:	Pace Quote:
Phone: (404) 506-7209 Fax:	Project Name: Plant McDonough AP-1 Spec(s)	Pace Project Manager: Kevin Herring
Requested Due Date: Standard	Project #: 186849621	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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	Analysis Test Y/N	App III Appr for metals	Chlorides, Fluorides, Sulfate	Radium 226/228	Total Dissolved Solids (TDS)	Residual Chlorine (Y/N)	
1		GW	G	04/15/21	1127						X	X	X	X		pH 5.46
2	B-113D	WP	G	04/16/21	0945						X	X	X	X		pH 7.77
3	EB_1	WT	G								X	X	X	X		
4	FB_1	WT	G								X	X	X	X		
5	DUP_1	WT	G	04/15/21							X	X	X	X		
6	B-112D	WP	G	04/15/21	1153						X	X	X	X		pH 6.83
7																
8																
9																
10																
11																
12																
13																
14																
15																

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)
Exit Meeting	Golder	04/16/21	1335	Mike Mace	4/16/21	1315	2.1	Y	N	Y

DATE Signed:

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

May 10, 2021

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

RE: Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92533247

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between April 14, 2021 and April 16, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Greensburg

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

Sincerely,

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

Enclosures

cc: Stephen Benda
Daniela Herrera, Golder
Ben Hodges, Georgia Power
Kristen Jurinko
J. Shelby Mobley
Charles Norton, Southern Company
Ms. Lauren Petty, Southern Company
Dawn Prell, Golder Associates Inc.
Tim Richards, Golder Associates - Atlanta

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

CERTIFICATIONS

Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92533247

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

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

SAMPLE SUMMARY

Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92533247

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92533247001	**EB-1**	Water	04/14/21 13:05	04/14/21 16:00
92533247002	**FB-1**	Water	04/14/21 13:05	04/14/21 16:00
92533247003	**B-113D**	Water	04/16/21 09:45	04/16/21 13:15
92533247004	**DUP-1**	Water	04/15/21 00:00	04/16/21 13:15
92533247005	**B-112D**	Water	04/15/21 11:53	04/16/21 13:15

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SAMPLE ANALYTE COUNT

Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92533247

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92533247001	**EB-1**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92533247002	**FB-1**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92533247003	**B-113D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92533247004	**DUP-1**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92533247005	**B-112D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92533247

Sample: EB-1 **Lab ID: 92533247001** Collected: 04/14/21 13:05 Received: 04/14/21 16:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.102 ± 0.128 (0.244) C:81% T:NA**	pCi/L	05/05/21 19:49	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.513 ± 0.557 (1.17) C:70% T:89%**	pCi/L	05/07/21 15:50	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.615 ± 0.685 (1.41)**	pCi/L	05/10/21 10:46	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: MCDONOUGH AP-1 RADS
Pace Project No.: 92533247

Sample: FB-1 **Lab ID: 92533247002** Collected: 04/14/21 13:05 Received: 04/14/21 16:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0681 ± 0.0973 (0.187) C:94% T:NA**	pCi/L	05/05/21 19:49	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.531 ± 0.575 (1.21) C:68% T:81%**	pCi/L	05/07/21 15:50	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.599 ± 0.672 (1.40)**	pCi/L	05/10/21 10:46	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: MCDONOUGH AP-1 RADS
Pace Project No.: 92533247

Sample: B-113D **Lab ID: 92533247003** Collected: 04/16/21 09:45 Received: 04/16/21 13:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.379 ± 0.134 (0.159) C:85% T:NA**	pCi/L	05/05/21 17:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.473 ± 0.608 (1.30) C:68% T:77%**	pCi/L	05/07/21 15:50	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.852 ± 0.742 (1.46)**	pCi/L	05/10/21 10:53	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: MCDONOUGH AP-1 RADS
Pace Project No.: 92533247

Sample: DUP-1 **Lab ID: 92533247004** Collected: 04/15/21 00:00 Received: 04/16/21 13:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.382 ± 0.136 (0.165) C:84% T:NA**	pCi/L	05/05/21 17:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.177 ± 0.584 (1.31) C:73% T:75%**	pCi/L	05/07/21 15:50	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.559 ± 0.720 (1.48)**	pCi/L	05/10/21 10:53	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: MCDONOUGH AP-1 RADS
Pace Project No.: 92533247

Sample: B-112D **Lab ID: 92533247005** Collected: 04/15/21 11:53 Received: 04/16/21 13:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.404 ± 0.146 (0.184) C:82% T:NA**	pCi/L	05/05/21 17:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.541 ± 0.466 (0.940) C:72% T:81%**	pCi/L	05/07/21 15:45	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.945 ± 0.612 (1.12)**	pCi/L	05/10/21 10:53	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: MCDONOUGH AP-1 RADS
Pace Project No.: 92533247

QC Batch: 445345 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92533247001, 92533247002, 92533247003, 92533247004, 92533247005

METHOD BLANK: 2149728 Matrix: Water
Associated Lab Samples: 92533247001, 92533247002, 92533247003, 92533247004, 92533247005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.120 ± 0.0920 (0.158) C:89% T:NA	pCi/L	05/05/21 19:49	

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: MCDONOUGH AP-1 RADS
Pace Project No.: 92533247

QC Batch: 445317 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92533247001, 92533247002, 92533247003, 92533247004, 92533247005

METHOD BLANK: 2149685 Matrix: Water
Associated Lab Samples: 92533247001, 92533247002, 92533247003, 92533247004, 92533247005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.310 ± 0.354 (0.744) C:75% T:85%	pCi/L	05/07/21 12:15	

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

QUALIFIERS

Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92533247

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCDONOUGH AP-1 RADS
Pace Project No.: 92533247

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92533247001	**EB-1**	EPA 9315	445345		
92533247002	**FB-1**	EPA 9315	445345		
92533247003	**B-113D**	EPA 9315	445345		
92533247004	**DUP-1**	EPA 9315	445345		
92533247005	**B-112D**	EPA 9315	445345		
92533247001	**EB-1**	EPA 9320	445317		
92533247002	**FB-1**	EPA 9320	445317		
92533247003	**B-113D**	EPA 9320	445317		
92533247004	**DUP-1**	EPA 9320	445317		
92533247005	**B-112D**	EPA 9320	445317		
92533247001	**EB-1**	Total Radium Calculation	447215		
92533247002	**FB-1**	Total Radium Calculation	447215		
92533247003	**B-113D**	Total Radium Calculation	447216		
92533247004	**DUP-1**	Total Radium Calculation	447216		
92533247005	**B-112D**	Total Radium Calculation	447216		

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-C5-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GA Power

Project #: WO#: 92533247

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

Custody Seal Present? ☐ Yes ☑ No Seals Intact? ☐ Yes ☐ No

Date/Initials Person Examining Contents: 4/14/26 DH

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

Thermometer: ☐ IR Gun ID: 233 ☑ Wet ☐ Blue ☐ None

Type of Ice:

Cooler Temp: 3.4 Correction Factor: Add/Subtract (°C) -0.2

Temp should be above freezing to 6°C

☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 3.2

USDA Regulated Soil (☐ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9
-Includes Date/Time/ID/Analysis Matrix: W				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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: Jeff Hamilton	Attention: bpalmosta@southernco.com
Address: 2480 Maner Road	Copy To: Golder	Company Name:
Atlanta, GA 30339		Address:
Email: jeffhamilton@southernco.com	Purchase Order #:	Pace Quote:
Phone: (404) 506-7239 Fax:	Project Name: Plant McDonough AP-1 Special	Pace Project Manager: Kevin Herring
Requested Due Date: Standard	Project #: 10484721	Pace Profile #:

Regulatory Agency: —

State / Location: GA

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample IDs must be unique	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	Analyses Test: App IV Appr Y/N results	Chlorides	Fluoride, Sulfate	Radium 226/228	Total Dissolved Solids (TDS)	Residual Chlorine (Y/N)	
1	[illegible]														
2	[illegible]														
3	[illegible]		4/14/21	1365					X	X	X	X			
4	[illegible]		4/14/21	1365					X	X	X	X			
5	[illegible]								X	X	X	X			
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	[signature]	4/14/21	16:00	[signature]	4/14/21	1600	

DATE Signed:

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Attachment

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 Of 1

Section A — Required Client Information:
Company: Georgia Power - Coal Combustion Residuals
Address: 2480 Maner Road, Atlanta, GA 30339
Email: jabraham@southernco.com
Phone: (404) 506-7239 Fax:
Requested Due Date: Standard

Section B — Required Project Information:
Report To: Jon Abraham
Copy To: Golder
Purchase Order #:
Project Name: Plant McDonough APV Special
Project #: 195649821

Section C — Invoice Information:
Attention: jajohnston@southernco.com
Company Name:
Address:
Pace Quote:
Pace Project Manager: Kevin Herring
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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved, HCl, HNO3	Requested Analysis Filtered (Y/N): Y/N	1, Analyses Test	App III/ App IV metals	Chlorides, Fluoride, Sulfate	Radium 226/228	Total Dissolved Solids (TDS)	Residual Chlorine (Y/N)	
1	[illegible]	WT	G	[illegible]	[illegible]				N	X						pH 5.96
2	B-1133	WT	G	04/16/21	0945				N	X	X	X	X	X		pH 7.77
3	EB_1	WT	G						N	X	X	X	X	X		
4	EB_2	WT	G						N	X	X	X	X	X		
5	DUP_2	WT	G	04/14/21					N	X	X	X	X	X		
6	B-1120	WT	G	04/16/21	1153				N	X	X	X	X	X		pH 6.83
7																
8																
9																
10																
11																
12																
13																
14																
15																
16																

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)
Edit Abraham	Golder	04/16/21	1235	[illegible]	4/16/21	16:15	2.1	Y	Y	Y

DATE Signed:

Quality Control Sample Performance Assessment

Pace Analytical

Test:	Ra-226
Analyst:	LAL
Date	5/4/2021
Worklist:	60191
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	Z149728
MB concentration:	0.120
MB Counting Uncertainty:	0.090
MB MDC:	0.158
MB Numerical Performance Indicator	2.60
MB Status vs Numerical Indicator	N/A
MB Status vs MDC	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS60191	LCSD60191
Count Date	5/5/2021	5/5/2021
Spike I.D.	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.038	24.038
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.505	0.505
Target Conc. (pCi/L, g, F):	4.761	4.762
Uncertainty (Calculated):	0.057	0.057
Result (pCi/L, g, F):	4.916	4.802
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.360	0.354
Numerical Performance Indicator:	0.89	0.22
Percent Recovery:	103.48%	100.83%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS60191	B253324B001
Duplicate Sample I.D.	LCSD60191	9253324B001DUP
Sample Result (pCi/L, g, F):	4.916	0.095
Sample Result Counting Uncertainty (pCi/L, g, F):	0.360	0.088
Sample Duplicate Result (pCi/L, g, F):	4.802	0.097
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.354	0.087
Are sample and/or duplicate results below RL?	NO	See Below ##
Duplicate Numerical Performance Indicator:	0.441	-0.029
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	2.59%	2.00%
Duplicate Status vs Numerical Indicator:	N/A	N/A
Duplicate Status vs RPD:	Pass	Pass
% RPD Limit:	25%	25%

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:		
% RPD Limit:		

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

Comments:

LAM 5/6/21

CMW 5/6/21

Quality Control Sample Performance Assessment

Pace Analytical

Test:	Ra-228
Analyst:	VAL
Date:	5/4/2021
Worklist:	60181
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2149685
MB concentration:	0.310
MB 2 Sigma CSU:	0.354
MB MDC:	0.744
MB Numerical Performance Indicator:	1.72
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS60181	LCSD60181
Count Date:	5/7/2021	5/7/2021
Spike I.D.:	21-003	21-003
Decay Corrected Spike Concentration (pCi/mL):	37.791	37.791
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.816	0.808
Target Conc. (pCi/L, g, F):	4.635	4.675
Uncertainty (Calculated):	0.227	0.229
Result (pCi/L, g, F):	4.755	4.655
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.081	1.075
Numerical Performance Indicator:	0.21	-0.04
Percent Recovery:	102.60%	99.57%
Status vs Numerical Indicator:	NA	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS60181	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD60181	
Sample Result (pCi/L, g, F):	4.755	
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.081	
Sample Duplicate Result (pCi/L, g, F):	4.655	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.075	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	0.130	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	2.99%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	35%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit:		

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

Comments:

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Ra-228 NELAC DW2
Printed: 5/7/2021 4:01 PM

QA
5/7/21

Ra-228_60181_W.xls
Ra-228 (R086-8 04Sep2019).xls

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

April 30, 2021

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

RE: Project: MCDONOUGH AP-1 IONS
Pace Project No.: 92533256

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between April 14, 2021 and April 16, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

cc: Stephen Benda
Daniela Herrera, Golder
Ben Hodges, Georgia Power
Kristen Jurinko
J. Shelby Mobley
Charles Norton, Southern Company
Ms. Lauren Petty, Southern Company
Dawn Prell, Golder Associates Inc.
Tim Richards, Golder Associates - Atlanta

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: MCDONOUGH AP-1 IONS
Pace Project No.: 92533256

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

Pace Analytical Services Peachtree Corners
110 Technology Pkwy, Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001

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

SAMPLE SUMMARY

Project: MCDONOUGH AP-1 IONS
Pace Project No.: 92533256

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92533256001	**EB-1**	Water	04/14/21 13:05	04/14/21 16:00
92533256002	**FB-1**	Water	04/14/21 13:05	04/14/21 16:00
92533256003	**B-113D**	Water	04/16/21 09:45	04/16/21 13:15
92533256004	**DUP-1**	Water	04/15/21 00:00	04/16/21 13:15
92533256005	**B-112D**	Water	04/15/21 11:53	04/16/21 13:15

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

SAMPLE ANALYTE COUNT

Project: MCDONOUGH AP-1 IONS
Pace Project No.: 92533256

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92533256001	**EB-1**	EPA 6010D	DRB	3
		SM 2320B-2011	ECH	3
92533256002	**FB-1**	EPA 6010D	DRB	3
		SM 2320B-2011	ECH	3
92533256003	**B-113D**	EPA 6010D	DRB	3
		SM 2320B-2011	ECH	3
92533256004	**DUP-1**	EPA 6010D	DRB	3
		SM 2320B-2011	ECH	3
92533256005	**B-112D**	EPA 6010D	DRB	3
		SM 2320B-2011	ECH	3

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte
PASI-GA = Pace Analytical Services - Peachtree Corners, GA

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

ANALYTICAL RESULTS

Project: MCDONOUGH AP-1 IONS
Pace Project No.: 92533256

Sample: EB-1 **Lab ID: 92533256001** Collected: 04/14/21 13:05 Received: 04/14/21 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Potassium	ND	mg/L	0.20	0.056	1	04/16/21 10:55	04/16/21 17:18	7440-09-7	
Sodium	ND	mg/L	1.0	0.26	1	04/16/21 10:55	04/16/21 17:18	7440-23-5	
Magnesium	ND	mg/L	0.050	0.0076	1	04/16/21 10:55	04/16/21 17:18	7439-95-4	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		04/27/21 17:54		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		04/27/21 17:54		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		04/27/21 17:54		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH AP-1 IONS
Pace Project No.: 92533256

Sample: FB-1 **Lab ID: 92533256002** Collected: 04/14/21 13:05 Received: 04/14/21 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Potassium	ND	mg/L	0.20	0.056	1	04/16/21 10:55	04/16/21 18:02	7440-09-7	
Sodium	ND	mg/L	1.0	0.26	1	04/16/21 10:55	04/16/21 18:02	7440-23-5	
Magnesium	ND	mg/L	0.050	0.0076	1	04/16/21 10:55	04/16/21 18:02	7439-95-4	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		04/27/21 17:56		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		04/27/21 17:56		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		04/27/21 17:56		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH AP-1 IONS
Pace Project No.: 92533256

Sample: B-113D **Lab ID: 92533256003** Collected: 04/16/21 09:45 Received: 04/16/21 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		04/16/21 14:34		
pH	**7.77**	Std. Units			1		04/16/21 14:34		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Potassium	**4.4**	mg/L	0.20	0.056	1	04/20/21 11:05	04/21/21 23:46	7440-09-7	
Sodium	**20.6**	mg/L	1.0	0.26	1	04/20/21 11:05	04/21/21 23:46	7440-23-5	
Magnesium	**6.7**	mg/L	0.050	0.0076	1	04/20/21 11:05	04/21/21 23:46	7439-95-4	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**136**	mg/L	5.0	5.0	1		04/28/21 17:40		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		04/28/21 17:40		
Alkalinity, Total as CaCO3	**136**	mg/L	5.0	5.0	1		04/28/21 17:40		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH AP-1 IONS
Pace Project No.: 92533256

Sample: DUP-1 **Lab ID: 92533256004** Collected: 04/15/21 00:00 Received: 04/16/21 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Potassium	**4.0**	mg/L	0.20	0.056	1	04/20/21 11:05	04/21/21 23:50	7440-09-7	
Sodium	**59.1**	mg/L	1.0	0.26	1	04/20/21 11:05	04/21/21 23:50	7440-23-5	
Magnesium	**8.7**	mg/L	0.050	0.0076	1	04/20/21 11:05	04/21/21 23:50	7439-95-4	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**116**	mg/L	5.0	5.0	1		04/28/21 17:50		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		04/28/21 17:50		
Alkalinity, Total as CaCO3	**116**	mg/L	5.0	5.0	1		04/28/21 17:50		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MCDONOUGH AP-1 IONS
Pace Project No.: 92533256

Sample: B-112D **Lab ID: 92533256005** Collected: 04/15/21 11:53 Received: 04/16/21 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		04/16/21 14:34		
pH	**6.83**	Std. Units			1		04/16/21 14:34		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Potassium	**4.2**	mg/L	0.20	0.056	1	04/20/21 11:05	04/21/21 23:55	7440-09-7	
Sodium	**61.1**	mg/L	1.0	0.26	1	04/20/21 11:05	04/21/21 23:55	7440-23-5	
Magnesium	**9.0**	mg/L	0.050	0.0076	1	04/20/21 11:05	04/21/21 23:55	7439-95-4	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**115**	mg/L	5.0	5.0	1		04/28/21 18:00		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		04/28/21 18:00		
Alkalinity, Total as CaCO3	**115**	mg/L	5.0	5.0	1		04/28/21 18:00		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MCDONOUGH AP-1 IONS
Pace Project No.: 92533256

QC Batch: 614102
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92533256001, 92533256002

METHOD BLANK: 3232176 Matrix: Water
Associated Lab Samples: 92533256001, 92533256002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Magnesium	mg/L	ND	0.050	0.0076	04/16/21 17:08	
Potassium	mg/L	ND	0.20	0.056	04/16/21 17:08	
Sodium	mg/L	ND	1.0	0.26	04/16/21 17:08	

LABORATORY CONTROL SAMPLE: 3232177

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Magnesium	mg/L	1	1.0	102	80-120	
Potassium	mg/L	1	1.1	107	80-120	
Sodium	mg/L	1	1.0	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3232178 3232179

Parameter	Units	92533251001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Magnesium	mg/L	ND	1	1	1.0	1.0	102	101	75-125	1	20	
Potassium	mg/L	ND	1	1	1.0	0.99	105	99	75-125	5	20	
Sodium	mg/L	ND	1	1	0.99J	0.97J	99	97	75-125		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: MCDONOUGH AP-1 IONS
Pace Project No.: 92533256

QC Batch: 614871
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92533256003, 92533256004, 92533256005

METHOD BLANK: 3235675 Matrix: Water
Associated Lab Samples: 92533256003, 92533256004, 92533256005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Magnesium	mg/L	0.0078J	0.050	0.0076	04/21/21 23:26	
Potassium	mg/L	ND	0.20	0.056	04/21/21 23:26	
Sodium	mg/L	ND	1.0	0.26	04/21/21 23:26	

LABORATORY CONTROL SAMPLE: 3235676

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Magnesium	mg/L	1	1.1	106	80-120	
Potassium	mg/L	1	1.1	107	80-120	
Sodium	mg/L	1	1.1	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3235677 3235678

Parameter	Units	92533757001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Magnesium	mg/L	9040 ug/L	1	1	9.7	9.7	67	70	75-125	0	20	M1
Potassium	mg/L	586 ug/L	1	1	1.6	1.6	105	104	75-125	1	20	
Sodium	mg/L	6150 ug/L	1	1	7.0	7.0	86	86	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: MCDONOUGH AP-1 IONS
Pace Project No.: 92533256

QC Batch: 616418
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92533256001, 92533256002

METHOD BLANK: 3243745 Matrix: Water
Associated Lab Samples: 92533256001, 92533256002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	04/27/21 17:08	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	04/27/21 17:08	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	04/27/21 17:08	

LABORATORY CONTROL SAMPLE: 3243746

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.1	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3243747 3243748

Parameter	Units	92533574001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	90.0	50	50	138	140	96	100	80-120	1	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3243749 3243750

Parameter	Units	92533574006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	142	50	50	203	199	120	114	80-120	2	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
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: MCDONOUGH AP-1 IONS
Pace Project No.: 92533256

QC Batch: 616419
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92533256003, 92533256004, 92533256005

METHOD BLANK: 3243751 Matrix: Water
Associated Lab Samples: 92533256003, 92533256004, 92533256005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	04/28/21 14:42	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	04/28/21 14:42	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	04/28/21 14:42	

LABORATORY CONTROL SAMPLE: 3243752

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	51.1	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3243753 3243754

Parameter	Units	92533974007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	424	50	50	471	484	94	119	80-120	3	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3243755 3243756

Parameter	Units	92533634002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	405	50	50	445	462	79	113	80-120	4	25	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: MCDONOUGH AP-1 IONS
Pace Project No.: 92533256

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCDONOUGH AP-1 IONS
Pace Project No.: 92533256

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92533256003	**B-113D**				
92533256005	**B-112D**				
92533256001	**EB-1**	EPA 3010A	614102	EPA 6010D	614291
92533256002	**FB-1**	EPA 3010A	614102	EPA 6010D	614291
92533256003	**B-113D**	EPA 3010A	614871	EPA 6010D	614918
92533256004	**DUP-1**	EPA 3010A	614871	EPA 6010D	614918
92533256005	**B-112D**	EPA 3010A	614871	EPA 6010D	614918
92533256001	**EB-1**	SM 2320B-2011	616418		
92533256002	**FB-1**	SM 2320B-2011	616418		
92533256003	**B-113D**	SM 2320B-2011	616419		
92533256004	**DUP-1**	SM 2320B-2011	616419		
92533256005	**B-112D**	SM 2320B-2011	616419		

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GA Power

Project #: WO# : 92533256

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

Custody Seal Present? ☐ Yes ☑ No Seals Intact? ☐ Yes ☐ No

Date/Initials Person Examining Contents: 4/14/26 DH

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

Thermometer: ☑ IR Gun ID: 233 ☑ Wet ☐ Blue ☐ None

Type of Ice:

Cooler Temp: 3.4 Correction Factor: Add/Subtract (°C) -0.2

Temp should be above freezing to 6°C

Cooler Temp Corrected (°C): 3.2

☐ Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil (☐ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9
-Includes Date/Time/ID/Analysis Matrix: W				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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	Joju Abraham	Attention	[illegible]@southernco.com
Address	2480 Maner Road	Copy To	Golder	Company Name	
	Atlanta, GA 30339			Address	
Email	jabraham@southernco.com	Purchase Order #		Pace Quote	
Phone	(404) 506-7239	Project Name	Plant McDonough AP-1 Special Isos	Pace Project Manager	Kevin Herring
Fax					
Requested Due Date	Standard	Project #	[illegible]	Pace Profile #	

Regulatory Agency

State / Location: GA

Requested Analysis Filtered (Y/N)

SAMPLE ID: One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved, Ice	HNO3	Analyses Test Y/N	Bicarbonate/carbonate Alkalinity (N)	K, Na, Mg (N)	Residual Chlorine (Y/N)	
1	[illegible] (struck through)	WT	G								X	X		[illegible]
2	[illegible] (struck through)	WT	G								X	X		[illegible]
3	[illegible]	WT	G	4/14/21	1345						X	X		
4	[illegible]	WT	G	4/14/21	1305						X	X		
5	[illegible] (struck through)	WT	G								X	X		
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	[signature]	4/14/21	16:00	[signature] / [illegible]	4/14/21	1646	

DATE Signed:

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 Of 1

Section A — Required Client Information:

Company:	Georgia Power - Coal Combustion Residuals
Address:	241C Miller Road Atlanta, GA 30339
Email:	jtabraham@southernco.com
Phone:	(404) 506-7239
Fax:	
Requested Due Date:	Standard

Section B — Required Project Information:

Report To:	Joe Abraham
Copy To:	Golder
Purchase Order #:	
Project Name:	Plant McDonough AP-1 Specifications
Project #:	1665492621

Section C — Invoice Information:

Attention:	accountspayable@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	

Regulatory Agency

State / Location: GA

Requested Analysis Filtered (Y/N)

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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	HNO3	Analysis Test: Y/N	Boron, Calcium, Chloride, Alkalinity	TDS, NO3, SO4										Residual Chlorine (Y/N)	
1	[redacted]	WT	G	[redacted]	[redacted]																		
2	B-113D	WT	G	04/16/21	0745						X	X											pH 7.77
3	EB_1	WT	G								X	X											
4	FB_1	WT	G								X	X											
5	DUP_1	WT	G	04/15/21							X	X											
6	B-112D	WT	G	04/15/21	1153						X	X											pH 6.83
7																							
8																							
9																							
10																							
11																							
12																							
13																							
14																							
15																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Ed Mann	Golder	04/16/21	1535	[redacted]	4/16/21	1535

DATE Shipped:

SAMPLE CONDITIONS

2.1	Y	N	Y

Received on Ice (Y/N) | Custody Seals Intact (Y/N) | Samples Intact (Y/N) | Temp in °C

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

April 27, 2021

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

RE: Project: MCDONOUGH UPGRADIENT III & IV
Pace Project No.: 92533252

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on April 14, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

cc: Stephen Benda
Daniela Herrera, Golder
Ben Hodges, Georgia Power
Kristen Jurinko
J. Shelby Mobley
Charles Norton, Southern Company
Ms. Lauren Petty, Southern Company
Dawn Prell, Golder Associates Inc.
Tim Richards, Golder Associates - Atlanta

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: MCDONOUGH UPGRADIENT III & IV
Pace Project No.: 92533252

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

Pace Analytical Services Peachtree Corners
110 Technology Pkwy, Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001

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

SAMPLE SUMMARY

Project: MCDONOUGH UPGRADIENT III & IV
Pace Project No.: 92533252

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92533252001	**B-116D**	Water	04/13/21 15:15	04/14/21 16:00
92533252002	**B-117D**	Water	04/14/21 12:35	04/14/21 16:00
92533252003	**B-118**	Water	04/13/21 11:45	04/14/21 16:00
92533252004	**B-119D**	Water	04/13/21 14:59	04/14/21 16:00

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

SAMPLE ANALYTE COUNT

Project: MCDONOUGH UPGRADIENT III & IV
Pace Project No.: 92533252

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92533252001	**B-116D**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92533252002	**B-117D**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92533252003	**B-118**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92533252004	**B-119D**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte
PASI-GA = Pace Analytical Services - Peachtree Corners, GA

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

ANALYTICAL RESULTS

Project: MCDONOUGH UPGRADIENT III & IV
Pace Project No.: 92533252

Sample: B-116D **Lab ID: 92533252001** Collected: 04/13/21 15:15 Received: 04/14/21 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		04/27/21 16:31		
pH	**6.06**	Std. Units			1		04/27/21 16:31		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**10.6**	mg/L	1.0	0.070	1	04/16/21 10:55	04/16/21 18:07	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	04/16/21 10:53	04/16/21 18:06	7440-36-0	
Arsenic	**0.0012J**	mg/L	0.0050	0.00078	1	04/16/21 10:53	04/16/21 18:06	7440-38-2	
Barium	**0.020**	mg/L	0.0050	0.00071	1	04/16/21 10:53	04/16/21 18:06	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	04/16/21 10:53	04/16/21 18:06	7440-41-7	
Boron	ND	mg/L	0.040	0.0052	1	04/16/21 10:53	04/16/21 18:06	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	04/16/21 10:53	04/16/21 18:06	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	04/16/21 10:53	04/16/21 18:06	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	04/16/21 10:53	04/16/21 18:06	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	04/16/21 10:53	04/16/21 18:06	7439-92-1	
Lithium	**0.0066J**	mg/L	0.030	0.00081	1	04/16/21 10:53	04/16/21 18:06	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	04/16/21 10:53	04/16/21 18:06	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	04/16/21 10:53	04/16/21 18:06	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	04/16/21 10:53	04/16/21 18:06	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	**0.00018J**	mg/L	0.00020	0.000078	1	04/26/21 15:15	04/27/21 09:59	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**96.0**	mg/L	10.0	10.0	1		04/17/21 11:17		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**3.2**	mg/L	1.0	0.60	1		04/20/21 01:26	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		04/20/21 01:26	16984-48-8	
Sulfate	**1.3**	mg/L	1.0	0.50	1		04/20/21 01:26	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: MCDONOUGH UPGRADIENT III & IV
Pace Project No.: 92533252

Sample: B-117D **Lab ID: 92533252002** Collected: 04/14/21 12:35 Received: 04/14/21 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		04/27/21 16:31		
pH	**6.06**	Std. Units			1		04/27/21 16:31		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**9.8**	mg/L	1.0	0.070	1	04/16/21 10:55	04/16/21 18:12	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	04/16/21 10:53	04/16/21 18:12	7440-36-0	
Arsenic	**0.0015J**	mg/L	0.0050	0.00078	1	04/16/21 10:53	04/16/21 18:12	7440-38-2	
Barium	**0.048**	mg/L	0.0050	0.00071	1	04/16/21 10:53	04/16/21 18:12	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	04/16/21 10:53	04/16/21 18:12	7440-41-7	
Boron	ND	mg/L	0.040	0.0052	1	04/16/21 10:53	04/16/21 18:12	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	04/16/21 10:53	04/16/21 18:12	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	04/16/21 10:53	04/16/21 18:12	7440-47-3	
Cobalt	**0.00079J**	mg/L	0.0050	0.00038	1	04/16/21 10:53	04/16/21 18:12	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	04/16/21 10:53	04/16/21 18:12	7439-92-1	
Lithium	**0.013J**	mg/L	0.030	0.00081	1	04/16/21 10:53	04/16/21 18:12	7439-93-2	
Molybdenum	**0.00081J**	mg/L	0.010	0.00069	1	04/16/21 10:53	04/16/21 18:12	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	04/16/21 10:53	04/16/21 18:12	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	04/16/21 10:53	04/16/21 18:12	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	04/26/21 15:15	04/27/21 10:08	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**115**	mg/L	10.0	10.0	1		04/21/21 21:44		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**4.9**	mg/L	1.0	0.60	1		04/20/21 02:11	16887-00-6	
Fluoride	**0.056J**	mg/L	0.10	0.050	1		04/20/21 02:11	16984-48-8	
Sulfate	**11.7**	mg/L	1.0	0.50	1		04/20/21 02:11	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCDONOUGH UPGRADIENT III & IV
Pace Project No.: 92533252

Sample: B-118 **Lab ID: 92533252003** Collected: 04/13/21 11:45 Received: 04/14/21 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		04/27/21 16:31		
pH	**6.02**	Std. Units			1		04/27/21 16:31		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**6.5**	mg/L	1.0	0.070	1	04/16/21 10:55	04/16/21 18:17	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	04/16/21 10:53	04/16/21 18:18	7440-36-0	
Arsenic	**0.00094J**	mg/L	0.0050	0.00078	1	04/16/21 10:53	04/16/21 18:18	7440-38-2	
Barium	**0.032**	mg/L	0.0050	0.00071	1	04/16/21 10:53	04/16/21 18:18	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	04/16/21 10:53	04/16/21 18:18	7440-41-7	
Boron	ND	mg/L	0.040	0.0052	1	04/16/21 10:53	04/16/21 18:18	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	04/16/21 10:53	04/16/21 18:18	7440-43-9	
Chromium	**0.00059J**	mg/L	0.0050	0.00055	1	04/16/21 10:53	04/16/21 18:18	7440-47-3	
Cobalt	**0.00090J**	mg/L	0.0050	0.00038	1	04/16/21 10:53	04/16/21 18:18	7440-48-4	
Lead	**0.00012J**	mg/L	0.0010	0.000036	1	04/16/21 10:53	04/16/21 18:18	7439-92-1	
Lithium	**0.0019J**	mg/L	0.030	0.00081	1	04/16/21 10:53	04/16/21 18:18	7439-93-2	
Molybdenum	**0.0056J**	mg/L	0.010	0.00069	1	04/16/21 10:53	04/16/21 18:18	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	04/16/21 10:53	04/16/21 18:18	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	04/16/21 10:53	04/16/21 18:18	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	04/26/21 15:15	04/27/21 10:11	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**89.0**	mg/L	10.0	10.0	1		04/17/21 11:17		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5.2**	mg/L	1.0	0.60	1		04/20/21 02:26	16887-00-6	
Fluoride	**0.055J**	mg/L	0.10	0.050	1		04/20/21 02:26	16984-48-8	
Sulfate	**7.0**	mg/L	1.0	0.50	1		04/20/21 02:26	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: MCDONOUGH UPGRADIENT III & IV
Pace Project No.: 92533252

Sample: B-119D **Lab ID: 92533252004** Collected: 04/13/21 14:59 Received: 04/14/21 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		04/27/21 16:31		
pH	**6.64**	Std. Units			1		04/27/21 16:31		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**20.5**	mg/L	1.0	0.070	1	04/16/21 10:55	04/16/21 18:21	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	04/16/21 10:53	04/16/21 18:24	7440-36-0	
Arsenic	**0.0019J**	mg/L	0.0050	0.00078	1	04/16/21 10:53	04/16/21 18:24	7440-38-2	
Barium	**0.0087**	mg/L	0.0050	0.00071	1	04/16/21 10:53	04/16/21 18:24	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	04/16/21 10:53	04/16/21 18:24	7440-41-7	
Boron	**0.039J**	mg/L	0.040	0.0052	1	04/16/21 10:53	04/16/21 18:24	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	04/16/21 10:53	04/16/21 18:24	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	04/16/21 10:53	04/16/21 18:24	7440-47-3	
Cobalt	**0.0015J**	mg/L	0.0050	0.00038	1	04/16/21 10:53	04/16/21 18:24	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	04/16/21 10:53	04/16/21 18:24	7439-92-1	
Lithium	**0.0045J**	mg/L	0.030	0.00081	1	04/16/21 10:53	04/16/21 18:24	7439-93-2	
Molybdenum	**0.027**	mg/L	0.010	0.00069	1	04/16/21 10:53	04/16/21 18:24	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	04/16/21 10:53	04/16/21 18:24	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	04/16/21 10:53	04/16/21 18:24	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	04/26/21 15:15	04/27/21 10:13	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**229**	mg/L	10.0	10.0	1		04/17/21 11:17		D6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**9.9**	mg/L	1.0	0.60	1		04/20/21 02:41	16887-00-6	
Fluoride	**0.12**	mg/L	0.10	0.050	1		04/20/21 02:41	16984-48-8	
Sulfate	**82.2**	mg/L	1.0	0.50	1		04/20/21 02:41	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: MCDONOUGH UPGRADIENT III & IV
Pace Project No.: 92533252

QC Batch: 614102
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92533252001, 92533252002, 92533252003, 92533252004

METHOD BLANK: 3232176 Matrix: Water
Associated Lab Samples: 92533252001, 92533252002, 92533252003, 92533252004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	04/16/21 17:08	

LABORATORY CONTROL SAMPLE: 3232177

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.1	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3232178 3232179

Parameter	Units	92533251001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	ND	1	1	1.0	1.0	103	101	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: MCDONOUGH UPGRADIENT III & IV
Pace Project No.: 92533252

QC Batch: 614104
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92533252001, 92533252002, 92533252003, 92533252004

METHOD BLANK: 3232186 Matrix: Water
Associated Lab Samples: 92533252001, 92533252002, 92533252003, 92533252004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	0.00035J	0.0030	0.00028	04/16/21 15:17	
Arsenic	mg/L	ND	0.0050	0.00078	04/16/21 15:17	
Barium	mg/L	ND	0.0050	0.00071	04/16/21 15:17	
Beryllium	mg/L	ND	0.00050	0.000046	04/16/21 15:17	
Boron	mg/L	ND	0.040	0.0052	04/16/21 15:17	
Cadmium	mg/L	ND	0.00050	0.00012	04/16/21 15:17	
Chromium	mg/L	ND	0.0050	0.00055	04/16/21 15:17	
Cobalt	mg/L	ND	0.0050	0.00038	04/16/21 15:17	
Lead	mg/L	ND	0.0010	0.000036	04/16/21 15:17	
Lithium	mg/L	ND	0.030	0.00081	04/16/21 15:17	
Molybdenum	mg/L	ND	0.010	0.00069	04/16/21 15:17	
Selenium	mg/L	ND	0.0050	0.0016	04/16/21 15:17	
Thallium	mg/L	ND	0.0010	0.00014	04/16/21 15:17	

LABORATORY CONTROL SAMPLE: 3232187

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.11	114	80-120	
Arsenic	mg/L	0.1	0.096	96	80-120	
Barium	mg/L	0.1	0.098	98	80-120	
Beryllium	mg/L	0.1	0.099	99	80-120	
Boron	mg/L	1	1.0	102	80-120	
Cadmium	mg/L	0.1	0.097	97	80-120	
Chromium	mg/L	0.1	0.098	98	80-120	
Cobalt	mg/L	0.1	0.098	98	80-120	
Lead	mg/L	0.1	0.099	99	80-120	
Lithium	mg/L	0.1	0.098	98	80-120	
Molybdenum	mg/L	0.1	0.10	102	80-120	
Selenium	mg/L	0.1	0.098	98	80-120	
Thallium	mg/L	0.1	0.098	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3232188 3232189

Parameter	Units	92533251002 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	108	107	75-125	1	20	
Arsenic	mg/L	ND	0.1	0.1	0.094	0.096	94	96	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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(770)734-4200

QUALITY CONTROL DATA

Project: MCDONOUGH UPGRADIENT III & IV
Pace Project No.: 92533252

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3232188 3232189

Parameter	Units	92533251002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	ND	0.1	0.1	0.098	0.10	98	100	75-125	3	20	
Beryllium	mg/L	ND	0.1	0.1	0.10	0.10	100	101	75-125	0	20	
Boron	mg/L	ND	1	1	1.0	1.1	103	106	75-125	3	20	
Cadmium	mg/L	ND	0.1	0.1	0.096	0.097	96	97	75-125	1	20	
Chromium	mg/L	0.0012J	0.1	0.1	0.10	0.10	100	100	75-125	0	20	
Cobalt	mg/L	ND	0.1	0.1	0.098	0.10	98	101	75-125	3	20	
Lead	mg/L	ND	0.1	0.1	0.098	0.097	98	97	75-125	1	20	
Lithium	mg/L	ND	0.1	0.1	0.10	0.11	102	105	75-125	3	20	
Molybdenum	mg/L	ND	0.1	0.1	0.098	0.098	98	98	75-125	0	20	
Selenium	mg/L	ND	0.1	0.1	0.096	0.098	96	98	75-125	3	20	
Thallium	mg/L	ND	0.1	0.1	0.096	0.095	96	95	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCDONOUGH UPGRADIENT III & IV
Pace Project No.: 92533252

QC Batch: 616179
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92533252001, 92533252002, 92533252003, 92533252004

METHOD BLANK: 3242691 Matrix: Water
Associated Lab Samples: 92533252001, 92533252002, 92533252003, 92533252004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.000078	04/27/21 09:54	

LABORATORY CONTROL SAMPLE: 3242692

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0024	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242693 3242694

Parameter	Units	92533252001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	0.00018J	0.0025	0.0025	0.0024	0.0025	87	94	75-125	7	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCDONOUGH UPGRADIENT III & IV
Pace Project No.: 92533252

QC Batch: 614467
QC Batch Method: SM 2540C-2011
Analysis Method: SM 2540C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92533252001, 92533252003, 92533252004

METHOD BLANK: 3233904 Matrix: Water
Associated Lab Samples: 92533252001, 92533252003, 92533252004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	04/17/21 11:16	

LABORATORY CONTROL SAMPLE: 3233905

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	385	96	90-111	

SAMPLE DUPLICATE: 3233906

Parameter	Units	92533049005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	68.0	43.0	45	10	D6

SAMPLE DUPLICATE: 3233907

Parameter	Units	92533252004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	229	256	11	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
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QUALITY CONTROL DATA

Project: MCDONOUGH UPGRADIENT III & IV
Pace Project No.: 92533252

QC Batch: 615202
QC Batch Method: SM 2540C-2011
Analysis Method: SM 2540C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92533252002

METHOD BLANK: 3237449 Matrix: Water
Associated Lab Samples: 92533252002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	04/21/21 21:42	

LABORATORY CONTROL SAMPLE: 3237450

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	403	101	90-111	

SAMPLE DUPLICATE: 3237451

Parameter	Units	92533049012 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	51.0	64.0	23	10	D6

SAMPLE DUPLICATE: 3237452

Parameter	Units	92533275001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	13800	17100	21	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: MCDONOUGH UPGRADIENT III & IV
Pace Project No.: 92533252

QC Batch: 614679
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92533252001, 92533252002, 92533252003, 92533252004

METHOD BLANK: 3234945 Matrix: Water
Associated Lab Samples: 92533252001, 92533252002, 92533252003, 92533252004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	04/19/21 21:27	
Fluoride	mg/L	ND	0.10	0.050	04/19/21 21:27	
Sulfate	mg/L	ND	1.0	0.50	04/19/21 21:27	

LABORATORY CONTROL SAMPLE: 3234946

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	47.8	96	90-110	
Fluoride	mg/L	2.5	2.3	93	90-110	
Sulfate	mg/L	50	47.8	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3234947 3234948

Parameter	Units	92533709002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	5.4	50	50	56.0	55.8	101	101	90-110	0	10	
Fluoride	mg/L	0.81	2.5	2.5	3.1	3.1	92	91	90-110	0	10	
Sulfate	mg/L	21.9	50	50	72.6	72.2	101	101	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3234949 3234950

Parameter	Units	92533252001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.2	50	50	52.3	54.8	98	103	90-110	5	10	
Fluoride	mg/L	ND	2.5	2.5	2.5	2.6	97	102	90-110	5	10	
Sulfate	mg/L	1.3	50	50	50.2	52.7	98	103	90-110	5	10	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: MCDONOUGH UPGRADIENT III & IV
Pace Project No.: 92533252

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D6 The precision between the sample and sample duplicate exceeded laboratory control limits.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCDONOUGH UPGRADIENT III & IV
Pace Project No.: 92533252

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92533252001	**B-116D**				
92533252002	**B-117D**				
92533252003	**B-118**				
92533252004	**B-119D**				
92533252001	**B-116D**	EPA 3010A	614102	EPA 6010D	614291
92533252002	**B-117D**	EPA 3010A	614102	EPA 6010D	614291
92533252003	**B-118**	EPA 3010A	614102	EPA 6010D	614291
92533252004	**B-119D**	EPA 3010A	614102	EPA 6010D	614291
92533252001	**B-116D**	EPA 3005A	614104	EPA 6020B	614308
92533252002	**B-117D**	EPA 3005A	614104	EPA 6020B	614308
92533252003	**B-118**	EPA 3005A	614104	EPA 6020B	614308
92533252004	**B-119D**	EPA 3005A	614104	EPA 6020B	614308
92533252001	**B-116D**	EPA 7470A	616179	EPA 7470A	616408
92533252002	**B-117D**	EPA 7470A	616179	EPA 7470A	616408
92533252003	**B-118**	EPA 7470A	616179	EPA 7470A	616408
92533252004	**B-119D**	EPA 7470A	616179	EPA 7470A	616408
92533252001	**B-116D**	SM 2540C-2011	614467		
92533252002	**B-117D**	SM 2540C-2011	615202		
92533252003	**B-118**	SM 2540C-2011	614467		
92533252004	**B-119D**	SM 2540C-2011	614467		
92533252001	**B-116D**	EPA 300.0 Rev 2.1 1993	614679		
92533252002	**B-117D**	EPA 300.0 Rev 2.1 1993	614679		
92533252003	**B-118**	EPA 300.0 Rev 2.1 1993	614679		
92533252004	**B-119D**	EPA 300.0 Rev 2.1 1993	614679		

Pace Analytical®	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

aboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑

Sample Condition Upon Receipt

Client Name: GA Power

Project #:

WO# : 92533252

92533252

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

ustody Seal Present? ☐ Yes ☑ No Seals Intact? ☐ Yes ☐ No

Date/Initials Person Examining Contents: 4/14/26 DH

acking Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

hermometer: ☑ IR Gun ID: 233

Type of Ice: ☑ Wet ☐ Blue ☐ None

ooler Temp: 3.4 Correction Factor: Add/Subtract (°C) -0.2

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

ooler Temp Corrected (°C): 3.2

ISDA Regulated Soil (☐ N/A, water sample)

id samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☐ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: W				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, Lling

**Bottom half of box is to list number of bottles

Project # **WO# : 92533252**

PM: KLH1 **Due Date: 04/28/21**

CLIENT: GA-GA Power

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – Lab)	SP2T-250 mL Sterile Plastic (N/A – Lab)	BP1N	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1		1	1			1																			2			
2		1	1			1																			2			
3		1	1			1																			2			
4		1	1			1																			2			
5		1	1			1																			2			
6		1	1			1																			2			
7																												
8																												
9																												
10																												
11																												
12																												

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

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

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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: Joju Abraham	Attention: scsinvoices@southernco.com	
Address: 2480 Maner Road	Copy To: Golder	Company Name:	Regulatory Agency
Atlanta, GA 30339		Address:	
Email: jabraham@southernco.com	Purchase Order #:	Pace Quote:	
Phone: (404) 506-7239 Fax:	Project Name: Plant McDonough Upgradient Special	Pace Project Manager: Kevin Herring	State / Location: GA
Requested Due Date: Standard	Project #: 166849621	Pace Profile #:	

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)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	Preservatives: Ice	Preservatives: HNO3	Analyses Test Y/N	Requested Analysis Filtered (Y/N): App III: App IV metals	Chloride, Fluoride, Sulfate	Radium 226/228	Total Dissolved Solids (TDS)	Residual Chlorine (Y/N)	
	MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS											N	N	N	N		
1	B-115D	WT	G	4/13/21	1515							X	X	X	X		pH: 6.06
2	B-117D	WT	G	4/13/21	1235							X	X	X	X		pH: 6.06
3	B-118	WT	G	4/13/21	1145							X	X	X	X		pH: 6.02
4	B-119D	WT	G	4/13/21	1459							X	X	X	X		pH: 6.64
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
		4/19/21	16:00		4/19/21	1600	

DATE Signed:

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

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

May 10, 2021

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

RE: Project: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92533248

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on April 14, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Greensburg

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

Sincerely,

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

Enclosures

cc: Stephen Benda
Daniela Herrera, Golder
Ben Hodges, Georgia Power
Kristen Jurinko
J. Shelby Mobley
Charles Norton, Southern Company
Ms. Lauren Petty, Southern Company
Dawn Prell, Golder Associates Inc.
Tim Richards, Golder Associates - Atlanta

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

CERTIFICATIONS

Project: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92533248

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

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

SAMPLE SUMMARY

Project: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92533248

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92533248001	**B-116D**	Water	04/13/21 15:15	04/14/21 16:00
92533248002	**B-117D**	Water	04/14/21 12:35	04/14/21 16:00
92533248003	**B-118**	Water	04/13/21 11:45	04/14/21 16:00
92533248004	**B-119D**	Water	04/13/21 14:59	04/14/21 16:00

Pace Analytical Services, LLC
110 Technology Parkway
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(770)734-4200

SAMPLE ANALYTE COUNT

Project: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92533248

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92533248001	**B-116D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92533248002	**B-117D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92533248003	**B-118**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92533248004	**B-119D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92533248

Sample: B-116D **Lab ID: 92533248001** Collected: 04/13/21 15:15 Received: 04/14/21 16:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0948 ± 0.0993 (0.183) C:88% T:NA**	pCi/L	05/05/21 19:49	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.410 ± 0.510 (1.09) C:76% T:78%**	pCi/L	05/07/21 12:15	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.505 ± 0.609 (1.27)**	pCi/L	05/07/21 16:36	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: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92533248

Sample: B-117D **Lab ID: 92533248002** Collected: 04/14/21 12:35 Received: 04/14/21 16:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.528 ± 0.170 (0.199) C:78% T:NA**	pCi/L	05/05/21 19:49	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.668 ± 0.498 (0.993) C:73% T:81%**	pCi/L	05/07/21 12:15	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.20 ± 0.668 (1.19)**	pCi/L	05/07/21 16:36	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: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92533248

Sample: B-118 **Lab ID: 92533248003** Collected: 04/13/21 11:45 Received: 04/14/21 16:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.210 ± 0.113 (0.175) C:85% T:NA**	pCi/L	05/05/21 19:49	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.738 ± 0.477 (0.923) C:74% T:85%**	pCi/L	05/07/21 12:15	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.948 ± 0.590 (1.10)**	pCi/L	05/07/21 16:36	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: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92533248

Sample: B-119D **Lab ID: 92533248004** Collected: 04/13/21 14:59 Received: 04/14/21 16:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.118 ± 0.101 (0.179) C:80% T:NA**	pCi/L	05/05/21 19:49	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.786 ± 0.541 (1.07) C:76% T:78%**	pCi/L	05/07/21 12:15	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.904 ± 0.642 (1.25)**	pCi/L	05/07/21 16:36	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: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92533248

QC Batch: 445345
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92533248001, 92533248002, 92533248003, 92533248004

METHOD BLANK: 2149728
Matrix: Water
Associated Lab Samples: 92533248001, 92533248002, 92533248003, 92533248004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.120 ± 0.0920 (0.158) C:89% T:NA	pCi/L	05/05/21 19:49	

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: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92533248

QC Batch: 445317
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92533248001, 92533248002, 92533248003, 92533248004

METHOD BLANK: 2149685
Matrix: Water
Associated Lab Samples: 92533248001, 92533248002, 92533248003, 92533248004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.310 ± 0.354 (0.744) C:75% T:85%	pCi/L	05/07/21 12:15	

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: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92533248

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCDONOUGH UPGRADIENT RADS
Pace Project No.: 92533248

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92533248001	**B-116D**	EPA 9315	445345		
92533248002	**B-117D**	EPA 9315	445345		
92533248003	**B-118**	EPA 9315	445345		
92533248004	**B-119D**	EPA 9315	445345		
92533248001	**B-116D**	EPA 9320	445317		
92533248002	**B-117D**	EPA 9320	445317		
92533248003	**B-118**	EPA 9320	445317		
92533248004	**B-119D**	EPA 9320	445317		
92533248001	**B-116D**	Total Radium Calculation	447070		
92533248002	**B-117D**	Total Radium Calculation	447070		
92533248003	**B-118**	Total Radium Calculation	447070		
92533248004	**B-119D**	Total Radium Calculation	447070		

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GA Power

Project #:

WO#: 92533248

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace ☐ Other:

Custody Seal Present? ☐ Yes ☑ No Seals Intact? ☐ Yes ☐ No

Date/Initials Person Examining Contents: 4/14/26 DH

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

Thermometer: ☑ IR Gun ID: 233 ☑ Wet ☐ Blue ☐ None

Type of Ice:

Cooler Temp: 3.4 Correction Factor: Add/Subtract (°C) -0.2

Temp should be above freezing to 6°C

☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 3.2

USDA Regulated Soil (☐ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☐ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: W				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately

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: Jase Abraham	Attention: scsinvoices@southernco.com	
Address: 2480 Maner Road Atlanta, GA 30339	Copy To: Golder	Company Name:	Regulatory Agency
Email: jabraham@southernco.com	Purchase Order #:	Address:	
Phone: (404) 506-7259 Fax:	Project Name: Plant McDonough Upgradient Special	Pace Quote:	
Requested Due Date: Standard	Project #: 1656495.21	Pace Project Manager: Kevin Herring	State / Location: GA
		Pace Profile #:	

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample IDs must be unique)	MATRIX CODE (Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT)	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved, HCl, HNO3	Analytical Test: Y/N	Appendix III Add'l IV metals	Calcium, Fluoride, Sulfate	Radium 226/228	Total Dissolved Solids (TDS)	Residual Chlorine (Y/N)	
1	S-1180	WT	G	4/13/21	1515					X	X	X	X		pH 6.06
2	S-1170	WT	G	4/14/21	1235					X	X	X	X		pH 6.06
3	S-116	WT	G	4/13/21	1145					X	X	X	X		pH 6.02
4	S-1190	WT	G	4/14/21	1459					X	X	X	X		pH 6.64
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
		4/19/21	16:00		4/14/21	1600	

DATE Signed:

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Quality Control Sample Performance Assessment

Pace Analytical

Test: Ra-226
Analyst: LAL
Date: 5/4/2021
Worklist: 60191
Matrix: DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	Z149728
MB concentration:	0.120
MB Counting Uncertainty:	0.090
MB MDC:	0.158
MB Numerical Performance Indicator	2.60
MB Status vs Numerical Indicator	N/A
MB Status vs MDC	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS60191	LCSD60191
Count Date	5/5/2021	5/5/2021
Spike I.D.	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.038	24.038
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.505	0.505
Target Conc. (pCi/L, g, F):	4.761	4.762
Uncertainty (Calculated):	0.057	0.057
Result (pCi/L, g, F):	4.916	4.802
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.360	0.354
Numerical Performance Indicator:	0.89	0.22
Percent Recovery:	103.48%	100.83%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD 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:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS60191	B253324B001
Duplicate Sample I.D.:	LCSD60191	9253324B001DUP
Sample Result (pCi/L, g, F):	4.916	0.095
Sample Result Counting Uncertainty (pCi/L, g, F):	0.360	0.088
Sample Duplicate Result (pCi/L, g, F):	4.802	0.097
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.354	0.087
Are sample and/or duplicate results below RL?	NO	See Below ##
Duplicate Numerical Performance Indicator:	0.441	-0.029
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	2.59%	2.00%
Duplicate Status vs Numerical Indicator:	N/A	N/A
Duplicate Status vs RPD:	Pass	Pass
% RPD Limit:	25%	25%

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:		
% RPD Limit:		

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

LAM 5/6/21

CMW 5/6/21

Quality Control Sample Performance Assessment

Pace Analytical

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-228
Analyst: VAL
Date: 5/4/2021
Worklist: 60181
Matrix: WT

Method Blank Assessment	
MB Sample ID	2149685
MB concentration:	0.310
MB 2 Sigma CSU:	0.354
MB MDC:	0.744
MB Numerical Performance Indicator:	1.72
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS60181	LCSD60181
Count Date.	5/7/2021	5/7/2021
Spike I.D..	21-003	21-003
Decay Corrected Spike Concentration (pCi/mL).	37.791	37.791
Volume Used (mL):	0.10	0.10
Aliquot Volume (L., g, F):	0.815	0.808
Target Conc. (pCi/L., g, F).	4.635	4.675
Uncertainty (Calculated):	0.227	0.229
Result (pCi/L, g, F):	4.755	4.655
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.081	1.075
Numerical Performance Indicator.	0.21	-0.04
Percent Recovery	102.60%	99.57%
Status vs Numerical Indicator	N/A	N/A
Status vs Recovery	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits.	60%	60%

Duplicate Sample Assessment		
Sample I.D .	LCS60181	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD60181	
Sample Result (pCi/L, g, F):	4.755	
Sample Result 2 Sigma CSU (pCi/L, g, F).	1.081	
Sample Duplicate Result (pCi/L, g, F):	4.655	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.075	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	0.130	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	2.99%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	36%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
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):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated).		
Sample Result:		
Sample Result 2 Sigma CSU (pCi/L, g, F).		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L., g, F).		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L., g, F):		
MS Numerical Performance Indicator.		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery.		
MS Status vs Numerical Indicator.		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery		
MSD Status vs Recovery		
MS/MSD Upper % Recovery Limits		
MS/MSD Lower % Recovery Limits		

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Duplicate Numerical Performance Indicator.		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD.		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit.		

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

CMT 5/7/21

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

April 28, 2021

Joju Abraham
Georgia Power-CCR
2480 Maner Road
Atlanta, GA 30339

RE: Project: MCDONOUGH UPGRADIENT IONS
Pace Project No.: 92533258

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on April 14, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Asheville
- Pace Analytical Services - Charlotte
- Pace Analytical Services - Peachtree Corners, GA

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Herring
kevin.herring@pacelabs.com
1(704)875-9092
HORIZON Database Administrator

Enclosures

cc: Stephen Benda
Daniela Herrera, Golder
Ben Hodges, Georgia Power
Kristen Jurinko
J. Shelby Mobley
Charles Norton, Southern Company
Ms. Lauren Petty, Southern Company
Dawn Prell, Golder Associates Inc.
Tim Richards, Golder Associates - Atlanta

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: MCDONOUGH UPGRADIENT IONS
Pace Project No.: 92533258

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

Pace Analytical Services Peachtree Corners
110 Technology Pkwy, Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: MCDONOUGH UPGRADIENT IONS
Pace Project No.: 92533258

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92533258001	**B-116D**	Water	04/13/21 15:15	04/14/21 16:00
92533258002	**B-117D**	Water	04/14/21 12:35	04/14/21 16:00
92533258003	**B-118**	Water	04/13/21 11:45	04/14/21 16:00
92533258004	**B-119D**	Water	04/13/21 14:54	04/14/21 16:00

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: MCDONOUGH UPGRADIENT IONS
Pace Project No.: 92533258

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92533258001	**B-116D**	EPA 6010D	DRB	3
		SM 2320B-2011	ECH	3
92533258002	**B-117D**	EPA 6010D	DRB	3
		SM 2320B-2011	ECH	3
92533258003	**B-118**	EPA 6010D	DRB	3
		SM 2320B-2011	ECH	3
92533258004	**B-119D**	EPA 6010D	DRB	3
		SM 2320B-2011	ECH	3

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte
PASI-GA = Pace Analytical Services - Peachtree Corners, GA

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: MCDONOUGH UPGRADIENT IONS
Pace Project No.: 92533258

Sample: B-116D **Lab ID: 92533258001** Collected: 04/13/21 15:15 Received: 04/14/21 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		04/27/21 16:32		
pH	**6.06**	Std. Units			1		04/27/21 16:32		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Potassium	**3.0**	mg/L	0.20	0.056	1	04/16/21 10:55	04/16/21 18:07	7440-09-7	
Sodium	**8.2**	mg/L	1.0	0.26	1	04/16/21 10:55	04/16/21 18:07	7440-23-5	
Magnesium	**3.7**	mg/L	0.050	0.0076	1	04/16/21 10:55	04/16/21 18:07	7439-95-4	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**57.0**	mg/L	5.0	5.0	1		04/26/21 19:10		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		04/26/21 19:10		
Alkalinity, Total as CaCO3	**57.0**	mg/L	5.0	5.0	1		04/26/21 19:10		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: MCDONOUGH UPGRADIENT IONS
Pace Project No.: 92533258

Sample: B-117D **Lab ID: 92533258002** Collected: 04/14/21 12:35 Received: 04/14/21 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		04/27/21 16:32		
pH	**6.06**	Std. Units			1		04/27/21 16:32		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Potassium	**2.6**	mg/L	0.20	0.056	1	04/16/21 10:55	04/16/21 18:12	7440-09-7	
Sodium	**13.8**	mg/L	1.0	0.26	1	04/16/21 10:55	04/16/21 18:12	7440-23-5	
Magnesium	**1.6**	mg/L	0.050	0.0076	1	04/16/21 10:55	04/16/21 18:12	7439-95-4	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**48.5**	mg/L	5.0	5.0	1		04/27/21 17:59		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		04/27/21 17:59		
Alkalinity, Total as CaCO3	**48.5**	mg/L	5.0	5.0	1		04/27/21 17:59		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: MCDONOUGH UPGRADIENT IONS
Pace Project No.: 92533258

Sample: B-118 **Lab ID: 92533258003** Collected: 04/13/21 11:45 Received: 04/14/21 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		04/27/21 16:32		
pH	**6.02**	Std. Units			1		04/27/21 16:32		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Potassium	**3.3**	mg/L	0.20	0.056	1	04/16/21 10:55	04/16/21 18:17	7440-09-7	
Sodium	**12.3**	mg/L	1.0	0.26	1	04/16/21 10:55	04/16/21 18:17	7440-23-5	
Magnesium	**2.4**	mg/L	0.050	0.0076	1	04/16/21 10:55	04/16/21 18:17	7439-95-4	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**40.1**	mg/L	5.0	5.0	1		04/26/21 19:17		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		04/26/21 19:17		
Alkalinity, Total as CaCO3	**40.1**	mg/L	5.0	5.0	1		04/26/21 19:17		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: MCDONOUGH UPGRADIENT IONS
Pace Project No.: 92533258

Sample: B-119D **Lab ID: 92533258004** Collected: 04/13/21 14:54 Received: 04/14/21 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		04/27/21 16:32		
pH	**6.64**	Std. Units			1		04/27/21 16:32		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Potassium	**2.9**	mg/L	0.20	0.056	1	04/16/21 10:55	04/16/21 18:21	7440-09-7	
Sodium	**44.7**	mg/L	1.0	0.26	1	04/16/21 10:55	04/16/21 18:21	7440-23-5	
Magnesium	**5.0**	mg/L	0.050	0.0076	1	04/16/21 10:55	04/16/21 18:21	7439-95-4	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**77.1**	mg/L	5.0	5.0	1		04/26/21 19:24		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		04/26/21 19:24		
Alkalinity, Total as CaCO3	**77.1**	mg/L	5.0	5.0	1		04/26/21 19:24		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: MCDONOUGH UPGRADIENT IONS
Pace Project No.: 92533258

QC Batch: 614102
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92533258001, 92533258002, 92533258003, 92533258004

METHOD BLANK: 3232176 Matrix: Water
Associated Lab Samples: 92533258001, 92533258002, 92533258003, 92533258004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Magnesium	mg/L	ND	0.050	0.0076	04/16/21 17:08	
Potassium	mg/L	ND	0.20	0.056	04/16/21 17:08	
Sodium	mg/L	ND	1.0	0.26	04/16/21 17:08	

LABORATORY CONTROL SAMPLE: 3232177

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Magnesium	mg/L	1	1.0	102	80-120	
Potassium	mg/L	1	1.1	107	80-120	
Sodium	mg/L	1	1.0	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3232178 3232179

Parameter	Units	92533251001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Magnesium	mg/L	ND	1	1	1.0	1.0	102	101	75-125	1	20	
Potassium	mg/L	ND	1	1	1.0	0.99	105	99	75-125	5	20	
Sodium	mg/L	ND	1	1	0.99J	0.97J	99	97	75-125		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: MCDONOUGH UPGRADIENT IONS
Pace Project No.: 92533258

QC Batch: 616118
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92533258001, 92533258003, 92533258004

METHOD BLANK: 3242301 Matrix: Water
Associated Lab Samples: 92533258001, 92533258003, 92533258004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	04/26/21 15:01	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	04/26/21 15:01	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	04/26/21 15:01	

LABORATORY CONTROL SAMPLE: 3242302

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	52.6	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242303 3242304

Parameter	Units	92533456001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	799	50	50	827	824	57	50	80-120	0	25	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3242307 3242308

Parameter	Units	92533344004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	568	50	50	604	627	72	117	80-120	4	25	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: MCDONOUGH UPGRADIENT IONS
Pace Project No.: 92533258

QC Batch: 616418
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92533258002

METHOD BLANK: 3243745 Matrix: Water
Associated Lab Samples: 92533258002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	04/27/21 17:08	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	04/27/21 17:08	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	04/27/21 17:08	

LABORATORY CONTROL SAMPLE: 3243746

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.1	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3243747 3243748

Parameter	Units	92533574001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	90.0	50	50	138	140	96	100	80-120	1	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3243749 3243750

Parameter	Units	92533574006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	142	50	50	203	199	120	114	80-120	2	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
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: MCDONOUGH UPGRADIENT IONS
Pace Project No.: 92533258

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCDONOUGH UPGRADIENT IONS
Pace Project No.: 92533258

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92533258001	**B-116D**				
92533258002	**B-117D**				
92533258003	**B-118**				
92533258004	**B-119D**				
92533258001	**B-116D**	EPA 3010A	614102	EPA 6010D	614291
92533258002	**B-117D**	EPA 3010A	614102	EPA 6010D	614291
92533258003	**B-118**	EPA 3010A	614102	EPA 6010D	614291
92533258004	**B-119D**	EPA 3010A	614102	EPA 6010D	614291
92533258001	**B-116D**	SM 2320B-2011	616118		
92533258002	**B-117D**	SM 2320B-2011	616418		
92533258003	**B-118**	SM 2320B-2011	616118		
92533258004	**B-119D**	SM 2320B-2011	616118		

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

aboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GA Power

Project #: WO# : 92533258

92533258

Courier: ☐ Commercial ☐ Fed Ex ☐ Pace ☐ UPS ☐ USPS ☐ Other: ☑ Client

ustody Seal Present? ☐ Yes ☑ No Seals Intact? ☐ Yes ☐ No

Date/Initials Person Examining Contents: 4/14/26 DH

acking Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

hermometer: ☑ IR Gun ID: 233 Type of Ice: ☑ Wet ☐ Blue ☐ None

ooler Temp: 3.4 Correction Factor: Add/Subtract (°C) -0.2

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

ooler Temp Corrected (°C): 3.2

ISDA Regulated Soil (☐ N/A, water sample)

lid samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9
-Includes Date/Time/ID/Analysis Matrix: W				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: _____ Date: _____

Project Manager SRF Review: _____ Date: _____

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, UUHg

**Bottom half of box is to list number of bottles

Project # **WO# : 92533258**

PM: KLH1 Due Date: 04/28/21

CLIENT: GA-GA Power

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	BP1N	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1		1	1			1																		2				
2		1	1			1																		2				
3		1	1			1																		2				
4		1	1			1																		2				
5		1	1			1																		2				
6		1	1			1																		2				
7																													
8																													
9																													
10																													
11																													
12																													

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

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

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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:	Joju Abraham	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Golder	Company Name:	
	Atlanta GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:		Pace Quote:	
Phone:	(404) 506-7239 Fax	Project Name:	Plant McDonough Upgradient Special Ions	Pace Project Manager:	Kevin Herring
Requested Due Date:	Standard	Project #:	166849621	Pace Profile #:	

Regulatory Agency

State / Location: GA

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved - Ice	Preservatives: HNO3	Analyses Test Y/N	Analyses Test: Bicarbonate/carbonate Alkalinity	Analyses Test: K, Na, Mg	Residual Chlorine (Y/N)	
1	B-116D	WT	G	4/13/21	1515					N	X	X		pH 6.06
2	B-117D	WT	G	4/14/21	1235					N	X	X		pH 6.06
3	B 118	WT	G	4/13/21	1145					N	X	X		pH 6.02
4	B 119D	WT	G	4/13/21	1454					N	X	X		pH 6.64
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														

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)
		4/14/21	16:00		4/14/21	1600				

DATE Signed:

APPENDIX A

Soil/Rock Chemical Analysis

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

May 14, 2021

Joju Abraham
Georgia Power-CCR
2480 Maner Road
Atlanta, GA 30339

RE: Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on April 08, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Herring
kevin.herring@pacelabs.com
1(704)875-9092
HORIZON Database Administrator

Enclosures

cc: Joe Booth, Resolute Environmental & Water Resources
Trent Godwin, Resolute Environmental & Water Resources
Kristen Jurinko
Ms. Lauren Petty, Southern Company
Kevin Stephenson, Resolute Environmental & Water Resources Consulting, LLC
Stephen Wilson, Resolute Environmental & Water Resources Consulting, LLC

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92532118001	**B-104D 56.5-57'**	Solid	04/08/21 12:00	04/08/21 14:56
92532118002	**B-109D 92.5-93'**	Solid	04/08/21 12:05	04/08/21 14:56
92532118003	**B-111D 82-82.5'**	Solid	04/08/21 12:10	04/08/21 14:56
92532118004	**B-115D 70.9-71.4'**	Solid	04/08/21 12:15	04/08/21 14:56
92532118005	**B-116D 88-88.25'**	Solid	04/08/21 12:20	04/08/21 14:56
92532118006	**B-117D 67-67.5'**	Solid	04/08/21 12:25	04/08/21 14:56
92532118007	**B-119D 101-101.4'**	Solid	04/08/21 12:30	04/08/21 14:56

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92532118001	**B-104D 56.5-57'**	EPA 901.1	MAH	6	PASI-PA
92532118002	**B-109D 92.5-93'**	EPA 901.1	MAH	6	PASI-PA
92532118003	**B-111D 82-82.5'**	EPA 901.1	MAH	6	PASI-PA
92532118004	**B-115D 70.9-71.4'**	EPA 901.1	MAH	6	PASI-PA
92532118005	**B-116D 88-88.25'**	EPA 901.1	MAH	6	PASI-PA
92532118006	**B-117D 67-67.5'**	EPA 901.1	MAH	6	PASI-PA
92532118007	**B-119D 101-101.4'**	EPA 901.1	MAH	6	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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SUMMARY OF DETECTION

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92532118001	**B-104D 56.5-57'**					
EPA 901.1	Radium-226	2.092 ± 0.499 (0.307) C:NA T:NA	pCi/g		05/06/21 15:24	Ra
EPA 901.1	Radium-228	1.929 ± 0.628 (0.658) C:NA T:NA	pCi/g		05/06/21 15:24	
EPA 901.1	Thorium-232	30.535 ± 97.930 (121.200) C:NA T:NA	pCi/g		05/06/21 15:24	
EPA 901.1	Thorium-234	2.382 ± 5.443 (6.737) C:NA T:NA	pCi/g		05/06/21 15:24	
EPA 901.1	Uranium-235	0.000 ± 0.963 (2.546) C:NA T:NA	pCi/g		05/06/21 15:24	
EPA 901.1	Uranium-238	14.981 ± 18.556 (17.580) C:NA T:NA	pCi/g		05/06/21 15:24	
92532118002	**B-109D 92.5-93'**					
EPA 901.1	Radium-226	1.062 ± 0.248 (0.149) C:NA T:NA	pCi/g		05/06/21 15:25	Ra
EPA 901.1	Radium-228	1.612 ± 0.328 (0.257) C:NA T:NA	pCi/g		05/06/21 15:25	
EPA 901.1	Thorium-232	0.000 ± 15.879 (35.880) C:NA T:NA	pCi/g		05/06/21 15:25	
EPA 901.1	Thorium-234	1.868 ± 1.351 (1.678) C:NA T:NA	pCi/g		05/06/21 15:25	
EPA 901.1	Uranium-235	0.000 ± 0.816 (1.401) C:NA T:NA	pCi/g		05/06/21 15:25	
EPA 901.1	Uranium-238	5.079 ± 12.720 (14.300) C:NA T:NA	pCi/g		05/06/21 15:25	
92532118003	**B-111D 82-82.5'**					
EPA 901.1	Radium-226	1.296 ± 0.310 (0.241) C:NA T:NA	pCi/g		05/06/21 15:56	Ra

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92532118003	**B-111D 82-82.5'**					
EPA 901.1	Radium-228	1.440 ± 0.518 (0.681) C:NA T:NA	pCi/g		05/06/21 15:56	
EPA 901.1	Thorium-232	40.530 ± 63.887 (77.770) C:NA T:NA	pCi/g		05/06/21 15:56	
EPA 901.1	Thorium-234	1.785 ± 3.710 (4.578) C:NA T:NA	pCi/g		05/06/21 15:56	
EPA 901.1	Uranium-235	0.568 ± 1.526 (1.740) C:NA T:NA	pCi/g		05/06/21 15:56	
EPA 901.1	Uranium-238	0.000 ± 5.574 (19.140) C:NA T:NA	pCi/g		05/06/21 15:56	
92532118004	**B-115D 70.9-71.4'**					
EPA 901.1	Radium-226	1.518 ± 0.291 (0.260) C:NA T:NA	pCi/g		05/06/21 15:58	Ra
EPA 901.1	Radium-228	2.297 ± 0.463 (0.292) C:NA T:NA	pCi/g		05/06/21 15:58	
EPA 901.1	Thorium-232	25.865 ± 22.768 (36.310) C:NA T:NA	pCi/g		05/06/21 15:58	
EPA 901.1	Thorium-234	0.831 ± 1.366 (2.265) C:NA T:NA	pCi/g		05/06/21 15:58	
EPA 901.1	Uranium-235	0.161 ± 1.217 (1.528) C:NA T:NA	pCi/g		05/06/21 15:58	
EPA 901.1	Uranium-238	0.922 ± 17.282 (19.570) C:NA T:NA	pCi/g		05/06/21 15:58	
92532118005	**B-116D 88-88.25'**					
EPA 901.1	Radium-226	1.344 ± 0.346 (0.220) C:NA T:NA	pCi/g		05/06/21 16:34	Ra
EPA 901.1	Radium-228	1.777 ± 0.536 (0.474) C:NA T:NA	pCi/g		05/06/21 16:34	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92532118005	**B-116D 88-88.25'**					
EPA 901.1	Thorium-232	0.000 ± 33.838 (77.080) C:NA T:NA	pCi/g		05/06/21 16:34	
EPA 901.1	Thorium-234	0.000 ± 1.927 (4.422) C:NA T:NA	pCi/g		05/06/21 16:34	
EPA 901.1	Uranium-235	0.032 ± 1.441 (1.662) C:NA T:NA	pCi/g		05/06/21 16:34	
EPA 901.1	Uranium-238	6.984 ± 15.413 (14.130) C:NA T:NA	pCi/g		05/06/21 16:34	
92532118006	**B-117D 67-67.5'**					
EPA 901.1	Radium-226	1.297 ± 0.322 (0.173) C:NA T:NA	pCi/g		05/06/21 17:06	Ra
EPA 901.1	Radium-228	1.431 ± 0.433 (0.200) C:NA T:NA	pCi/g		05/06/21 17:06	
EPA 901.1	Thorium-232	0.000 ± 41.225 (100.100) C:NA T:NA	pCi/g		05/06/21 17:06	
EPA 901.1	Thorium-234	0.000 ± 2.347 (5.994) C:NA T:NA	pCi/g		05/06/21 17:06	
EPA 901.1	Uranium-235	0.845 ± 1.424 (1.634) C:NA T:NA	pCi/g		05/06/21 17:06	
EPA 901.1	Uranium-238	0.295 ± 19.653 (18.960) C:NA T:NA	pCi/g		05/06/21 17:06	
92532118007	**B-119D 101-101.4'**					
EPA 901.1	Radium-226	1.892 ± 0.320 (0.204) C:NA T:NA	pCi/g		05/06/21 16:35	Ra
EPA 901.1	Radium-228	1.928 ± 0.421 (0.206) C:NA T:NA	pCi/g		05/06/21 16:35	
EPA 901.1	Thorium-232	18.394 ± 35.121 (44.700) C:NA T:NA	pCi/g		05/06/21 16:35	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92532118007	**B-119D 101-101.4'**					
EPA 901.1	Thorium-234	0.000 ± 1.622 (2.771) C:NA T:NA	pCi/g		05/06/21 16:35	
EPA 901.1	Uranium-235	0.000 ± 0.575 (1.461) C:NA T:NA	pCi/g		05/06/21 16:35	
EPA 901.1	Uranium-238	10.618 ± 9.175 (9.480) C:NA T:NA	pCi/g		05/06/21 16:35	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Sample: B-104D 56.5-57' **Lab ID: 92532118001** Collected: 04/08/21 12:00 Received: 04/08/21 14:56 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 901.1	**2.092 ± 0.499 (0.307) C:NA T:NA**	pCi/g	05/06/21 15:24	13982-63-3	Ra
Radium-228	EPA 901.1	**1.929 ± 0.628 (0.658) C:NA T:NA**	pCi/g	05/06/21 15:24	15262-20-1	
Thorium-232	EPA 901.1	**30.535 ± 97.930 (121.200) C:NA T:NA**	pCi/g	05/06/21 15:24	7440-29-1	
Thorium-234	EPA 901.1	**2.382 ± 5.443 (6.737) C:NA T:NA**	pCi/g	05/06/21 15:24	15065-10-8	
Uranium-235	EPA 901.1	**0.000 ± 0.963 (2.546) C:NA T:NA**	pCi/g	05/06/21 15:24	15117-96-1	
Uranium-238	EPA 901.1	**14.981 ± 18.556 (17.580) C:NA T:NA**	pCi/g	05/06/21 15:24		

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Sample: B-109D 92.5-93' **Lab ID: 92532118002** Collected: 04/08/21 12:05 Received: 04/08/21 14:56 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 901.1	**1.062 ± 0.248 (0.149) C:NA T:NA**	pCi/g	05/06/21 15:25	13982-63-3	Ra
Radium-228	EPA 901.1	**1.612 ± 0.328 (0.257) C:NA T:NA**	pCi/g	05/06/21 15:25	15262-20-1	
Thorium-232	EPA 901.1	**0.000 ± 15.879 (35.880) C:NA T:NA**	pCi/g	05/06/21 15:25	7440-29-1	
Thorium-234	EPA 901.1	**1.868 ± 1.351 (1.678) C:NA T:NA**	pCi/g	05/06/21 15:25	15065-10-8	
Uranium-235	EPA 901.1	**0.000 ± 0.816 (1.401) C:NA T:NA**	pCi/g	05/06/21 15:25	15117-96-1	
Uranium-238	EPA 901.1	**5.079 ± 12.720 (14.300) C:NA T:NA**	pCi/g	05/06/21 15:25		

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Sample: B-111D 82-82.5' **Lab ID: 92532118003** Collected: 04/08/21 12:10 Received: 04/08/21 14:56 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 901.1	**1.296 ± 0.310 (0.241) C:NA T:NA**	pCi/g	05/06/21 15:56	13982-63-3	Ra
Radium-228	EPA 901.1	**1.440 ± 0.518 (0.681) C:NA T:NA**	pCi/g	05/06/21 15:56	15262-20-1	
Thorium-232	EPA 901.1	**40.530 ± 63.887 (77.770) C:NA T:NA**	pCi/g	05/06/21 15:56	7440-29-1	
Thorium-234	EPA 901.1	**1.785 ± 3.710 (4.578) C:NA T:NA**	pCi/g	05/06/21 15:56	15065-10-8	
Uranium-235	EPA 901.1	**0.568 ± 1.526 (1.740) C:NA T:NA**	pCi/g	05/06/21 15:56	15117-96-1	
Uranium-238	EPA 901.1	**0.000 ± 5.574 (19.140) C:NA T:NA**	pCi/g	05/06/21 15:56		

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Sample: B-115D 70.9-71.4' **Lab ID: 92532118004** Collected: 04/08/21 12:15 Received: 04/08/21 14:56 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 901.1	**1.518 ± 0.291 (0.260) C:NA T:NA**	pCi/g	05/06/21 15:58	13982-63-3	Ra
Radium-228	EPA 901.1	**2.297 ± 0.463 (0.292) C:NA T:NA**	pCi/g	05/06/21 15:58	15262-20-1	
Thorium-232	EPA 901.1	**25.865 ± 22.768 (36.310) C:NA T:NA**	pCi/g	05/06/21 15:58	7440-29-1	
Thorium-234	EPA 901.1	**0.831 ± 1.366 (2.265) C:NA T:NA**	pCi/g	05/06/21 15:58	15065-10-8	
Uranium-235	EPA 901.1	**0.161 ± 1.217 (1.528) C:NA T:NA**	pCi/g	05/06/21 15:58	15117-96-1	
Uranium-238	EPA 901.1	**0.922 ± 17.282 (19.570) C:NA T:NA**	pCi/g	05/06/21 15:58		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Sample: B-116D 88-88.25' **Lab ID: 92532118005** Collected: 04/08/21 12:20 Received: 04/08/21 14:56 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 901.1	**1.344 ± 0.346 (0.220) C:NA T:NA**	pCi/g	05/06/21 16:34	13982-63-3	Ra
Radium-228	EPA 901.1	**1.777 ± 0.536 (0.474) C:NA T:NA**	pCi/g	05/06/21 16:34	15262-20-1	
Thorium-232	EPA 901.1	**0.000 ± 33.838 (77.080) C:NA T:NA**	pCi/g	05/06/21 16:34	7440-29-1	
Thorium-234	EPA 901.1	**0.000 ± 1.927 (4.422) C:NA T:NA**	pCi/g	05/06/21 16:34	15065-10-8	
Uranium-235	EPA 901.1	**0.032 ± 1.441 (1.662) C:NA T:NA**	pCi/g	05/06/21 16:34	15117-96-1	
Uranium-238	EPA 901.1	**6.984 ± 15.413 (14.130) C:NA T:NA**	pCi/g	05/06/21 16:34		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Sample: B-117D 67-67.5' **Lab ID: 92532118006** Collected: 04/08/21 12:25 Received: 04/08/21 14:56 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 901.1	**1.297 ± 0.322 (0.173) C:NA T:NA**	pCi/g	05/06/21 17:06	13982-63-3	Ra
Radium-228	EPA 901.1	**1.431 ± 0.433 (0.200) C:NA T:NA**	pCi/g	05/06/21 17:06	15262-20-1	
Thorium-232	EPA 901.1	**0.000 ± 41.225 (100.100) C:NA T:NA**	pCi/g	05/06/21 17:06	7440-29-1	
Thorium-234	EPA 901.1	**0.000 ± 2.347 (5.994) C:NA T:NA**	pCi/g	05/06/21 17:06	15065-10-8	
Uranium-235	EPA 901.1	**0.845 ± 1.424 (1.634) C:NA T:NA**	pCi/g	05/06/21 17:06	15117-96-1	
Uranium-238	EPA 901.1	**0.295 ± 19.653 (18.960) C:NA T:NA**	pCi/g	05/06/21 17:06		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Sample: B-119D 101-101.4' **Lab ID: 92532118007** Collected: 04/08/21 12:30 Received: 04/08/21 14:56 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 901.1	**1.892 ± 0.320 (0.204) C:NA T:NA**	pCi/g	05/06/21 16:35	13982-63-3	Ra
Radium-228	EPA 901.1	**1.928 ± 0.421 (0.206) C:NA T:NA**	pCi/g	05/06/21 16:35	15262-20-1	
Thorium-232	EPA 901.1	**18.394 ± 35.121 (44.700) C:NA T:NA**	pCi/g	05/06/21 16:35	7440-29-1	
Thorium-234	EPA 901.1	**0.000 ± 1.622 (2.771) C:NA T:NA**	pCi/g	05/06/21 16:35	15065-10-8	
Uranium-235	EPA 901.1	**0.000 ± 0.575 (1.461) C:NA T:NA**	pCi/g	05/06/21 16:35	15117-96-1	
Uranium-238	EPA 901.1	**10.618 ± 9.175 (9.480) C:NA T:NA**	pCi/g	05/06/21 16:35		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

QC Batch: 444911 Analysis Method: EPA 901.1
QC Batch Method: EPA 901.1 Analysis Description: 901.1 Gamma Spec Ingrowth
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92532118001, 92532118002, 92532118003, 92532118004, 92532118005

METHOD BLANK: 2147795 Matrix: Solid
Associated Lab Samples: 92532118001, 92532118002, 92532118003, 92532118004, 92532118005, 92532118006, 92532118007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.039 ± 0.069 (0.117) C:NA T:NA	pCi/g	04/27/21 13:30	Ra
Radium-228	0.042 ± 0.087 (0.195) C:NA T:NA	pCi/g	04/27/21 13:30	
Thorium-232	4.826 ± 10.987 (15.230) C:NA T:NA	pCi/g	04/27/21 13:30	
Thorium-234	0.021 ± 0.700 (1.011) C:NA T:NA	pCi/g	04/27/21 13:30	
Uranium-235	0.040 ± 0.068 (0.713) C:NA T:NA	pCi/g	04/27/21 13:30	
Uranium-238	3.072 ± 3.895 (6.635) C:NA T:NA	pCi/g	04/27/21 13:30	

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

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QUALIFIERS

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

Ra	The reported Ra-226 results were determined by hermetically sealing the dried, processed sample in an appropriate-sized can. Each sample was stored for a minimum of 21 days to ensure that equilibrium between Ra-226 and daughters Bi-214 and Pb-214 was achieved. Reported Ra-226 results were inferred from gamma peaks attributable to Bi-214 and Pb-214.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92532118001	**B-104D 56.5-57'**	EPA 901.1	444911		
92532118002	**B-109D 92.5-93'**	EPA 901.1	444911		
92532118003	**B-111D 82-82.5'**	EPA 901.1	444911		
92532118004	**B-115D 70.9-71.4'**	EPA 901.1	444911		
92532118005	**B-116D 88-88.25'**	EPA 901.1	444911		
92532118006	**B-117D 67-67.5'**	EPA 901.1	444911		
92532118007	**B-119D 101-101.4'**	EPA 901.1	444911		

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GA Powell

Project #:

WO#: 92532118

92532118

Courier: ☐ Commercial ☐ Fed Ex ☐ Pace ☐ UPS ☐ USPS ☐ Other: ☑ Client

Custody Seal Present? ☐ Yes ☑ No Seals Intact? ☐ Yes ☐ No

Date/Initials Person Examining Contents: 4/8/24

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☑ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

Thermometer: ☑ IR Gun ID: 214 ☐ Wet ☐ Blue ☐ None

Type of Ice:

Cooler Temp: 22.0 Correction Factor: Add/Subtract (°C) +0.1

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 22.1

USDA Regulated Soil (☐ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6. 250mL Glass Mason Jars
-Pace Containers Used?	☐ Yes	☑ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: SL				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: _____ **Date:** _____

Project Manager SRF Review: _____ **Date:** _____

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, UHg

**Bottom half of box is to list number of bottles

Project #

WO#: 92532118

PM: KLH1 Due Date: 04/29/21

CLIENT: GA-GA Power

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpr (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SPST-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	BG3U (Mason Jar)	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1																									1			
2																									1			
3																									1			
4																									1			
5																									1			
6																									1			
7																									1			
8																												
9																												
10																												
11																												
12																												

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

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.

PaceAnalytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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: Joju Abraham	Attention: scsinvoices@southernco.com
Address: 2480 Maner Road Atlanta, GA 30339	Copy To: Golder	Company Name:
Email: jabraham@southernco.com	Purchase Order #:	Address:
Phone: (404) 506-7239 Fax:	Project Name: Plant McDonough AP-1	Pace Quote:
Requested Due Date: 10 Day TAT	Project #: 166849618	Pace Project Manager: Kevin Herring
		Pace Profile #:

Regulatory Agency	
State / Location	GA

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique MATRIX: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved - Ice	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N): Analyses Test Y/N	Gamma Spectometry U Th Ra	Residual Chlorine (Y/N)	
1	B-104D 56.5-57'	SL	G	4/8/2021	12:00		1										X		
2	B-109D 92.5-93'	SL	G	4/8/2021	12:05		1										X		
3	B-111D 82-82.5'	SL	G	4/8/2021	12:10		1										X		
4	B-115D 70.9-71.4'	SL	G	4/8/2021	12:15		1										X		
5	B-116D 88-88.25'	SL	G	4/8/2021	12:20		1										X		
6	B-117D 67-67.5'	SL	G	4/8/2021	12:25		1										X		
7	B-119D 101-101.4'	SL	G	4/8/2021	12:30		1										X		
8																			
9																			
10																			
11																			
12																			

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Michael Bostwick	4/8/2021	14:56	[signature]	4/9/21	1456	

DATE Signed:

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Gamma Spec Quality Control Sample Performance Assessment

Analyst: MAH
Date: 4/27/2021
Batch ID: 60140
Matrix: SOLID

Method: EPA 901.1

Geometry: 4 OZ CANS
Activity Units: pCi
Aliquot Units: GRAM

Method Blank Assessment Method Blank ID. 2147795

Analytes of Interest	MB Result	2 Sigma CSU	MB MDC	Numerical Indicator	MB Evaluation
Ra-226	0.039	0.069	0.117	1.124	Pass
Ra-228	0.042	0.037	0.795	0.947	Pass
Th-232	4.826	10.987	15.230	0.861	Pass
Th-234	0.021	0.700	1.011	0.058	Pass
U-235	0.040	0.068	0.713	1.163	Pass
U-238	3.072	3.895	6.835	1.546	Pass

Duplicate Sample Precision Assessment

Sample ID: Duplicate Sample ID:

Analytes of Interest	Sample Results	Sample 2 Sigma CSU	Duplicate Results	Duplicate 2 Sigma CSU	Numerical Indicator	% RPD	Evaluation
Ra-226					#DIV/0!	#DIV/0!	#DIV/0!
Ra-228					#DIV/0!	#DIV/0!	#DIV/0!
Th-232					#DIV/0!	#DIV/0!	#DIV/0!
Th-234					#DIV/0!	#DIV/0!	#DIV/0!
U-235					#DIV/0!	#DIV/0!	#DIV/0!
U-238					#DIV/0!	#DIV/0!	#DIV/0!

Duplicate LCS Precision Assessment

Analyte	LCS Concentration	LCS 2 Sigma CSU	LCSD Concentration	LCSD 2 Sigma CSU	Numerical Indicator	Percent RPD	Precision Evaluation
Lead-210	1432.400	189.430	1555.700	255.020	-0.761	8.3%	Pass
Cobalt-60	20.642	2.282	20.499	2.743	0.079	0.7%	Pass
Cesium-137	46.814	5.219	48.877	6.576	-0.482	4.3%	Pass

Laboratory Control Sample Assessment

	Analyte	Lead-210	Cobalt-60	Cesium-137
	Count Date	4/27/2021	4/27/2021	4/27/2021
	Reference ID	14-008Pb	14-008Co	14-008Cs
Volume or Mass of Reference Geometry	Reference Concentration	1387.046	21.589	49.586
	Reference Uncertainty	0.059	0.059	0.059
	LCS Concentration	1432.4	20.642	46.814
	LCS 2 Sigma CSU	189.430	2.282	5.219
	Numerical Indicator	-0.47	0.81	1.04
	Percent Recovery	103.3%	95.6%	94.4%
	LCS Evaluation	Pass	Pass	Pass

Laboratory Control Sample Duplicate Assessment

Analyte	Lead-210	Cobalt-60	Cesium-137
Count Date	4/27/2021	4/27/2021	4/27/2021
Reference ID	14-008Pb	14-008Co	14-008Cs
Reference Concentration	1387.046	21.589	49.586
Reference Uncertainty	0.059	0.059	0.059
LCSD Concentration	1555.7	20.499	48.877
LCSD 2 Sigma CSU	255.020	2.743	6.576
Numerical Indicator	-1.30	0.78	0.21
Percent Recovery	112.2%	95.0%	98.6%
LCSD Evaluation	Pass	Pass	Pass

Evaluation: If the sample or Duplicate sample activity is below the associated MDC, the %RPD evaluation is not applicable and the sample duplicate precision criteria is acceptable.

ACCEPTED FOR DE N ANALYSES.
JRD 5/10/21

APPENDIX A

Field Data Forms

August 2020

Product Name: Low-Flow System

Date: 2020-08-13 13:10:54

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	Alexis Peristaltic
Company Name	Golder Associates	Tubing Type	polyethylene
Project Name	166849618	Tubing Diameter	0.170 in
Site Name	Plant McDonough	Tubing Length	32 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597519		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	32 ft

Well Information:		Pumping Information:	
Well ID	DGWA-53	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.2328295 L
Well Total Depth	36.89 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	77.76 in
Depth to Water	15.04 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	12:48:16	1799.96	23.34	6.15	148.70	4.84	20.79	3.12	169.64
Last 5	12:53:16	2099.96	23.88	6.16	147.57	4.62	21.03	2.95	164.41
Last 5	12:58:16	2399.99	23.79	6.15	149.01	4.25	21.25	2.96	167.90
Last 5	13:03:16	2699.96	24.61	6.16	147.76	4.24	21.39	2.89	166.74
Last 5	13:08:16	2999.93	24.69	6.17	149.94	4.11	21.52	2.84	161.59
Variance 0			-0.09	-0.01	1.44			0.01	3.50
Variance 1			0.81	0.01	-1.25			-0.06	-1.16
Variance 2			0.09	0.01	2.18			-0.05	-5.15

Notes

Purge attempt #3
Sampled at 1307

Grab Samples

Product Name: Low-Flow System

Date: 2020-08-11 11:39:34

Project Information:		Pump Information:	
Operator Name	C. Tidwell	Pump Model/Type	samplepro
Company Name	Golder Associates	Tubing Type	polyethelene
Project Name	166849618	Tubing Diameter	.170 in
Site Name	Plant McDonough	Tubing Length	57.5 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	647057		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	57.5 ft

Well Information:		Pumping Information:	
Well ID	DGWA-70A	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.4716468 L
Well Total Depth	62.40 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.72 in
Depth to Water	39.57 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	11:17:31	600.02	18.29	6.13	65.78	30.30	39.87	8.01	142.62
Last 5	11:22:31	900.02	18.24	6.01	63.34	13.00	39.87	8.32	141.82
Last 5	11:27:31	1200.02	18.23	5.94	62.25	9.21	39.87	8.35	142.37
Last 5	11:32:31	1500.88	18.32	5.88	61.39	5.18	39.88	8.25	143.28
Last 5	11:37:31	1800.88	18.32	5.86	61.18	3.94	39.88	8.28	143.48
Variance 0			-0.00	-0.07	-1.09			0.03	0.54
Variance 1			0.09	-0.06	-0.86			-0.10	0.91
Variance 2			0.00	-0.02	-0.21			0.02	0.21

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2020-08-11 14:55:24

Project Information:		Pump Information:	
Operator Name	C. Tidwell	Pump Model/Type	samplepro
Company Name	Golder Associates	Tubing Type	polyethelene
Project Name	166849618	Tubing Diameter	.170 in
Site Name	Plant McDonough	Tubing Length	42.75 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	647057		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	42.75 ft

Well Information:		Pumping Information:	
Well ID	DGWA-71	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.4058113 L
Well Total Depth	47.73 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	11 in
Depth to Water	28.10 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			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	14:38:17	300.07	18.77	6.01	80.73	20.50	29.00	1.33	100.96
Last 5	14:43:17	600.02	18.68	5.97	78.88	6.22	29.01	1.04	104.22
Last 5	14:48:17	900.02	18.64	5.97	78.46	2.43	29.01	0.94	107.29
Last 5	14:53:18	1201.02	18.68	5.96	78.45	2.22	29.02	0.87	109.46
Last 5									
Variance 0			-0.08	-0.04	-1.85			-0.29	3.26
Variance 1			-0.04	-0.00	-0.42			-0.11	3.06
Variance 2			0.04	-0.01	-0.02			-0.07	2.17

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2020-08-13 11:03:26

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	Alexis Peristaltic
Company Name	Golder Associates	Tubing Type	polyethylene
Project Name	166849618	Tubing Diameter	0.170 in
Site Name	Plant McDonough	Tubing Length	38 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597519		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	38 ft

Well Information:		Pumping Information:	
Well ID	DGWC-37	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.2596101 L
Well Total Depth	43.08 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.25 in
Depth to Water	14.08 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			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	10:50:47	600.01	22.63	6.35	424.44	6.71	14.33	0.95	224.88
Last 5	10:55:47	900.00	22.58	6.35	421.21	5.57	14.35	1.07	225.21
Last 5	11:00:47	1199.99	22.44	6.34	411.91	4.63	14.35	1.06	226.27
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.04	-0.00	-3.23			0.11	0.34
Variance 2			-0.14	-0.01	-9.30			-0.00	1.06

Notes

Smartroll skipped first reading (1045)

Grab Samples

Product Name: Low-Flow System

Date: 2020-08-13 10:01:38

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	Alexis Peristaltic
Company Name	Golder Associates	Tubing Type	polyethylene
Project Name	166849618	Tubing Diameter	0.170 in
Site Name	Plant McDonough	Tubing Length	23 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597519		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	23 ft

Well Information:		Pumping Information:	
Well ID	DGWC-38	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.1926587 L
Well Total Depth	28.08 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	5.28 in
Depth to Water	6.45 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	09:50:02	300.05	24.29	6.08	660.02	2.61	6.82	0.33	188.27
Last 5	09:55:02	600.01	23.30	6.03	670.20	0.90	6.87	0.18	226.80
Last 5	10:00:02	900.00	23.22	6.05	672.42	1.56	6.89	0.13	286.78
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.99	-0.05	10.18			-0.15	38.52
Variance 2			-0.08	0.02	2.22			-0.06	59.99

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2020-08-13 15:34:02

Project Information:		Pump Information:	
Operator Name	J. Waguespack	Pump Model/Type	SamplePro
Company Name	Golder Associates	Tubing Type	polyethylene
Project Name	166849618	Tubing Diameter	.170 in
Site Name	Plant McDonough	Tubing Length	19 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	643819		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	19 ft

Well Information:		Pumping Information:	
Well ID	DGWC-39	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.299805 L
Well Total Depth	24.65 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	20.28 in
Depth to Water	8.80 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			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	14:45:01	900.02	20.34	6.34	773.14	1.64	10.40	0.17	43.98
Last 5	14:50:01	1200.02	20.35	6.36	768.43	3.33	10.44	0.18	38.09
Last 5	14:55:01	1500.02	20.11	6.37	773.32	3.97	10.46	0.18	32.34
Last 5	15:00:01	1800.02	19.99	6.38	773.23	3.64	10.49	0.17	27.11
Last 5	15:05:10	2108.71	20.22	6.39	768.76	3.12	10.49	0.17	21.96
Variance 0			-0.24	0.01	4.90			0.00	-5.74
Variance 1			-0.12	0.01	-0.09			-0.01	-5.23
Variance 2			0.22	0.01	-4.47			-0.00	-5.15

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2020-08-13 11:31:43

Project Information:		Pump Information:	
Operator Name	J. Waguespack	Pump Model/Type	SamplePro
Company Name	Golder Associates	Tubing Type	polyethylene
Project Name	166849618	Tubing Diameter	.170 in
Site Name	Plant McDonough	Tubing Length	33 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	643819		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	33 ft

Well Information:		Pumping Information:	
Well ID	DGWC-40	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.362293 L
Well Total Depth	38.40 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.4 in
Depth to Water	19.28 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	11:02:07	300.03	21.64	4.68	531.94	0.42	19.40	2.87	101.67
Last 5	11:07:07	600.02	21.38	4.67	537.39	0.32	19.40	2.85	102.63
Last 5	11:12:07	900.02	21.09	4.66	537.09	0.45	19.40	2.82	104.14
Last 5	11:17:07	1200.02	21.15	4.65	537.66	1.16	19.40	2.79	104.85
Last 5	11:22:07	1500.02	21.20	4.65	535.10	1.16	19.40	2.79	106.01
Variance 0			-0.29	-0.01	-0.29			-0.04	1.52
Variance 1			0.07	-0.00	0.56			-0.02	0.70
Variance 2			0.04	-0.00	-2.56			-0.01	1.17

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2020-08-13 16:27:27

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	Alexis Peristaltic
Company Name	Golder Associates	Tubing Type	polyethylene
Project Name	166849618	Tubing Diameter	0.170 in
Site Name	Plant McDonough	Tubing Length	50 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597519		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	50 ft

Well Information:		Pumping Information:	
Well ID	DGWC-67	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.3131711 L
Well Total Depth	55.5 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	7.08 in
Depth to Water	10.34 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	16:10:57	300.02	24.91	6.45	412.74	2.77	10.80	0.41	205.87
Last 5	16:15:57	600.01	22.11	6.31	418.42	1.44	10.90	0.17	228.78
Last 5	16:20:57	900.00	21.91	6.29	418.09	1.88	10.93	0.13	238.78
Last 5	16:26:02	1204.99	22.42	6.28	419.94	1.94	10.93	0.10	244.98
Last 5									
Variance 0			-2.79	-0.14	5.68			-0.23	22.91
Variance 1			-0.20	-0.03	-0.33			-0.05	10.01
Variance 2			0.51	-0.01	1.85			-0.02	6.20

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2020-08-13 15:28:11

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	Alexis Peristaltic
Company Name	Golder Associates	Tubing Type	polyethylene
Project Name	166849618	Tubing Diameter	0.170 in
Site Name	Plant McDonough	Tubing Length	25 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597519		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	25 ft

Well Information:		Pumping Information:	
Well ID	DGWC-68A	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.2015856 L
Well Total Depth	29.79 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	4.2 in
Depth to Water	10.45 ft	Total Volume Pumped	3.75 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	15:16:04	300.03	22.90	6.63	417.98	1.91	10.79	0.14	240.66
Last 5	15:21:05	601.01	21.51	6.64	426.80	1.05	10.79	0.09	244.29
Last 5	15:26:05	901.00	21.07	6.63	429.46	0.98	10.80	0.09	238.69
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-1.39	0.01	8.83			-0.05	3.63
Variance 2			-0.44	-0.00	2.66			-0.00	-5.60

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2020-08-13 14:37:28

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	Alexis Peristaltic
Company Name	Golder Associates	Tubing Type	polyethylene
Project Name	166849618	Tubing Diameter	0.170 in
Site Name	Plant McDonough	Tubing Length	19 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597519		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	19 ft

Well Information:		Pumping Information:	
Well ID	DGWC-69	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.1748051 L
Well Total Depth	24.06 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	14.4 in
Depth to Water	6.20 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	14:25:03	300.06	23.81	6.29	232.14	5.74	7.18	0.56	276.32
Last 5	14:30:03	600.01	22.72	6.27	230.57	3.86	7.37	0.50	296.44
Last 5	14:35:03	900.00	22.46	6.26	225.97	3.78	7.40	0.60	296.83
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-1.10	-0.02	-1.57			-0.06	20.12
Variance 2			-0.26	-0.01	-4.59			0.10	0.39

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2020-08-13 17:40:32

Project Information:		Pump Information:	
Operator Name	J. Waguespack	Pump Model/Type	SamplePro
Company Name	Golder Associates	Tubing Type	polyethylene
Project Name	166849618	Tubing Diameter	.170 in
Site Name	Plant McDonough	Tubing Length	34 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	643819		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	34 ft

Well Information:		Pumping Information:	
Well ID	B-62	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.3667564 L
Well Total Depth	39.62 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	6.6 in
Depth to Water	16.65 ft	Total Volume Pumped	12 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	16:46:30	1201.02	19.68	6.45	310.07	9.11	17.16	0.30	-1.19
Last 5	16:51:32	1503.02	19.57	6.43	296.42	6.91	17.16	0.28	-3.04
Last 5	16:56:33	1804.02	19.62	6.41	285.06	4.80	17.18	0.27	-4.28
Last 5	17:01:33	2104.02	19.51	6.40	280.42	3.54	17.18	0.26	-5.01
Last 5	17:06:35	2406.02	19.59	6.40	279.74	3.30	17.20	0.25	-5.76
Variance 0			0.05	-0.02	-11.35			-0.01	-1.25
Variance 1			-0.10	-0.01	-4.64			-0.01	-0.73
Variance 2			0.07	0.01	-0.68			-0.01	-0.75

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2020-08-17 10:56:28

Project Information:		Pump Information:	
Operator Name	J. Waguespack	Pump Model/Type	SamplePro
Company Name	Golder Associates	Tubing Type	polyethylene
Project Name	166849618	Tubing Diameter	.170 in
Site Name	Plant McDonough	Tubing Length	42 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	643819		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	42 ft

Well Information:		Pumping Information:	
Well ID	B-100	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.4024638 L
Well Total Depth	47.50 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.44 in
Depth to Water	34.80 ft	Total Volume Pumped	12 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	10:29:47	1200.02	22.31	4.98	864.70	6.60	34.92	0.93	88.48
Last 5	10:34:47	1500.02	22.30	4.99	866.12	4.67	34.92	0.87	88.78
Last 5	10:39:52	1805.02	22.31	5.00	868.43	3.17	34.92	0.79	89.48
Last 5	10:44:53	2106.02	22.38	5.01	872.06	2.85	34.92	0.74	90.27
Last 5	10:50:00	2413.02	22.32	5.02	874.41	2.79	34.92	0.72	90.87
Variance 0			0.01	0.01	2.31			-0.08	0.70
Variance 1			0.07	0.02	3.63			-0.05	0.79
Variance 2			-0.06	0.01	2.35			-0.02	0.60

Notes

Grab Samples

Low-Flow Test Report:

Test Date / Time: 9/22/2020 12:18:45 PM
Project: Plant McDonough (3)
Operator Name: Chris Tidwell

Location Name: DGWA-53 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 26.84 ft** **Total Depth: 36.84 ft** **Initial Depth to Water: 14.1 ft**	**Pump Type: Alexis Peristaltic** **Tubing Type: Polyethylene** **Pump Intake From TOC: 32 ft** **Estimated Total Volume Pumped: 3000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 1.61 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728550**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
9/22/2020 12:18 PM	00:00	5.51 pH	30.03 °C	0.00 µS/cm	6.88 mg/L		130.3 mV	14.10 ft	150.00 ml/min
9/22/2020 12:23 PM	05:00	6.29 pH	21.90 °C	207.42 µS/cm	1.18 mg/L	2.63 NTU	5.0 mV	14.59 ft	150.00 ml/min
9/22/2020 12:28 PM	10:00	6.38 pH	20.69 °C	213.28 µS/cm	0.62 mg/L	2.79 NTU	-12.1 mV	15.05 ft	150.00 ml/min
9/22/2020 12:33 PM	15:00	6.41 pH	21.03 °C	212.81 µS/cm	0.46 mg/L	4.11 NTU	-8.8 mV	15.49 ft	150.00 ml/min
9/22/2020 12:38 PM	20:00	6.43 pH	20.64 °C	210.82 µS/cm	0.42 mg/L	4.05 NTU	-21.2 mV	15.71 ft	150.00 ml/min

Samples

Sample ID:	Description:

APPENDIX A

Field Data Forms
September 2020

Product Name: Low-Flow System

Date: 2020-09-22 10:35:20

Project Information:		Pump Information:	
Operator Name	Jude Waguespack	Pump Model/Type	Sample Pro
Company Name	Golder	Tubing Type	poly
Project Name	166849618	Tubing Diameter	.170 in
Site Name	Plant McDonough	Tubing Length	57.5 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	642531		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	57.5 ft

Well Information:		Pumping Information:	
Well ID	DGWA-70A	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.4716468 L
Well Total Depth	62.40 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	9.48 in
Depth to Water	40.35 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	10:05:41	300.07	17.65	6.30	59.17	17.00	41.00	4.74	96.04
Last 5	10:10:41	600.02	17.36	6.10	59.66	10.11	41.05	4.50	95.80
Last 5	10:15:41	900.02	17.36	6.04	59.26	5.91	41.09	4.43	96.88
Last 5	10:20:41	1200.02	17.36	6.01	59.57	3.67	41.14	4.43	97.45
Last 5 Variance 0			-0.29	-0.20	0.49			-0.25	-0.23
Variance 1			0.00	-0.06	-0.40			-0.07	1.08
Variance 2			-0.00	-0.03	0.30			-0.00	0.57

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2020-09-22 11:52:45

Project Information:		Pump Information:	
Operator Name	Jude Waguespack	Pump Model/Type	Sample Pro
Company Name	Golder	Tubing Type	poly
Project Name	166849618	Tubing Diameter	.170 in
Site Name	Plant McDonough	Tubing Length	42 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	642531		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	42 ft

Well Information:		Pumping Information:	
Well ID	DGWA-71	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.4024638 L
Well Total Depth	47.79 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	8.04 in
Depth to Water	28.55 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	11:30:48	300.05	18.12	6.11	72.01	11.76	29.09	0.83	102.15
Last 5	11:35:48	600.02	17.90	6.07	72.11	6.02	29.19	0.73	99.15
Last 5	11:40:48	900.02	17.86	6.07	72.40	2.49	29.22	0.70	98.05
Last 5	11:45:48	1200.02	17.83	6.06	72.16	1.21	29.22	0.71	97.71
Last 5									
Variance 0			-0.22	-0.03	0.10			-0.10	-3.00
Variance 1			-0.04	-0.01	0.30			-0.03	-1.10
Variance 2			-0.03	-0.01	-0.24			0.01	-0.34

Notes

Grab Samples

Low-Flow Test Report:

Test Date / Time: 9/24/2020 9:26:58 AM
Project: Plant McDonough (8)
Operator Name: Chris Tidwell

Location Name: DGWC-37 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 33.08 ft** **Total Depth: 43.08 ft** **Initial Depth to Water: 13.55 ft**	**Pump Type: Alexis Peristaltic** **Tubing Type: Polyethylene** **Pump Intake From TOC: 38 ft** **Estimated Total Volume Pumped: 6286.667 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 0.18 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728550**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
9/24/2020 9:26 AM	00:00	6.91 pH	19.15 °C	610.69 µS/cm	5.72 mg/L		130.8 mV	13.55 ft	200.00 ml/min
9/24/2020 9:31 AM	05:00	6.28 pH	18.93 °C	462.02 µS/cm	0.83 mg/L	3.46 NTU	74.0 mV	13.72 ft	200.00 ml/min
9/24/2020 9:36 AM	10:00	6.29 pH	18.88 °C	447.43 µS/cm	0.85 mg/L	2.42 NTU	68.9 mV	13.72 ft	200.00 ml/min
9/24/2020 9:41 AM	15:00	6.29 pH	18.93 °C	438.55 µS/cm	0.88 mg/L	0.98 NTU	87.9 mV	13.73 ft	200.00 ml/min
9/24/2020 9:46 AM	20:00	6.30 pH	18.94 °C	428.36 µS/cm	1.01 mg/L	1.43 NTU	67.4 mV	13.73 ft	200.00 ml/min
9/24/2020 9:51 AM	25:00	6.30 pH	18.97 °C	412.88 µS/cm	1.08 mg/L	1.19 NTU	86.3 mV	13.73 ft	200.00 ml/min
9/24/2020 9:53 AM	26:26	6.30 pH	18.97 °C	421.86 µS/cm	1.07 mg/L	1.19 NTU	85.9 mV	13.73 ft	200.00 ml/min
9/24/2020 9:58 AM	31:26	6.30 pH	19.01 °C	425.40 µS/cm	0.99 mg/L		85.6 mV	13.73 ft	200.00 ml/min

Samples

Sample ID:	Description:

Low-Flow Test Report:

Test Date / Time: 9/24/2020 1:44:28 PM
Project: Plant McDonough (10)
Operator Name: Chris Tidwell

Location Name: DGWC-38 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 18.08 ft** **Total Depth: 28.08 ft** **Initial Depth to Water: 5.94 ft**	**Pump Type: Alexis Peristaltic** **Tubing Type: Polyethylene** **Pump Intake From TOC: 23 ft** **Estimated Total Volume Pumped: 6000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 0.4 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728550**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
9/24/2020 1:44 PM	00:00	6.32 pH	19.80 °C	183.16 µS/cm	3.27 mg/L		71.9 mV	5.94 ft	200.00 ml/min
9/24/2020 1:49 PM	05:00	6.25 pH	20.04 °C	189.55 µS/cm	2.77 mg/L	9.42 NTU	70.1 mV	6.29 ft	200.00 ml/min
9/24/2020 1:54 PM	10:00	6.26 pH	19.94 °C	201.17 µS/cm	2.63 mg/L	6.79 NTU	87.2 mV	6.30 ft	200.00 ml/min
9/24/2020 1:59 PM	15:00	6.10 pH	19.77 °C	307.13 µS/cm	2.19 mg/L	5.18 NTU	72.3 mV	6.31 ft	200.00 ml/min
9/24/2020 2:04 PM	20:00	6.03 pH	19.73 °C	641.83 µS/cm	0.36 mg/L	2.89 NTU	70.6 mV	6.32 ft	200.00 ml/min
9/24/2020 2:09 PM	25:00	6.03 pH	19.68 °C	654.82 µS/cm	0.23 mg/L	2.55 NTU	85.6 mV	6.33 ft	200.00 ml/min
9/24/2020 2:14 PM	30:00	6.05 pH	19.73 °C	658.75 µS/cm	0.19 mg/L	2.12 NTU	70.6 mV	6.34 ft	200.00 ml/min

Samples

Sample ID:	Description:

Low-Flow Test Report:

Test Date / Time: 9/25/2020 10:48:42 AM
Project: Plant McDonough (12)
Operator Name: Chris Tidwell

Location Name: DGWC-39 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 14.65 ft** **Total Depth: 24.65 ft** **Initial Depth to Water: 6.73 ft**	**Pump Type: Alexis Peristaltic** **Tubing Type: Polyethylene** **Pump Intake From TOC: 20 ft** **Estimated Total Volume Pumped: 3000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 0.82 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728550**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
9/25/2020 10:48 AM	00:00	6.20 pH	22.05 °C	698.27 µS/cm	1.36 mg/L		47.6 mV	6.73 ft	200.00 ml/min
9/25/2020 10:53 AM	05:00	6.30 pH	21.51 °C	752.60 µS/cm	0.30 mg/L	7.33 NTU	29.9 mV	7.45 ft	200.00 ml/min
9/25/2020 10:58 AM	10:00	6.35 pH	21.31 °C	754.58 µS/cm	0.24 mg/L	6.00 NTU	19.6 mV	7.51 ft	200.00 ml/min
9/25/2020 11:03 AM	15:00	6.38 pH	21.11 °C	754.07 µS/cm	0.21 mg/L	3.65 NTU	13.6 mV	7.55 ft	200.00 ml/min

Samples

Sample ID:	Description:

Product Name: Low-Flow System

Date: 2020-09-23 14:29:49

Project Information:		Pump Information:	
Operator Name	Jude Waguespack	Pump Model/Type	Alexis Peristaltic
Company Name	Golder	Tubing Type	poly
Project Name	166849618	Tubing Diameter	.170 in
Site Name	Plant McDonough	Tubing Length	33.5 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	642531		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	33.5 ft

Well Information:		Pumping Information:	
Well ID	DGWC-40	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.2395247 L
Well Total Depth	38.40 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.56 in
Depth to Water	17.45 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			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	14:05:07	300.05	21.99	4.81	538.67	3.33	17.58	2.10	166.38
Last 5	14:10:07	600.02	21.24	4.78	545.82	2.54	17.58	2.25	166.03
Last 5	14:15:07	900.02	21.03	4.78	546.09	1.80	17.58	2.28	165.46
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.76	-0.03	7.15			0.14	-0.35
Variance 2			-0.21	-0.00	0.26			0.03	-0.57

Notes

Grab Samples

Low-Flow Test Report:

Test Date / Time: 9/23/2020 2:50:51 PM
Project: Plant McDonough (7)
Operator Name: Chris Tidwell

Location Name: DGWC-67 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 45.5 ft** **Total Depth: 55.5 ft** **Initial Depth to Water: 9.38 ft**	**Pump Type: Alexis Peristaltic** **Tubing Type: Polyethylene** **Pump Intake From TOC: 50.5 ft** **Estimated Total Volume Pumped: 4000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 0.52 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728550**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
9/23/2020 2:50 PM	00:00	6.32 pH	23.21 °C	405.49 µS/cm	1.66 mg/L		61.9 mV	9.38 ft	200.00 ml/min
9/23/2020 2:55 PM	05:00	6.23 pH	20.48 °C	419.40 µS/cm	0.46 mg/L	5.45 NTU	57.5 mV	9.81 ft	200.00 ml/min
9/23/2020 3:00 PM	10:00	6.23 pH	20.20 °C	420.35 µS/cm	0.35 mg/L	3.69 NTU	66.6 mV	9.89 ft	200.00 ml/min
9/23/2020 3:05 PM	15:00	6.23 pH	20.16 °C	421.78 µS/cm	0.31 mg/L	4.01 NTU	52.9 mV	9.89 ft	200.00 ml/min
9/23/2020 3:10 PM	20:00	6.23 pH	20.32 °C	419.94 µS/cm	0.29 mg/L	3.22 NTU	52.2 mV	9.90 ft	200.00 ml/min

Samples

Sample ID:	Description:

Low-Flow Test Report:

Test Date / Time: 9/23/2020 1:44:28 PM
Project: Plant McDonough (6)
Operator Name: Chris Tidwell

Location Name: DGWC-68A **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 19.79 ft** **Total Depth: 29.79 ft** **Initial Depth to Water: 9.95 ft**	**Pump Type: Alexis Peristaltic** **Tubing Type: Polyethylene** **Pump Intake From TOC: 25 ft** **Estimated Total Volume Pumped: 3000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 0.18 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728550**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
9/23/2020 1:44 PM	00:00	6.58 pH	23.21 °C	417.67 µS/cm	1.11 mg/L		43.0 mV	9.95 ft	200.00 ml/min
9/23/2020 1:49 PM	05:00	6.60 pH	21.78 °C	426.43 µS/cm	0.39 mg/L	1.83 NTU	40.5 mV	10.13 ft	200.00 ml/min
9/23/2020 1:54 PM	10:00	6.60 pH	21.25 °C	429.16 µS/cm	0.29 mg/L	1.34 NTU	49.9 mV	10.13 ft	200.00 ml/min
9/23/2020 1:59 PM	15:00	6.60 pH	21.24 °C	429.65 µS/cm	0.25 mg/L	1.12 NTU	46.4 mV	10.13 ft	200.00 ml/min

Samples

Sample ID:	Description:

Low-Flow Test Report:

Test Date / Time: 9/23/2020 11:19:25 AM
Project: Plant McDonough (5)
Operator Name: Chris Tidwell

Location Name: DGWC-69 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 14.06 ft** **Total Depth: 24.06 ft** **Initial Depth to Water: 5.71 ft**	**Pump Type: Alexis Peristaltic** **Tubing Type: Polyethylene** **Pump Intake From TOC: 19 ft** **Estimated Total Volume Pumped: 5903.333 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 0.71 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728550**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
9/23/2020 11:19 AM	00:00	6.88 pH	28.13 °C	201.94 µS/cm	5.01 mg/L		84.1 mV	5.71 ft	200.00 ml/min
9/23/2020 11:24 AM	05:00	6.06 pH	21.90 °C	130.48 µS/cm	3.18 mg/L	38.60 NTU	56.5 mV	6.37 ft	200.00 ml/min
9/23/2020 11:29 AM	10:00	6.08 pH	21.22 °C	119.70 µS/cm	3.16 mg/L	26.70 NTU	55.1 mV	6.42 ft	200.00 ml/min
9/23/2020 11:34 AM	15:00	6.09 pH	20.93 °C	116.71 µS/cm	3.19 mg/L	18.50 NTU	56.0 mV	6.42 ft	200.00 ml/min
9/23/2020 11:39 AM	20:00	6.08 pH	20.80 °C	115.47 µS/cm	3.21 mg/L	12.80 NTU	57.0 mV	6.42 ft	200.00 ml/min
9/23/2020 11:44 AM	25:00	6.08 pH	20.69 °C	113.65 µS/cm	3.23 mg/L	6.72 NTU	58.1 mV	6.42 ft	200.00 ml/min
9/23/2020 11:48 AM	29:31	6.08 pH	20.84 °C	113.04 µS/cm	3.25 mg/L	4.77 NTU	56.3 mV	6.42 ft	200.00 ml/min

Samples

Sample ID:	Description:

Product Name: Low-Flow System

Date: 2020-09-24 10:30:28

Project Information:		Pump Information:	
Operator Name	Jude Waguespack	Pump Model/Type	Alexis Peristaltic
Company Name	Golder	Tubing Type	poly
Project Name	166849618	Tubing Diameter	.170 in
Site Name	Plant McDonough	Tubing Length	34.5 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	642531		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	34.5 ft

Well Information:		Pumping Information:	
Well ID	B-62	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.2439881 L
Well Total Depth	39.62 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	2.04 in
Depth to Water	15.43 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	09:58:48	300.06	18.59	6.90	499.59	53.90	15.71	0.45	85.09
Last 5	10:03:48	600.02	18.32	6.60	319.76	23.30	15.70	0.30	71.39
Last 5	10:08:48	900.02	18.25	6.57	306.97	13.80	15.70	0.26	65.58
Last 5	10:13:48	1200.02	18.21	6.57	299.63	11.10	15.70	0.28	60.66
Last 5	10:18:54	1506.02	18.16	6.55	295.98	4.35	15.60	0.23	56.95
Variance 0			-0.07	-0.03	-12.79			-0.03	-5.81
Variance 1			-0.04	-0.00	-7.34			0.02	-4.92
Variance 2			-0.05	-0.01	-3.65			-0.06	-3.71

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2020-09-25 10:58:59

Project Information:		Pump Information:	
Operator Name	Jude Waguespack	Pump Model/Type	Sample Pro
Company Name	Golder	Tubing Type	poly
Project Name	166849618	Tubing Diameter	.170 in
Site Name	Plant McDonough	Tubing Length	43 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	642531		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	43 ft

Well Information:		Pumping Information:	
Well ID	B-100	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.4069272 L
Well Total Depth	47.93 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.8 in
Depth to Water	32.10 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	10:35:17	300.05	21.66	5.55	937.26	29.40	32.30	0.24	110.91
Last 5	10:40:17	600.02	21.46	5.55	930.94	18.90	32.30	0.16	107.96
Last 5	10:45:17	900.02	21.43	5.55	929.94	11.79	32.20	0.13	106.95
Last 5	10:50:17	1200.02	21.46	5.53	929.93	4.79	32.25	0.11	106.40
Last 5 Variance 0			-0.20	0.01	-6.32			-0.08	-2.95
Variance 1			-0.03	-0.01	-1.00			-0.03	-1.02
Variance 2			0.03	-0.01	-0.00			-0.02	-0.55

Notes

Grab Samples

APPENDIX A

Field Data Forms
March and April 2021

Product Name: Low-Flow System

Date: 2021-03-12 12:43:38

Project Information:		Pump Information:	
Operator Name	Jude Waguespack	Pump Model/Type	Alexis
Company Name	Golder	Tubing Type	polyethylene
Project Name	166849621	Tubing Diameter	.170 in
Site Name	Plant McDonough	Tubing Length	31 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	646777		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	31 ft

Well Information:		Pumping Information:	
Well ID	DGWA-53	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.2283661 L
Well Total Depth	36.89 ft	Calculated Sample Rate	60 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	13.70 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	12:28:32	60.07	25.66	6.38	195.64	8.60	13.70	0.91	53.73
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

See Purge forms for vol. removed

Grab Samples

Product Name: Low-Flow System

Date: 2021-03-01 13:26:06

Project Information:		Pump Information:	
Operator Name	D.Thomas	Pump Model/Type	SamplePro
Company Name	Golder Associates	Tubing Type	poly
Project Name	166849621	Tubing Diameter	0.170 in
Site Name	Plant McDonough	Tubing Length	57 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597519		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	57 ft

Well Information:		Pumping Information:	
Well ID	DGWA-70A	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.5394151 L
Well Total Depth	62.41 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	6 in
Depth to Water	38.60 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			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	13:07:01	300.07	17.46	5.75	52.68	0.86	39.10	3.52	216.69
Last 5	13:12:01	600.02	17.41	5.53	51.30	0.56	39.10	3.56	265.63
Last 5	13:17:01	900.02	17.41	5.45	50.98	0.53	39.10	3.68	310.29
Last 5	13:22:01	1200.02	17.41	5.43	51.09	0.75	39.10	3.86	371.79
Last 5									
Variance 0			-0.05	-0.22	-1.38			0.04	48.95
Variance 1			0.00	-0.08	-0.32			0.12	44.66
Variance 2			-0.00	-0.02	0.12			0.18	61.49

Notes

Started purging at 1301

Stopped purging and began sampling at 1321

Grab Samples

Product Name: Low-Flow System

Date: 2021-03-01 15:19:53

Project Information:		Pump Information:	
Operator Name	D.Thomas	Pump Model/Type	SamplePro
Company Name	Golder Associates	Tubing Type	poly
Project Name	166849621	Tubing Diameter	0.170 in
Site Name	Plant McDonough	Tubing Length	42 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597519		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	42 ft

Well Information:		Pumping Information:	
Well ID	DGWA-71	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.4724638 L
Well Total Depth	47.71 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.38 in
Depth to Water	27.29 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%	+/- 5		+/- 10%	+/- 10
Last 5	14:53:06	300.04	17.93	6.00	73.22	2.45	27.57	0.61	-13.63
Last 5	14:58:06	600.02	17.81	5.92	73.17	1.46	27.57	0.44	18.95
Last 5	15:08:06	1200.01	17.72	5.80	76.85	0.68	27.57	0.36	69.63
Last 5	15:13:06	1500.01	17.63	5.80	78.61	0.38	27.57	0.34	83.43
Last 5	15:18:06	1800.01	17.58	5.80	79.57	0.28	27.57	0.33	94.14
Variance 0			-0.09	-0.11	3.68			-0.08	50.68
Variance 1			-0.09	-0.01	1.76			-0.03	13.80
Variance 2			-0.04	0.01	0.95			-0.01	10.71

Notes

Started purging at 1448

Stopped purging and began sampling at 1518

Grab Samples

Product Name: Low-Flow System

Date: 2021-03-11 13:14:38

Project Information:		Pump Information:	
Operator Name	D.Thomas	Pump Model/Type	Alexis
Company Name	Golder	Tubing Type	polyethylene
Project Name	166849621	Tubing Diameter	0.170 in
Site Name	Plant McDonough	Tubing Length	38 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	513028		
Turbidity Make/Model	LaMotte	Pump placement from TOC	38 ft

Well Information:		Pumping Information:	
Well ID	DGWC-37	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.2596101 L
Well Total Depth	43.08 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.84 in
Depth to Water	13.53 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	12:52:30	600.02	17.51	6.48	452.97	1.67	13.85	0.60	695.76
Last 5	12:57:30	900.02	17.45	6.48	432.29	1.20	13.85	0.95	716.87
Last 5	13:02:30	1200.02	17.45	6.49	428.79	0.99	13.85	1.03	722.81
Last 5	13:07:30	1500.02	17.36	6.49	420.40	0.86	13.85	1.07	726.30
Last 5	13:12:30	1800.05	17.35	6.49	411.53	0.82	13.85	1.18	730.71
Variance 0			-0.00	0.00	-3.50			0.08	5.95
Variance 1			-0.09	0.00	-8.39			0.04	3.48
Variance 2			-0.01	0.00	-8.88			0.11	4.41

Notes

Started purging at 1242

Stopped purging and began 1312

Grab Samples

Product Name: Low-Flow System

Date: 2021-03-11 12:00:44

Project Information:		Pump Information:	
Operator Name	D.Thomas	Pump Model/Type	Alexis
Company Name	Golder	Tubing Type	polyethylene
Project Name	166849621	Tubing Diameter	0.170 in
Site Name	Plant McDonough	Tubing Length	23 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	513028		
Turbidity Make/Model	LaMotte	Pump placement from TOC	23 ft

Well Information:		Pumping Information:	
Well ID	DGWC-38	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.1926587 L
Well Total Depth	28.08 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	8.04 in
Depth to Water	6.03 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	11:48:20	300.03	17.62	6.32	652.39	3.21	6.65	0.56	725.00
Last 5	11:53:20	600.02	16.81	6.25	664.02	1.94	6.76	0.50	723.52
Last 5	11:58:20	900.02	16.87	6.22	665.28	1.65	6.79	0.56	723.16
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.81	-0.07	11.63			-0.06	-1.48
Variance 2			0.06	-0.03	1.26			0.06	-0.36

Notes

Started purging at 1143

Started sampling at 1158

Grab Samples

Product Name: Low-Flow System

Date: 2021-03-11 11:04:37

Project Information:		Pump Information:	
Operator Name	D.Thomas	Pump Model/Type	Alexis
Company Name	Golder	Tubing Type	polyethylene
Project Name	166849621	Tubing Diameter	0.170 in
Site Name	Plant McDonough	Tubing Length	19 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	513028		
Turbidity Make/Model	LaMotte	Pump placement from TOC	19 ft

Well Information:		Pumping Information:	
Well ID	DGWC-39	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.1748051 L
Well Total Depth	24.62 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	13.8 in
Depth to Water	7.40 ft	Total Volume Pumped	19 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	10:42:16	4500.00	15.59	6.66	728.04	6.63	8.55	0.10	398.46
Last 5	10:47:16	4800.00	15.64	6.66	727.40	6.13	8.55	0.10	400.97
Last 5	10:52:16	5100.00	15.75	6.66	727.73	5.39	8.55	0.09	412.61
Last 5	10:57:16	5400.00	15.79	6.66	726.28	5.28	8.55	0.09	419.58
Last 5	11:02:16	5700.00	15.71	6.66	726.15	4.68	8.55	0.09	436.02
Variance 0			0.11	-0.00	0.33			-0.00	11.65
Variance 1			0.04	0.00	-1.45			-0.00	6.96
Variance 2			-0.08	0.00	-0.13			-0.00	16.45

Notes

Started at 0927

Started sampling at 1102

Grab Samples

Product Name: Low-Flow System

Date: 2021-03-08 12:03:56

Project Information:		Pump Information:	
Operator Name	D.Thomas	Pump Model/Type	Alexis
Company Name	Golder Associates	Tubing Type	poly
Project Name	166849621	Tubing Diameter	0.170 in
Site Name	Plant McDonough	Tubing Length	33 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	33 ft

Well Information:		Pumping Information:	
Well ID	DGWC-40	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.237293 L
Well Total Depth	38.4 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.6 in
Depth to Water	17.05 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%	+/- 5		+/- 10%	+/- 10
Last 5	11:52:06	300.05	20.22	4.79	477.56	0.95	17.10	3.02	105.42
Last 5	11:57:06	600.02	19.70	4.80	476.10	0.37	17.10	2.82	98.95
Last 5	12:02:06	900.02	19.61	4.79	474.32	0.45	17.10	2.83	98.00
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.52	0.01	-1.46			-0.20	-6.47
Variance 2			-0.10	-0.01	-1.78			0.01	-0.95

Notes

Started purging at 1147

Stopped purging and began sampling at 1202

Grab Samples

Product Name: Low-Flow System

Date: 2021-03-11 10:06:09

Project Information:		Pump Information:	
Operator Name	Jude Waguespack	Pump Model/Type	Alexis
Company Name	Golder	Tubing Type	polyethylene
Project Name	166849621	Tubing Diameter	.170 in
Site Name	Plant McDonough	Tubing Length	50.5 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	646777		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	50.5 ft

Well Information:		Pumping Information:	
Well ID	DGWC-67	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.3154029 L
Well Total Depth	55.5 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	9.48 in
Depth to Water	9.80 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	09:40:04	300.06	19.10	6.29	444.98	9.87	10.50	0.20	125.64
Last 5	09:45:04	600.01	19.01	6.28	446.02	8.57	10.55	0.14	113.97
Last 5	09:50:04	900.00	19.16	6.28	447.58	7.63	10.59	0.11	105.01
Last 5	09:55:04	1199.99	19.18	6.28	444.47	3.10	10.59	0.10	97.45
Last 5 Variance 0			-0.09	-0.01	1.04			-0.06	-11.67
Variance 1			0.15	-0.00	1.56			-0.03	-8.96
Variance 2			0.02	-0.00	-3.10			-0.01	-7.57

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2021-03-10 11:42:21

Project Information:		Pump Information:	
Operator Name	D.Thomas	Pump Model/Type	Alexis
Company Name	Golder Associates	Tubing Type	poly
Project Name	166849621	Tubing Diameter	0.170 in
Site Name	Plant McDonough	Tubing Length	24 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	24 ft

Well Information:		Pumping Information:	
Well ID	DGWC-68A	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.1971222 L
Well Total Depth	29.79 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	10 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%	+/- 5		+/- 10%	+/- 10
Last 5	11:30:13	300.03	18.30	6.72	381.85	0.87	10.30	0.20	646.45
Last 5	11:35:13	600.21	17.76	6.74	386.03	0.96	10.30	0.16	661.63
Last 5	11:40:13	900.21	17.72	6.74	386.35	0.67	10.30	0.14	656.49
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.54	0.02	4.18			-0.04	15.17
Variance 2			-0.04	0.01	0.32			-0.02	-5.13

Notes

Started st 1125

Started sampling at 1140

Grab Samples

Product Name: Low-Flow System

Date: 2021-03-10 10:09:55

Project Information:		Pump Information:	
Operator Name	D.Thomas	Pump Model/Type	Alexis
Company Name	Golder Associates	Tubing Type	poly
Project Name	166849621	Tubing Diameter	0.170 in
Site Name	Plant McDonough	Tubing Length	19 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	19 ft

Well Information:		Pumping Information:	
Well ID	DGWC-69	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.1748051 L
Well Total Depth	24.06 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	11.04 in
Depth to Water	5.60 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%	+/- 5		+/- 10%	+/- 10
Last 5	09:56:38	300.14	18.25	6.13	96.16	3.19	6.35	3.54	136.65
Last 5	10:01:38	600.02	17.86	6.12	97.04	2.18	6.45	3.56	198.53
Last 5	10:06:38	900.02	17.91	6.13	97.21	1.26	6.52	3.58	317.68
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.39	-0.01	0.88			0.02	61.88
Variance 2			0.05	0.01	0.17			0.02	119.15

Notes

Started purging at 0951

Sampled at 1006

Grab Samples

Product Name: Low-Flow System

Date: 2021-03-12 14:30:26

Project Information:	
Operator Name	D.Thomas
Company Name	Golder Associates
Project Name	Plant McDonough
Site Name	Plant McDonough
Latitude	0º 0' 0"
Longitude	0º 0' 0"
Sonde SN	553835
Turbidity Make/Model	LaMotte 2020we

Pump Information:	
Pump Model/Type	Alexis
Tubing Type	poly
Tubing Diameter	.170 in
Tubing Length	34 ft
Pump placement from TOC	34 ft

Well Information:	
Well ID	B-62
Well diameter	2 in
Well Total Depth	39.62ft
Screen Length	10 ft
Depth to Water	15.36 ft

Pumping Information:	
Final Pumping Rate	200 mL/min
Total System Volume	0.22278685 L
Calculated Sample Rate	300 sec
Stabilization Drawdown	2.88 in
Total Volume Pumped	13 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	14:07.26	2700.01	17.65	6.45	280.90	15.5	15.6	0.39	87.5
Last 5	14:12:33	3000.00	17.51	6.40	275.60	9.78	15.6	0.37	66.5
Last 5	14:17:39	3299.99	17.48	6.38	278.50	5.99	15.6	0.33	30.2
Last 5	14:22:34	3599.99	17.43	6.35	277.60	5.02	15.6	0.29	13.5
Last 5	14:27:36	3899.98	17.35	6.34	276.40	3.98	15.6	0.26	1.30
Variance 0			-0.03	-0.02	2.90			-0.05	-36.3
Variance 1			-0.05	-0.03	-0.90			0.03	-16.7
Variance 2			-0.08	-0.01	-1.20			-0.06	-12.2

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2021-03-08 14:32:25

Project Information:		Pump Information:	
Operator Name	Jude Waguespack	Pump Model/Type	Bladder
Company Name	Golder	Tubing Type	polyethylene
Project Name	166849621	Tubing Diameter	.170 in
Site Name	Plant McDonough	Tubing Length	43 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	646777		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	43 ft

Well Information:		Pumping Information:	
Well ID	B-100	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.4069272 L
Well Total Depth	47.93 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	2.28 in
Depth to Water	33.35 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			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	14:03:48	600.01	21.24	5.29	884.24	25.90	33.50	0.20	28.29
Last 5	14:08:48	900.00	21.19	5.31	882.29	19.80	33.52	0.16	27.57
Last 5	14:13:48	1199.99	21.22	5.31	881.81	12.20	33.52	0.14	26.60
Last 5	14:18:48	1499.98	21.29	5.32	880.76	8.30	33.54	0.13	25.55
Last 5	14:23:47	1799.98	21.46	5.32	877.32	4.40	33.54	0.12	24.63
Variance 0			0.03	0.01	-0.48			-0.02	-0.98
Variance 1			0.07	0.01	-1.05			-0.01	-1.05
Variance 2			0.18	0.00	-3.44			-0.01	-0.93

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2021-03-08 13:33:54

Project Information:		Pump Information:	
Operator Name	D.Thomas	Pump Model/Type	SamplePro
Company Name	Golder Associates	Tubing Type	poly
Project Name	166849621	Tubing Diameter	.170 in
Site Name	Plant McDonough	Tubing Length	65 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	65 ft

Well Information:		Pumping Information:	
Well ID	B-105D	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.5751225 L
Well Total Depth	70 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	18.36 in
Depth to Water	16.07 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%	+/- 5		+/- 10%	+/- 10
Last 5	13:15:25	300.02	19.86	6.31	588.12	4.65	17.25	0.91	54.21
Last 5	13:20:25	600.02	19.68	6.30	593.57	1.45	17.50	0.42	55.91
Last 5	13:25:25	900.02	19.79	6.32	596.63	1.32	17.60	0.33	55.59
Last 5	13:30:25	1200.02	19.70	6.37	607.55	0.59	17.60	0.28	49.44
Last 5									
Variance 0			-0.18	-0.00	5.46			-0.49	1.70
Variance 1			0.11	0.02	3.06			-0.08	-0.32
Variance 2			-0.09	0.05	10.91			-0.05	-6.16

Notes

Started purging at 1310

Stopped purging and began sampling at 1330

Grab Samples

Product Name: Low-Flow System

Date: 2021-03-16 16:46:32

Project Information:		Pump Information:	
Operator Name	Jude Waguespack	Pump Model/Type	Alexis
Company Name	Golder	Tubing Type	polyethylene
Project Name	166849621	Tubing Diameter	.170 in
Site Name	Plant McDonough	Tubing Length	59 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	59 ft

Well Information:		Pumping Information:	
Well ID	B-110D	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.3533419 L
Well Total Depth	64.0 ft	Calculated Sample Rate	60 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	8.60 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	12:18:55	60.11	12.82	7.53	360.80	0.63	8.60	2.96	124.74
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

Grab Samples

Low-Flow Test Report:

Test Date / Time: 4/15/2021 11:07:21 AM
Project: McDonough
Operator Name: Erik Rheams

Location Name: B-112D **Well Diameter: 2 in** **Total Depth: 55.67 ft** **Initial Depth to Water: 7.06 ft**	**Tubing Type: polyethylene** **Estimated Total Volume Pumped: 5800 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 120 ml/min** **Final Draw Down: 0.05 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728550**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.25	
4/15/2021 11:07 AM	00:00	6.94 pH	18.88 °C	267.02 µS/cm	2.37 mg/L	14.60 NTU	29.6 mV	7.06 ft	160.00 ml/min
4/15/2021 11:12 AM	05:00	6.84 pH	18.22 °C	270.94 µS/cm	0.33 mg/L	14.00 NTU	24.7 mV	7.14 ft	160.00 ml/min
4/15/2021 11:17 AM	10:00	6.84 pH	17.94 °C	261.83 µS/cm	0.22 mg/L	15.70 NTU	29.0 mV	7.14 ft	120.00 ml/min
4/15/2021 11:22 AM	15:00	6.83 pH	17.82 °C	294.24 µS/cm	0.17 mg/L	9.19 NTU	23.8 mV	7.11 ft	120.00 ml/min
4/15/2021 11:27 AM	20:00	6.83 pH	17.77 °C	353.69 µS/cm	0.18 mg/L	6.94 NTU	23.0 mV	7.11 ft	120.00 ml/min
4/15/2021 11:32 AM	25:00	6.83 pH	17.61 °C	404.77 µS/cm	0.18 mg/L	6.89 NTU	18.7 mV	7.11 ft	120.00 ml/min
4/15/2021 11:37 AM	30:00	6.83 pH	17.86 °C	450.25 µS/cm	0.16 mg/L	5.91 NTU	16.0 mV	7.11 ft	120.00 ml/min
4/15/2021 11:42 AM	35:00	6.83 pH	18.08 °C	467.43 µS/cm	0.14 mg/L	4.98 NTU	14.2 mV	7.11 ft	120.00 ml/min
4/15/2021 11:47 AM	40:00	6.83 pH	18.08 °C	482.93 µS/cm	0.13 mg/L	4.63 NTU	12.2 mV	7.11 ft	120.00 ml/min
4/15/2021 11:52 AM	45:00	6.83 pH	17.95 °C	485.78 µS/cm	0.13 mg/L	4.26 NTU	12.2 mV	7.11 ft	120.00 ml/min

Samples

Sample ID:	Description:

Low-Flow Test Report:

Test Date / Time: 4/16/2021 9:03:50 AM
Project: McDonough
Operator Name: Erik Rheams

Location Name: B-113D **Well Diameter: 2 in** **Total Depth: 84.93 ft** **Initial Depth to Water: 1.58 ft**	**Pump Intake From TOC: 80 ft** **Estimated Total Volume Pumped: 4000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 100 ml/min** **Final Draw Down: 3.93 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728550**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.25	
4/16/2021 9:03 AM	00:00	7.84 pH	14.86 °C	361.90 µS/cm	4.11 mg/L	4.50 NTU	130.3 mV	0.00 ft	100.00 ml/min
4/16/2021 9:08 AM	05:00	7.77 pH	15.42 °C	349.84 µS/cm	1.46 mg/L	3.84 NTU	10.8 mV	1.41 ft	100.00 ml/min
4/16/2021 9:13 AM	10:00	7.76 pH	15.76 °C	350.72 µS/cm	0.84 mg/L	6.85 NTU	-25.5 mV	1.19 ft	100.00 ml/min
4/16/2021 9:18 AM	15:00	7.77 pH	15.81 °C	349.05 µS/cm	0.66 mg/L	3.70 NTU	-22.1 mV	1.61 ft	100.00 ml/min
4/16/2021 9:23 AM	20:00	7.77 pH	15.89 °C	349.01 µS/cm	0.58 mg/L	4.61 NTU	-53.9 mV	2.91 ft	100.00 ml/min
4/16/2021 9:28 AM	25:00	7.77 pH	16.12 °C	348.97 µS/cm	0.52 mg/L	4.65 NTU	-35.0 mV	3.82 ft	100.00 ml/min
4/16/2021 9:33 AM	30:00	7.77 pH	16.23 °C	348.75 µS/cm	0.47 mg/L	3.68 NTU	-77.3 mV	4.34 ft	100.00 ml/min
4/16/2021 9:38 AM	35:00	7.77 pH	16.29 °C	348.20 µS/cm	0.42 mg/L	3.70 NTU	-51.3 mV	4.92 ft	100.00 ml/min
4/16/2021 9:43 AM	40:00	7.77 pH	16.37 °C	348.13 µS/cm	0.38 mg/L	3.72 NTU	-103.3 mV	5.51 ft	100.00 ml/min

Samples

Sample ID:	Description:

Product Name: Low-Flow System

Date: 2021-04-13 17:16:47

Project Information:		Pump Information:	
Operator Name	S. Brodie	Pump Model/Type	SamplePro
Company Name	Golder	Tubing Type	polyethylene
Project Name	Plant McDonough	Tubing Diameter	.17 in
Site Name	Plant McDonough	Tubing Length	87.5 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte	Pump placement from TOC	87.5 ft

Well Information:		Pumping Information:	
Well ID	B-116D	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.4805495 L
Well Total Depth	92.45 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	41.32 ft	Total Volume Pumped	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			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	16:51:25	8105.72	27.66	5.20	0.00	--	--	7.88	844.51
Last 5	16:56:28	8408.61	25.42	6.18	117.93	1.72	41.61	4.30	1005.70
Last 5	17:01:29	8709.61	18.89	6.04	126.80	1.52	41.65	4.35	1054.49
Last 5	17:06:29	9009.61	18.66	6.05	128.57	1.48	41.65	4.33	1067.43
Last 5	17:11:29	9309.61	18.52	6.06	128.41	1.55	41.60	4.31	1078.78
Variance 0			-6.53	-0.14	8.87			0.05	48.79
Variance 1			-0.23	0.01	1.77			-0.02	12.94
Variance 2			-0.14	0.01	-0.16			-0.02	11.35

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2021-04-14 12:28:49

Project Information:		Pump Information:	
Operator Name	S. Brodie	Pump Model/Type	SamplePro
Company Name	Golder	Tubing Type	polyethylene
Project Name	Plant McDonough	Tubing Diameter	.17 in
Site Name	Plant McDonough	Tubing Length	72.5 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte	Pump placement from TOC	72.5 ft

Well Information:		Pumping Information:	
Well ID	B-117D	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.4135982 L
Well Total Depth	77.81 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	15 in
Depth to Water	27.90 ft	Total Volume Pumped	14 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	12:05:10	2700.26	18.70	6.06	152.50	2.03	29.13	1.62	693.12
Last 5	12:10:10	3000.26	18.52	6.06	150.14	1.59	29.18	1.51	654.36
Last 5	12:15:10	3300.26	18.54	6.05	147.46	1.44	29.14	1.43	632.60
Last 5	12:20:10	3600.26	18.54	6.05	147.94	1.45	29.20	1.37	613.38
Last 5	12:25:21	3911.26	18.48	6.06	149.90	1.49	29.15	1.32	604.89
Variance 0			0.01	-0.01	-2.68			-0.08	-21.76
Variance 1			0.00	-0.01	0.48			-0.06	-19.21
Variance 2			-0.06	0.01	1.95			-0.05	-8.50

Notes

Grab Samples

Product Name: Low-Flow System

Date: 2021-04-13 11:37:03

Project Information:		Pump Information:	
Operator Name	S. Brodie	Pump Model/Type	SamplePro
Company Name	Golder	Tubing Type	polyethylene
Project Name	Plant McDonough	Tubing Diameter	.17 in
Site Name	Plant McDonough	Tubing Length	73 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte	Pump placement from TOC	73 ft

Well Information:		Pumping Information:	
Well ID	B-118	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.4158299 L
Well Total Depth	78.25 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3 in
Depth to Water	50.85 ft	Total Volume Pumped	12 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	11:07:57	1801.38	16.51	6.07	110.91	5.37	51.11	2.93	161.75
Last 5	11:12:57	2101.38	16.48	6.05	106.03	4.80	51.10	3.53	176.58
Last 5	11:17:57	2401.38	16.56	6.04	103.60	4.86	51.12	3.92	183.81
Last 5	11:22:57	2701.38	16.64	6.03	101.68	4.69	51.10	4.16	188.36
Last 5	11:27:57	3001.38	16.76	6.02	100.12	4.79	51.10	4.26	188.11
Variance 0			0.08	-0.00	-2.43			0.39	7.23
Variance 1			0.08	-0.01	-1.92			0.24	4.55
Variance 2			0.12	-0.01	-1.56			0.10	-0.25

Notes

Grab Samples

Low-Flow Test Report:

Test Date / Time: 4/13/2021 1:50:01 PM
Project: McDonough
Operator Name: Erik Rheams

Location Name: B-119D **Well Diameter: 2 in** **Screen Length: 10 ft** **Top of Screen: 99.74 ft** **Total Depth: 109.74 ft** **Initial Depth to Water: 47.58 ft**	**Estimated Total Volume Pumped: 6700 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 100 ml/min** **Final Draw Down: 5.91 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728550**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.25	
4/13/2021 1:50 PM	00:00	6.94 pH	20.84 °C	297.45 µS/cm	5.11 mg/L	6.75 NTU	62.7 mV	47.58 ft	180.00 ml/min
4/13/2021 1:52 PM	02:29	6.90 pH	18.35 °C	312.48 µS/cm	4.46 mg/L	6.75 NTU	72.9 mV	47.58 ft	180.00 ml/min
4/13/2021 1:57 PM	07:29	6.86 pH	17.50 °C	313.24 µS/cm	3.90 mg/L	4.41 NTU	50.5 mV	49.33 ft	180.00 ml/min
4/13/2021 2:02 PM	12:29	6.84 pH	17.39 °C	295.51 µS/cm	3.74 mg/L	3.94 NTU	62.2 mV	50.59 ft	180.00 ml/min
4/13/2021 2:07 PM	17:29	6.79 pH	17.36 °C	264.50 µS/cm	3.43 mg/L	2.88 NTU	45.7 mV	51.44 ft	180.00 ml/min
4/13/2021 2:12 PM	22:29	6.70 pH	17.23 °C	207.13 µS/cm	2.98 mg/L	2.26 NTU	43.4 mV	52.51 ft	130.00 ml/min
4/13/2021 2:17 PM	27:29	6.66 pH	17.65 °C	201.71 µS/cm	2.65 mg/L	3.61 NTU	55.6 mV	52.81 ft	100.00 ml/min
4/13/2021 2:22 PM	32:29	6.66 pH	17.99 °C	219.56 µS/cm	2.51 mg/L	3.37 NTU	42.2 mV	52.91 ft	100.00 ml/min
4/13/2021 2:27 PM	37:29	6.65 pH	17.94 °C	239.71 µS/cm	2.46 mg/L	6.87 NTU	39.1 mV	53.09 ft	100.00 ml/min
4/13/2021 2:32 PM	42:29	6.65 pH	18.28 °C	248.46 µS/cm	2.40 mg/L	1.79 NTU	44.2 mV	53.14 ft	100.00 ml/min
4/13/2021 2:37 PM	47:29	6.65 pH	18.17 °C	266.61 µS/cm	2.45 mg/L	2.48 NTU	30.2 mV	53.31 ft	100.00 ml/min
4/13/2021 2:42 PM	52:29	6.62 pH	18.17 °C	289.56 µS/cm	2.48 mg/L	2.81 NTU	22.3 mV	53.34 ft	100.00 ml/min
4/13/2021 2:47 PM	57:29	6.60 pH	18.28 °C	298.61 µS/cm	2.55 mg/L	1.25 NTU	15.7 mV	53.41 ft	100.00 ml/min
4/13/2021 2:52 PM	01:02:29	6.63 pH	18.17 °C	306.79 µS/cm	2.55 mg/L	1.74 NTU	7.2 mV	53.49 ft	100.00 ml/min
4/13/2021 2:57 PM	01:07:29	6.64 pH	17.90 °C	310.38 µS/cm	2.60 mg/L	1.82 NTU	1.7 mV	53.49 ft	100.00 ml/min

APPENDIX A

Instrument Calibration Forms

August 2020

Daily Calibration Log

166849618

Project Plant McDonough
Field Staff Karim Minkara, Chris Tidwell, Jude Waguespack

Instrument Calibration

Date: **Time:** 8/11 8/12 8/13 8/14

Parameter	Units	Standard	SmarTROLL SN 597519 iPad # 94	SmarTROLL SN 597519 iPad # 94	SmarTROLL SN 597519 iPad # 94	SmarTROLL SN 597519 iPad # 94
DO	% saturation	100	91.3	92.7	92.9	91.2
Conductivity	us/cm	4490	4566	4313	4420	4393
pH	S.U.	4.00	4.31	4.36	4.39	4.41
pH	S.U.	7.00	7.21	7.23	7.24	7.27
pH	S.U.	10.00	10.13	10.14	10.06	10.11
ORP	mV	228.00	209.6	207.5	210.1	208.6

Turbidity	Units	Standard	LaMotte SN 2953-0913	LaMotte SN 2953-0913	LaMotte SN 2953-0913	LaMotte SN 2953-0913
	NTU	0.0	0.0	0.0	0.0	0.0
	NTU	1.0	1.02	1.13	1.01	0.98
	NTU	10.0	10.11	10.12	10.09	9.92

Date: **Time:**

Parameter	Units	Standard	SmarTROLL SN _____ iPad # _____	SmarTROLL SN _____ iPad # _____	SmarTROLL SN _____ iPad # _____	SmarTROLL SN _____ iPad # _____
DO	% saturation	100				
Conductivity	us/cm	4490				
pH	S.U.	4.00				
pH	S.U.	7.00				
pH	S.U.	10.00				
ORP	mV	228.00				

Turbidity	Units	Standard	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
	NTU	0.0				
	NTU	1.0				
	NTU	10.0				

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

August 2020

Daily Calibration Log

166849618

Project Plant McDonough
Field Staff Karim Minkara, Chris Tidwell, Jude Waguespack

Instrument Calibration

Date: 8/11/20 **Time:** 8/11/20 8/12/20 8/13/20

Parameter	Units	Standard	SmarTROLL SN 647057 iPad # 91	SmarTROLL SN 647057 iPad # 91	SmarTROLL SN 647057 iPad # 91	SmarTROLL SN 647057 iPad # 91
DO	% saturation	100	101.8	99.0	100.4	104.8
Conductivity	us/cm	4490	4463	4516	4495	4484
pH	S.U.	4.00	4.85	4.82	4.88	4.92
pH	S.U.	7.00	7.31	7.68	7.55	7.57
pH	S.U.	10.00	10.13	10.31	10.22	10.20
ORP	mV	228.00	183.7	182.7	184.0	178.2

Turbidity	Units	Standard	LaMotte SN 1479-4011	LaMotte SN 1479-4011	LaMotte SN 1479-4011	LaMotte SN 1479-4011
	NTU	0.0	0.02	-0.10	0.01	0.05
	NTU	1.0	1.05	1.27	1.01	1.29
	NTU	10.0	10.00	10.00	10.00	9.55

Date: **Time:**

Parameter	Units	Standard	SmarTROLL SN 647057 iPad # 91	SmarTROLL SN _____ iPad # _____	SmarTROLL SN _____ iPad # _____	SmarTROLL SN _____ iPad # _____
DO	% saturation	100	97.9			
Conductivity	us/cm	4490	4536			
pH	S.U.	4.00	4.92			
pH	S.U.	7.00	7.47			
pH	S.U.	10.00	10.09			
ORP	mV	228.00	190.2			

Turbidity	Units	Standard	LaMotte SN 1479-4011	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
	NTU	0.0	0.00			
	NTU	1.0	0.92			
	NTU	10.0	9.45			

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

August 2020

Daily Calibration Log

166849618

Project Plant McDonough
Field Staff Karim Minkara, Chris Tidwell, Jude Waguespack

Instrument Calibration

Date: 8/11/20 Time: 0700			0655 08/12/20	0700 08/13/20	0702 08/14/20
Parameter	**Units**	**Standard**	**SmarTROLL SN 643819 iPad # 92**	**SmarTROLL SN 643819 iPad # 92**	**SmarTROLL SN 643819 iPad # 92**	**SmarTROLL SN 643819 iPad # 92**
DO	% saturation	100	97.1	99.8	101.5	100.8
Conductivity	us/cm	4490	4534	4441	4460	4577
pH	S.U.	4.00	4.31	4.32	4.34	4.36
pH	S.U.	7.00	7.11	7.13	7.10	7.09
pH	S.U.	10.00	10.06	10.07	10.00	10.01
ORP	mV	228.00	210.4	208.2	209.6	207.7

Turbidity	**Units**	**Standard**	**LaMotte SN 1859-0412**	**LaMotte SN 1859-0412**	**LaMotte SN 1859-0412**	**LaMotte SN 1859-0412**
	NTU	0.0	-0.03	0.0	0.0	0.0
	NTU	1.0	0.93	1.09	1.10	1.00
	NTU	10.0	10.98	9.10	9.64	9.91

Date: 08/17/20 Time: 0800			0815 08/19/20		
Parameter	**Units**	**Standard**	**SmarTROLL SN 643819 iPad # 92**	**SmarTROLL SN 643819 iPad # 92**	**SmarTROLL SN _____ iPad # _____**	**SmarTROLL SN _____ iPad # _____**
DO	% saturation	100	99.0	96.3		
Conductivity	us/cm	4490	4604	4608		
pH	S.U.	4.00	4.44	4.43		
pH	S.U.	7.00	7.09	7.08		
pH	S.U.	10.00	10.04	10.01		
ORP	mV	228.00	206.6	208.0		

Turbidity	**Units**	**Standard**	**LaMotte SN 1859-0412**	**LaMotte SN 1859-0412**	**LaMotte SN _____**	**LaMotte SN _____**
	NTU	0.0	0.03	0.03		
	NTU	1.0	0.99	0.93		
	NTU	10.0	9.89	9.92		

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

Project Plant McDonough
Field Staff C. Tidwell/D. Thomas/J. Waguespack

Instrument Calibration

Date: 9-22-20 **Time:** 0746

Parameter	Units	Standard	SmarTROLL SN 465016	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100	90.3			
Conductivity	us/cm	4490	4512			
pH	S.U.	4.00	4.21			
pH	S.U.	7.00	7.02			
pH	S.U.	10.00	9.85			
ORP	mV	228.00	235.9			

	Units	Standard	LaMotte SN 1601-4411	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
Turbidity	NTU	0.0	0.0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

Date: 9-23-20 **Time:** 0749

Parameter	Units	Standard	SmarTROLL SN 465016	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100	91.2			
Conductivity	us/cm	4490	4571			
pH	S.U.	4.00	4.17			
pH	S.U.	7.00	7.01			
pH	S.U.	10.00	9.86			
ORP	mV	228.00	234.0			

	Units	Standard	LaMotte SN 1601-4411	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
Turbidity	NTU	0.0	0.0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

Project Plant McDonough
Field Staff C. Tidwell/D. Thomas/J. Waguespack

Instrument Calibration

Date: 9/24/20 **Time:** 0754

Parameter	Units	Standard	SmarTROLL SN 465016	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100	90.4			
Conductivity	us/cm	4490	4583			
pH	S.U.	4.00	4.16			
pH	S.U.	7.00	7.00			
pH	S.U.	10.00	9.87			
ORP	mV	228.00	228			

Turbidity	Units	Standard	LaMotte SN 1601-4411	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
	NTU	0.0	0.0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

Date: 9/25/20 **Time:** 0800

Parameter	Units	Standard	SmarTROLL SN ~~1601-4411~~	SmarTROLL SN 465016	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100		90.7		
Conductivity	us/cm	4490		4655		
pH	S.U.	4.00		~~4.18~~ 4.24		
pH	S.U.	7.00		6.97		
pH	S.U.	10.00		9.82		
ORP	mV	228.00		231.8		

Turbidity	Units	Standard	LaMotte SN 1601-4411	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
	NTU	0.0	0.0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

Project Plant McDonough
Field Staff C. Tidwell/D. Thomas/J. Waguespack

Instrument Calibration

Date: 9/28/20 **Time:** 0808

Parameter	Units	Standard	SmarTROLL SN 465016	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100	97.5			
Conductivity	us/cm	4490	4719			
pH	S.U.	4.00	4.18			
pH	S.U.	7.00	6.99			
pH	S.U.	10.00	9.84			
ORP	mV	228.00	224.9			

	Units	Standard	LaMotte SN 64-4411	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
Turbidity	NTU	0.0	0.0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

Date: **Time:**

Parameter	Units	Standard	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100				
Conductivity	us/cm	4490				
pH	S.U.	4.00				
pH	S.U.	7.00				
pH	S.U.	10.00				
ORP	mV	228.00				

	Units	Standard	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
Turbidity	NTU	0.0				
	NTU	1.0				
	NTU	10.0				

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

October 2020

Daily Calibration Log

166849618

Project Plant McDonough
Field Staff C. Tidwell/D. Thomas/J. Waguespack

Instrument Calibration Aquatroll 400 / LaMotte 2020WE

Date: 9-22-20 **Time:** 9/22 9/23 9/24 9/25

Parameter	Units	Standard	SmarTROLL SN 728550	SmarTROLL SN 728550	SmarTROLL SN 728550	SmarTROLL SN 728550
DO	% saturation	100	107.9	100.99	96.74	102.49
Conductivity	us/cm	4490	4173.6	4528.2	4568.2	~~4499.6~~ 4502.7
pH	S.U.	4.00	4.09	4.04	3.99	4.02
pH	S.U.	7.00	7.11	7.00	7.05	~~6.~~ 7.01
pH	S.U.	10.00	10.11	10.06	10.01	10.02
ORP	mV	228.00	235.2	236.4	226.2	225.7

	Units	Standard	LaMotte SN 6405-1416	LaMotte SN 6405-1416	LaMotte SN 6405-1416	LaMotte SN 6405-1416
Turbidity	NTU	0.0	0.01	0.00	0.13	0.02
	NTU	1.0	0.99	~~10.17~~ 0.93	0.93	0.93
	NTU	10.0	10.00	10.17	10.00	10.00

Date: **Time:**

Parameter	Units	Standard	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100				
Conductivity	us/cm	4490				
pH	S.U.	4.00				
pH	S.U.	7.00				
pH	S.U.	10.00				
ORP	mV	228.00				

	Units	Standard	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
Turbidity	NTU	0.0				
	NTU	1.0				
	NTU	10.0				

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

Project Plant McDonough
Field Staff C. Tidwell/D. Thomas/J. Waguespack

Instrument Calibration

Date: 09.22.20 **Time:** 08:03

Parameter	Units	Standard	SmarTROLL SN 642531	07:57 09/23/20 SmarTROLL SN 642531	07:58 09/24/20 SmarTROLL SN 642531	08:02 09/25/20 SmarTROLL SN 642531
DO	% saturation	100	93.2	91.1	90.8	92.0
Conductivity	us/cm	4490	4603	4379	4054	4318
pH	S.U.	4.00	4.55	4.49	4.48	4.50
pH	S.U.	7.00	6.99	7.01	7.01	6.97
pH	S.U.	10.00	9.47	9.53	9.54	9.43
ORP	mV	228.00	225.5	222.8	218.6	218.5

	Units	Standard	LaMotte SN 2491-3312	LaMotte SN 2491-3312	LaMotte SN 2491-3312	LaMotte SN 2491-3312
Turbidity	NTU	0.0	0.02	0.0	0.0	0.0
	NTU	1.0	1.02	1.10	1.05	0.99
	NTU	10.0	10.22	9.46	9.22	9.84

Date: 09.28.20 **Time:** 08:03

Parameter	Units	Standard	SmarTROLL SN 642531	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100	91.9			
Conductivity	us/cm	4490	5163			
pH	S.U.	4.00	4.56			
pH	S.U.	7.00	7.05			
pH	S.U.	10.00	9.29			
ORP	mV	228.00	213.2			

	Units	Standard	LaMotte SN 2491-3312	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
Turbidity	NTU	0.0	0.0			
	NTU	1.0	0.96			
	NTU	10.0	10.09			

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

March 2021

Daily Calibration Log

166849621

Project Plant McDonough

Include mid-day pH check

Field Staff D. Thomas / J. Waguespack / K. Minkara / A. McClure

Instrument Calibration

		Date	3/1/21	3/1/21	3/2/21	3/2/21
		Time	11:04	14:30	7:40	13:00
Parameter	**Units**	**Standard**	**SmarTROLL SN 646777 iPad # 74**	**SmarTROLL SN 646777 iPad # 74**	**SmarTROLL SN 646777 iPad # 74**	**SmarTROLL SN 646777 iPad # 74**
DO	% saturation	100	99.0	–	95.3	
Conductivity	us/cm	4490	4664	–	4387	
pH	S.U.	4.00	4.29	4.05	4.38	
pH	S.U.	7.00	7.06	–	7.06	7.02
pH	S.U.	10.00	9.82	–	9.77	
ORP	mV	228.00	240.6	–	245.6	
			3/1/21		3/2/21	
Turbidity	**Units**	**Standard**	**LaMotte SN 5896-3715**	**LaMotte SN**	**LaMotte SN 5896-3715**	**LaMotte SN**
	NTU	0.0	0.01	–	0.01	–
	NTU	1.0	0.98	–	1.23	–
	NTU	10.0	10.35	–	8.73	–

		Date	3/3/21	3/3/21	3/4/21	3/4/21
		Time	07:59	12:58	07:59	12:45
Parameter	**Units**	**Standard**	**SmarTROLL SN 646777 iPad # 74**	**SmarTROLL SN 646777 iPad # 74**	**SmarTROLL SN 646777 iPad # 74**	**SmarTROLL SN _____ iPad # _____**
DO	% saturation	100	97.6		97.9	
Conductivity	us/cm	4490	4397		4340	
pH	S.U.	4.00	4.47		4.39	
pH	S.U.	7.00	7.08	7.05	7.05	7.03
pH	S.U.	10.00	9.75		9.78	
ORP	mV	228.00	251.3		244.2	
Turbidity	**Units**	**Standard**	**LaMotte SN 5896-3715**	**LaMotte SN 5896-3715**	**LaMotte SN 5896-3715**	**LaMotte SN**
	NTU	0.0	0.0	–	0.01	–
	NTU	1.0	1.12	–	0.91	–
	NTU	10.0	8.58	–	9.89	–

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

March 2021

Daily Calibration Log

166849621

Include mid-day pH check

Project Plant McDonough
Field Staff D. Thomas / J. Waguespack / K. Minkara / A. McClure

Instrument Calibration

		Date	3/5/21	3/8/21		3/4/21
		Time	7:55	7:44		7:56
Parameter	Units	Standard	SmarTROLL SN 646777 iPad # 74	SmarTROLL SN 646777 iPad # 74	SmarTROLL SN ____ iPad # ____	SmarTROLL SN 646777 iPad # 74
DO	% saturation	100	98.1	94.8		98.5
Conductivity	us/cm	4490	4400	4464		4262
pH	S.U.	4.00	4.38	4.52	4.47	4.47
pH	S.U.	7.00	7.06	7.07	7.08	7.07
pH	S.U.	10.00	9.79	9.71		9.76
ORP	mV	228.00	240.3	250.9		244.5

	Units	Standard	LaMotte SN 5896-3715	LaMotte SN 5896-3715	LaMotte SN ____	LaMotte SN 5896-3715
Turbidity	NTU	0.0	0.0	0.02		0.0
	NTU	1.0	0.94	1.00		1.07
	NTU	10.0	10.46	10.08		9.11

		Date	3/10/21	3/10/21	3/11/21	3/15/21	3/16/21
		Time	7:43	12:38	7:41	8:13	8:30
Parameter	Units	Standard	SmarTROLL SN 646777 iPad # 74	SmarTROLL SN 646777 iPad # 74	SmarTROLL SN 646777 iPad # 74	SmarTROLL SN 646777 iPad # 74	646777 74
DO	% saturation	100	90.8		98.5	96.1	96.6
Conductivity	us/cm	4490	4185		4121	5033	4942
pH	S.U.	4.00	4.47	4.05	4.42	4.46	4.62
pH	S.U.	7.00	7.06		7.04	6.99	7.08
pH	S.U.	10.00	9.77		9.83	9.72	9.73
ORP	mV	228.00	243.1		234.4	220.7	220.9

	Units	Standard	LaMotte SN 5896-3715	LaMotte SN ____	LaMotte SN 5896-3715	LaMotte SN 5896-3715	5896-3715
Turbidity	NTU	0.0	0.0	—	0.0	-0.01	0.0
	NTU	1.0	0.97	—	1.16	1.18	1.08
	NTU	10.0	10.26	—	9.09	10.12	10.45

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

Include mid-day pH check

Project Plant McDonough
Field Staff D. Thomas / J. Waguespack / K. Minkara / A. McClure

Instrument Calibration

		Date	3-1-21			
		Time	1156			
Parameter	**Units**	**Standard**	**SmarTROLL SN 597519 iPad # 78**	**SmarTROLL SN _____ iPad # _____**	**SmarTROLL SN _____ iPad # _____**	**SmarTROLL SN _____ iPad # _____**
DO	% saturation	100	96.6			
Conductivity	us/cm	4490	4348			
pH	S.U.	4.00	4.30			
pH	S.U.	7.00	7.08			
pH	S.U.	10.00	9.74			
ORP	mV	228.00	239.3			

Turbidity	**Units**	**Standard**	**LaMotte SN 1386-3811**	**LaMotte SN _____**	**LaMotte SN _____**	**LaMotte SN _____**
	NTU	0.0	0.0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

		Date	3-2-21	3-2-21		
		Time	0740	1410		
Parameter	**Units**	**Standard**	**SmarTROLL SN 597519 iPad # 78**	**SmarTROLL SN 597519 iPad # 78**	**SmarTROLL SN _____ iPad # _____**	**SmarTROLL SN _____ iPad # _____**
DO	% saturation	100	94.5			
Conductivity	us/cm	4490	4457			
pH	S.U.	4.00	4.00			
pH	S.U.	7.00	7.08	7.06		
pH	S.U.	10.00	9.81			
ORP	mV	228.00	212.6			

Turbidity	**Units**	**Standard**	**LaMotte SN 1386-3811**	**LaMotte SN _____**	**LaMotte SN _____**	**LaMotte SN _____**
	NTU	0.0	0.0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

March 2021

Daily Calibration Log

166849621

Project Plant McDonough

Include mid-day pH check

Field Staff D. Thomas / J. Waguespack / K. Minkara / A. McClure

Instrument Calibration

			Date	3-3-21	3/12/21	3/12/21	
			Time	1136	0745	1200	
Parameter	**Units**	**Standard**	**SmarTROLL SN 512733 iPad # 91**	**SmarTROLL SN 512733 iPad # 91**	**SmarTROLL SN 512733 iPad # 91**	**SmarTROLL SN _____ iPad # _____**	
DO	% saturation	100	91.4	99.4			
Conductivity	us/cm	4490	4379	4952			
pH	S.U.	4.00	4.32	4.57			
pH	S.U.	7.00	7.14	7.03	7.09		
pH	S.U.	10.00	9.96	9.67			
ORP	mV	228.00	228.8	236.2			

Turbidity	**Units**	**Standard**	**LaMotte SN 1386-381**	**LaMotte SN 1386-381**	**LaMotte SN**	**LaMotte SN**
	NTU	0.0	0.0	0.0		
	NTU	1.0	1.0	0.95		
	NTU	10.0	10.0	9.96		

			Date	3-4-21	3-4-21		
			Time	0759	1200		
Parameter	**Units**	**Standard**	**SmarTROLL SN 512733 iPad # 91**	**SmarTROLL SN 512733 iPad # 91**	**SmarTROLL SN _____ iPad # _____**	**SmarTROLL SN _____ iPad # _____**	
DO	% saturation	100	97.4				
Conductivity	us/cm	4490	4588				
pH	S.U.	4.00	4.40				
pH	S.U.	7.00	7.04	7.07			
pH	S.U.	10.00	9.86				
ORP	mV	228.00	237.4				

Turbidity	**Units**	**Standard**	**LaMotte SN 1386-381**	**LaMotte SN**	**LaMotte SN**	**LaMotte SN**
	NTU	0.0	0.0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

March 2021 **Daily Calibration Log** 166849621

Include mid-day pH check

Project Plant McDonough
Field Staff D. Thomas / J. Waguespack / K. Minkara / A. McClure

Instrument Calibration

DT

		Date	3-5-21	3-12-21	3-12-21	3-12-21
		Time	0754	0738	0738	1050
Parameter	**Units**	**Standard**	**SmarTROLL SN 512733 iPad # 91**	**SmarTROLL SN 513028 iPad # 109**	**SmarTROLL SN 646777 iPad # 74**	**SmarTROLL SN 553835 iPad # 109**
DO	% saturation	100	97.1		94.8	
Conductivity	us/cm	4490	4661	4668	3844	4598
pH	S.U.	4.00	4.41	4.63	4.45	4.07
pH	S.U.	7.00	7.06	7.08	7.05	6.91
pH	S.U.	10.00	9.87	9.81	9.88	9.83
ORP	mV	228.00	230		239	228.7

Turbidity	**Units**	**Standard**	**LaMotte SN 1384-381**	**LaMotte SN**	**LaMotte SN**	**LaMotte SN 1475-4011**
	NTU	0.0	0.0			0.0
	NTU	1.0	1.0			1.0
	NTU	10.0	10.0			10.0

		Date	3-8-21			
		Time	0750			
Parameter	**Units**	**Standard**	**SmarTROLL SN 512733 iPad # 91**	**SmarTROLL SN _____ iPad # _____**	**SmarTROLL SN _____ iPad # _____**	**SmarTROLL SN _____ iPad # _____**
DO	% saturation	100	93.8			
Conductivity	us/cm	4490	4924			
pH	S.U.	4.00	4.63			
pH	S.U.	7.00	7.10			
pH	S.U.	10.00	9.71			
ORP	mV	228.00	246.4			

Turbidity	**Units**	**Standard**	**LaMotte SN 1384-381**	**LaMotte SN**	**LaMotte SN**	**LaMotte SN**
	NTU	0.0	0.0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

March 2021

Daily Calibration Log

166849621

Project Plant McDonough
Field Staff D. Thomas / J. Waguespack / K. Minkara / A. McClure

Include mid-day pH check

Instrument Calibration

		Date	3-9-21			
		Time	0755			
Parameter	**Units**	**Standard**	**SmarTROLL SN** 512733 **iPad #** 91	**SmarTROLL SN** _____ **iPad #** _____	**SmarTROLL SN** _____ **iPad #** _____	**SmarTROLL SN** _____ **iPad #** _____
DO	% saturation	100		95.7		
Conductivity	us/cm	4490	4972			
pH	S.U.	4.00	4.69			
pH	S.U.	7.00	7.08			
pH	S.U.	10.00	~~10.00~~	9.65		
ORP	mV	228.00		248.8		

Turbidity	**Units**	**Standard**	**LaMotte SN** ~~1330-3814~~	**LaMotte SN** 1475-4011	**LaMotte SN** _____	**LaMotte SN** _____
	NTU	0.0		0.0		
	NTU	1.0		1.0		
	NTU	10.0		10.0		

		Date	3-10-21	3-11-21		
		Time	0737	0744		
Parameter	**Units**	**Standard**	**SmarTROLL SN** 512733 **iPad #** 91	**SmarTROLL SN** 512733 **iPad #** 91	**SmarTROLL SN** _____ **iPad #** _____	**SmarTROLL SN** _____ **iPad #** _____
DO	% saturation	100	98.2	100		
Conductivity	us/cm	4490	5021	4593		
pH	S.U.	4.00	4.63	4.59		
pH	S.U.	7.00	7.04	7.01		
pH	S.U.	10.00	9.63	9.82		
ORP	mV	228.00	248.0	235.9		

Turbidity	**Units**	**Standard**	**LaMotte SN** 1475-4011	**LaMotte SN** 1475-4011	**LaMotte SN** _____	**LaMotte SN** _____
	NTU	0.0	0.0	0.0		
	NTU	1.0	1.0	1.0		
	NTU	10.0	10.0	10.0		

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

March 2021

Daily Calibration Log

166849621

Include mid-day pH check

Project Plant McDonough
Field Staff D. Thomas / J. Waguespack / K. Minkara / A. McClure

Instrument Calibration

Check *Recal*

		Date	3-1-21	3-1-21	3-2-21	3-2-21
		Time	1100	1555	0640	1315
Parameter	**Units**	**Standard**	**SmarTROLL SN** 513028 **iPad #** 109	**SmarTROLL SN** 513028 **iPad #** 109	**SmarTROLL SN** 513028 **iPad #** 109	**SmarTROLL SN** 513028 **iPad #** 109
DO	% saturation	100	100.00		99.9	
Conductivity	us/cm	4490	4514		4454	
pH	S.U.	4.00	4.39		4.36	4.51
pH	S.U.	7.00	7.15	7.06	7.18	7.15
pH	S.U.	10.00	9.91		10.03	9.73
ORP	mV	228.00	238.3		229.5	

Turbidity	**Units**	**Standard**	**LaMotte SN** 4392-1914	**LaMotte SN**	**LaMotte SN** 4392-1914	**LaMotte SN**
	NTU	0.0	-0.09		-0.01	
	NTU	1.0	2.21		2.10	
	NTU	10.0	10.09		10.00	

		Date	3-3-21	3-3-21	3-4-21	3-4-21
		Time	0630	1436	630	1224
Parameter	**Units**	**Standard**	**SmarTROLL SN** 513025 **iPad #** 109	**SmarTROLL SN** 513028 **iPad #** 109	**SmarTROLL SN** 513028 **iPad #** 109	**SmarTROLL SN** 513028 **iPad #** ____
DO	% saturation	100	99.9		99.6	
Conductivity	us/cm	4490	4523		4662	
pH	S.U.	4.00	4.39		4.41	
pH	S.U.	7.00	7.15	7.08	7.13	7.09
pH	S.U.	10.00	9.99		9.99	
ORP	mV	228.00	234.3		223.1	

Turbidity	**Units**	**Standard**	**LaMotte SN** 4392-1914	**LaMotte SN**	**LaMotte SN** 4392-1914	**LaMotte SN**
	NTU	0.0	0.01		0.01	
	NTU	1.0	1.07		1.11	
	NTU	10.0	10.01		9.99	

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

March 2021

Daily Calibration Log

166849621

Project Plant McDonough

Include mid-day pH check

Field Staff D. Thomas / J. Waguespack / K. Minkara / A. McClure

Instrument Calibration

			Date	3-5-21	3/9/21	3/10/21	3/10/21
			Time	820	0755	0735	0400
Parameter	**Units**	**Standard**	**SmarTROLL SN 513028 iPad # 109**	**SmarTROLL SN 513028 iPad # 109**	**SmarTROLL SN 513028 iPad # 109**	**SmarTROLL SN 513028 iPad # 109**	
DO	% saturation	100	105.3	105.2	106.4		
Conductivity	us/cm	4490	4618	4608	4585		
pH	S.U.	4.00	4.02	4.69	4.58		
pH	S.U.	7.00	7.10	7.13	7.11	7.09	
pH	S.U.	10.00	9.97	9.78	9.84		
ORP	mV	228.00	224.0	242.2	233.9		

Turbidity	**Units**	**Standard**	**LaMotte SN 4392-1914**	**LaMotte SN 1386-3811**	**LaMotte SN 4392-1914**	**LaMotte SN**
	NTU	0.0	0.02	0.01	0.00	
	NTU	1.0	1.10	0.9	0.89	
	NTU	10.0	9.99	9.87	10.0	

			Date				
			Time				
Parameter	**Units**	**Standard**	**SmarTROLL SN _____ iPad # _____**	**SmarTROLL SN _____ iPad # _____**	**SmarTROLL SN _____ iPad # _____**	**SmarTROLL SN _____ iPad # _____**	
DO	% saturation	100					
Conductivity	us/cm	4490					
pH	S.U.	4.00					
pH	S.U.	7.00					
pH	S.U.	10.00					
ORP	mV	228.00					

Turbidity	**Units**	**Standard**	**LaMotte SN _____**	**LaMotte SN _____**	**LaMotte SN _____**	**LaMotte SN _____**
	NTU	0.0				
	NTU	1.0				
	NTU	10.0				

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

April 2021 **Daily Calibration Log** 166849621

Project Plant McDonough
Field Staff S. Brodie, YC. Soo

Instrument Calibration

Date: 4/5/21 **Time:** 1200

Parameter	Units	Standard	SmarTROLL SN 465016	SmarTROLL SN 642531	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100		102.9		
Conductivity	us/cm	4490	4340	4768		
pH	S.U.	4.00	4.20	4.39		
pH	S.U.	7.00	7.07	7.08		
pH	S.U.	10.00	9.92	9.81		
ORP	mV	228.00	229.4	222.3		

	Units	Standard	LaMotte SN 5896-3715	LaMotte SN 5896-3715	LaMotte SN _____	LaMotte SN _____
Turbidity	NTU	0.0	0.0	0.0		
	NTU	1.0	1.0			
	NTU	10.0	10.0	10.0		

Date: 4/6/21 **Time:** 807

Parameter	Units	Standard	SmarTROLL SN 642531	SmarTROLL SN ~~5896-3715~~	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100	102.9			
Conductivity	us/cm	4490	4768			
pH	S.U.	4.00	4.39			
pH	S.U.	7.00	7.08			
pH	S.U.	10.00	9.81			
ORP	mV	228.00	222.3			

	Units	Standard	LaMotte SN 5896-3715	LaMotte SN 1603-4411	LaMotte SN _____	LaMotte SN _____
Turbidity	NTU	0.0	0.0	0.0		
	NTU	1.0	1.0	1.0		
	NTU	10.0	10.0	10.0		

time 1420

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

April 2021

Daily Calibration Log

166849621

Project Plant McDonough
Field Staff S. Brodie, YC. Soo

Instrument Calibration

Date: 4/7/21 **Time:** 8:15

Parameter	Units	Standard	SmarTROLL SN 512733	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100	90.2			
Conductivity	us/cm	4490	4526			
pH	S.U.	4.00	4.26			
pH	S.U.	7.00	7.07			
pH	S.U.	10.00	9.93			
ORP	mV	228.00	230.0			

	Units	Standard	LaMotte SN 568-0111	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
Turbidity	NTU	0.0	0.00			
	NTU	1.0	1.11			
	NTU	10.0	10.03			

Date: 4/8/21 **Time:** 8:00

Parameter	Units	Standard	SmarTROLL SN 512733	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100	92.9			
Conductivity	us/cm	4490	4519			
pH	S.U.	4.00	4.25			
pH	S.U.	7.00	7.07			
pH	S.U.	10.00	9.92			
ORP	mV	228.00	225.2			

	Units	Standard	LaMotte SN 568-0111	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
Turbidity	NTU	0.0	0.01			
	NTU	1.0	1.03			
	NTU	10.0	10.01			

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

Project Plant McDonough
Field Staff S. Brodie, YC. Soo

Instrument Calibration

Date: 4/7/21 **Time:** 802

Parameter	Units	Standard	SmarTROLL SN 642531	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100	102.7			
Conductivity	us/cm	4490	4449			
pH	S.U.	4.00	4.35			
pH	S.U.	7.00	7.12			
pH	S.U.	10.00	9.88			
ORP	mV	228.00	217.8			

Turbidity	Units	Standard	LaMotte SN 1603-4411	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
	NTU	0.0	0.0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

Date: 4/8/21 **Time:** 800

Parameter	Units	Standard	SmarTROLL SN 642531	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100	102			
Conductivity	us/cm	4490	5070			
pH	S.U.	4.00	4.39			
pH	S.U.	7.00	7.11			
pH	S.U.	10.00	9.92			
ORP	mV	228.00	215.5			

Turbidity	Units	Standard	LaMotte SN 1603-4411	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
	NTU	0.0	0.0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

April 2021 **Daily Calibration Log** 166849621

Project Plant McDonough
Field Staff S. Brodie, YC. Soo

Instrument Calibration

Date: 4/9/21 **Time:** 0800

Parameter	Units	Standard	SmarTROLL SN 642531	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100	102.3			
Conductivity	us/cm	4490	4598			
pH	S.U.	4.00	4.32			
pH	S.U.	7.00	7.10			
pH	S.U.	10.00	9.86			
ORP	mV	228.00	217.2			

	Units	Standard	LaMotte SN 1603-4411	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
Turbidity	NTU	0.0	0.0			
	NTU	1.0	1.26			
	NTU	10.0	10.0			

Date: **Time:**

Parameter	Units	Standard	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100				
Conductivity	us/cm	4490				
pH	S.U.	4.00				
pH	S.U.	7.00				
pH	S.U.	10.00				
ORP	mV	228.00				

	Units	Standard	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
Turbidity	NTU	0.0				
	NTU	1.0				
	NTU	10.0				

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

Project Plant McDonough
Field Staff S. Brodie, YC. Soo, E. Rheams

Instrument Calibration

Date: 4/12/21 **Time:** 1026

Parameter	Units	Standard	SmarTROLL SN 642531	SmarTROLL SN	SmarTROLL SN	SmarTROLL SN
DO	% saturation	100	101.4			
Conductivity	us/cm	4490	4520			
pH	S.U.	4.00	4.43			
pH	S.U.	7.00	7.12			
pH	S.U.	10.00	9.89			
ORP	mV	228.00	222.3			

	Units	Standard	LaMotte SN 43932-1914	LaMotte SN	LaMotte SN	LaMotte SN
Turbidity	NTU	0.0	0.0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

Date: 4/13/21 **Time:** 805

Parameter	Units	Standard	SmarTROLL SN 642531	SmarTROLL SN	SmarTROLL SN	SmarTROLL SN
DO	% saturation	100	105.8			
Conductivity	us/cm	4490	4615			
pH	S.U.	4.00	4.41			
pH	S.U.	7.00	7.19			
pH	S.U.	10.00	9.97			
ORP	mV	228.00	226.3			

	Units	Standard	LaMotte SN 43932-1914	LaMotte SN	LaMotte SN	LaMotte SN
Turbidity	NTU	0.0	0.0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

Project Plant McDonough

GOLDER

April 2021

Daily Calibration Log

166849618

Project Plant McDonough
Field Staff S. Brodie M.Soo, E. Rheams

Instrument Calibration

Date: 4/13/21 **Time:** 8:17

Parameter	Units	Standard	SmarTROLL SN 512733	SmarTROLL SN_____	SmarTROLL SN_____	SmarTROLL SN_____
DO	% saturation	100	90.7			
Conductivity	ms/cm	4490 ~~4415~~	4438			
pH	S.U.	4.00	4.35			
pH	S.U.	7.00	7.16			
pH	S.U.	10.00	9.96			
ORP	mV	228 ~~240.00~~	232.1			

Turbidity Standard	Units	LaMotte SN	LaMotte SN 4392-1916	LaMotte SN	LaMotte SN
0.0	NTU		0.01		
1.0	NTU		1.03		
10.0	NTU		10.08		

Date: 4/14/21 **Time:** 8:10

Parameter	Units	Standard	SmarTROLL SN 512733	SmarTROLL SN_____	SmarTROLL SN_____	SmarTROLL SN_____
DO	% saturation	100	91.0			
Conductivity	ms/cm	4490 ~~4415~~	4415			
pH	S.U.	4.00	4.39			
pH	S.U.	7.00	7.18			
pH	S.U.	10.00	9.95			
ORP	mV	228 ~~240.00~~	238.6			

Turbidity Standard	Units	LaMotte SN	LaMotte SN568-0111	LaMotte SN	LaMotte SN
0.0	NTU		0.00		
1.0	NTU		1.01		
10.0	NTU		9.97		

Notes: DO - Dissolved Oxygen; ms/cm - millisiemens/second; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units

Field Staff S. Brodie, YC. Soo, E. Rheams

Instrument Calibration

Date: 4/14/21 **Time:** 0800

Parameter	Units	Standard	SmarTROLL SN 642531	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100	102.7			
Conductivity	us/cm	4490	4402			
pH	S.U.	4.00	4.33			
pH	S.U.	7.00	7.16			
pH	S.U.	10.00	10.09			
ORP	mV	228.00	213.3			

	Units	Standard	LaMotte SN 4392-1914	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
Turbidity	NTU	0.0	0.0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

Date: 4/15/21 **Time:** 0750

Parameter	Units	Standard	SmarTROLL SN 642531	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100	102.9			
Conductivity	us/cm	4490	4463			
pH	S.U.	4.00	4.39			
pH	S.U.	7.00	7.12			
pH	S.U.	10.00	9.88			
ORP	mV	228.00	220.3			

	Units	Standard	LaMotte SN 4392-1914	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
Turbidity	NTU	0.0	0.0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

APPENDIX A

Well Inspection Form
August 2020

WELL INSPECTION FORM
PLANT MCDONOUGH
AUGUST 2020

Well-ID	POSITION ↑ or ↓	LOCATION / IDENTIFICATION a. Is the well visible and accessible? b. Is the well property identified/Correct Well ID? c. Is the well in high traffic area require traffic Protection? d. Is the drainage around the well acceptable (No standing water)? (Y / N / NA)	PROTECTIVE CASING a. Is protective casing free from damage? b. Is casing free of degradation or deterioration? c. Does casing have functioning weep hole? d. Is the annual space clear of debris and water, or filled with pea gravel? e. Is the well locked and in good condition? (Y / N / NA)	SURFACE PAD a. Pad in Good Condition b. Pad Sloped away from Well? c. In contact with Protective Casing? d. In Contact with Ground Surface and Stable? e. Free of Debris? (Y / N / NA)	INTERNAL CASING a. Does the cap prevent entry of foreign material? b. Is the casing free of kinks or bends or any obstruction from foreigh objects? c. Is the well property vented for equilibrium of air pressure? d. Is the survey point clearly marked on the inner casing? e. Is the depth of the well consistent with the well log? f. Is the casing stable? (Y / N / NA)	SAMPLING (Groundwater Wells Only) a. Does well recharge adequately when purged? b. If dedicated sampling equipment installed, is it in good condition and specified in the approved groundater plan for the facility? c. Does the well require redevelopment? (Y / N / NA)
DGWA-53	↑	Y (a, b, c ["man on the ground"-Haul Road], d)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N(c)
DGWA-70A	↑	Y (a, b, d) ; N (c)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
DGWA-71	↑	Y (a, b, d) ; N (c)	Y (b, c, d, e) ; N (a [cracked lid])	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
DGWC-2	↓	Y (a, b, c ["man on the ground"-Haul Road], d)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
DGWC-4	↓	Y (a, b, d) ; N (c)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
DGWC-5	↓	Y (a, b, d) ; N (c)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
DGWC-8	↓	Y (a, b, d) ; N (c)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
DGWC-9	↓	Y (a, b, d) ; N (c)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	NA (b) ; N (a [may need 3 well vol. purge], c)
DGWC-10	↓	Y (a, b, d) ; N (c)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
DGWC-11	↓	Y (a, b, d) ; N (c)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
DGWC-12	↓	Y (a, b, d) ; N (c)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
DGWC-13	↓	Y (a, b, d) ; N (c)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
DGWC-14	↓	Y (a, b, d) ; N (c)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
DGWC-15	↓	Y (a, b, d) ; N (c)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
DGWC-17	↓	Y (a, b, d) ; N (c)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
DGWC-19	↓	Y (a, b, d) ; N (c)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
DGWC-20	↓	Y (a, b, d) ; N (c)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
DGWC-21	↓	Y (b, d) ; N (a [area overgrown], c)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, c, d, e, f) ; N (b [kink])	Y (a) ; NA (b) ; N (c)
DGWC-22	↓	Y (a, b, d) ; N (c)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
DGWC-23	↓	Y (a, b, c ["man on the ground"-Haul Road], d)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
DGWC-37	↓	Y (a, b, d) ; N (c)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
DGWC-38	↓	Y (a, b, d) ; N (c)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
DGWC-39	↓	Y (a [stream crossing], b, d) ; N (c)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
DGWC-40	↓	Y (a, b, d) ; N (c)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
DGWC-42	↓	Y (a, b, d) ; N (c)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c [historic NTU issues])
DGWC-47	↓	Y (a, b, d) ; N (c)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	NA (b) ; N (a, c)
DGWC-48	↓	Y (a, b, d) ; N (c)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
DGWC-67	↓	Y (a, b, d) ; N (c)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
DGWC-68A	↓	Y (a, b, d) ; N (c)	Y (a , b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
DGWC-69	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)

INSPECTOR/DATE _____K. Minkara / 08/10/2020

WELL INSPECTION FORM
PLANT MCDONOUGH
AUGUST 2020

Well-ID	POSITION ↑ or ↓	LOCATION / IDENTIFICATION a. Is the well visible and accessible? b. Is the well property identified/Correct Well ID? c. Is the well in high traffic area require traffic Protection? d. Is the drainage around the well acceptable (No standing water)? (Y / N / NA)	PROTECTIVE CASING a. Is protective casing free from damage? b. Is casing free of degradation or deterioration? c. Does casing have functioning weep hole? d. Is the annual space clear of debris and water, or filled with pea gravel? e. Is the well locked and in good condition? (Y / N / NA)	SURFACE PAD a. Pad in Good Condition b. Pad Sloped away from Well? c. In contact with Protective Casing? d. In Contact with Ground Surface and Stable? e. Free of Debris? (Y / N / NA)	INTERNAL CASING a. Does the cap prevent entry of foreign material? b. Is the casing free of kinks or bends or any obstruction from foreigh objects? c. Is the well property vented for equilibrium of air pressure? d. Is the survey point clearly marked on the inner casing? e. Is the depth of the well consistent with the well log? f. Is the casing stable? (Y / N / NA)	SAMPLING (Groundwater Wells Only) a. Does well recharge adequately when purged? b. If dedicated sampling equipment installed, is it in good condition and specified in the approved groundater plan for the facility? c. Does the well require redevelopment? (Y / N / NA)
B-3	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-6	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-7	↓	Y (b, d) ; N (a [sampling from truck blocks road], c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-16	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-18	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-24	↓	Y (a, b, c ["man on the ground"-Haul Road], d)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-25	↓	Y (a, b, c ["man on the ground"-Haul Road], d)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-26	↓	Y (a, b, c ["man on the ground"-Haul Road], d)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-28	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-29	↓	Y (a [Southern Co Lab, check in at gate buzzer], b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-31	↓	Y (a [Southern Co Lab, check in at gate buzzer], b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-41	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-50	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-51	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-52	↓	Y (a [Southern Co Lab, check in at gate buzzer], b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-54	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-55	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-56	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-57	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-58	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-59	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-60	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-61	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-62	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-63	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-64	↓	Y (a, b, c [traffic control required], d)	Y (a, b, c, d, e)	Y (b, c, d, e) ; N (a [rings disconnected from pad])	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-65	↓	Y (a [parking lot of concrete plant, walk upstairs to check-in], b, d) ; N (c)	Y (a, b, c, d) ; N (e [missing catcher for one screw])	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-66	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-68	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-76	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)

INSPECTOR/DATE _____K. Minkara / 08/10/2020

WELL INSPECTION FORM
PLANT MCDONOUGH
AUGUST 2020

Well-ID	POSITION ↑ or ↓	LOCATION / IDENTIFICATION a. Is the well visible and accessible? b. Is the well property identified/Correct Well ID? c. Is the well in high traffic area require traffic Protection? d. Is the drainage around the well acceptable (No standing water)? (Y / N / NA)	PROTECTIVE CASING a. Is protective casing free from damage? b. Is casing free of degradation or deterioration? c. Does casing have functioning weep hole? d. Is the annual space clear of debris and water, or filled with pea gravel? e. Is the well locked and in good condition? (Y / N / NA)	SURFACE PAD a. Pad in Good Condition b. Pad Sloped away from Well? c. In contact with Protective Casing? d. In Contact with Ground Surface and Stable? e. Free of Debris? (Y / N / NA)	INTERNAL CASING a. Does the cap prevent entry of foreign material? b. Is the casing free of kinks or bends or any obstruction from foreigh objects? c. Is the well property vented for equilibrium of air pressure? d. Is the survey point clearly marked on the inner casing? e. Is the depth of the well consistent with the well log? f. Is the casing stable? (Y / N / NA)	SAMPLING (Groundwater Wells Only) a. Does well recharge adequately when purged? b. If dedicated sampling equipment installed, is it in good condition and specified in the approved groundater plan for the facility? c. Does the well require redevelopment? (Y / N / NA)
B-77	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-78	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-79	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-80	↓	Y (b, d) ; N (a [sampling from truck blocks road], c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-81	↓	Y (b, d) ; N (a [sampling from truck blocks road], c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-82	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-83	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	NA (b) ; N (a, c)
B-84	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	NA (b) ; N (a, c)
B-85	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-86	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-87	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-88	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-89	↓	Y (a [parking lot of concrete plant, walk upstairs to check-in], b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-90	↓	Y (a, b, c [traffic control required], d)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-91	↓	Y (a, b, c [traffic control required], d)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-92	↓	Y (a, b, c [traffic control required], d)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-93	↓	Y (a, b, c [traffic control required], d)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-94	↓	Y (a, b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-95	↓	Y (a, b, c [traffic control required], d)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-96	↓	Y (a, b, c [traffic control required], d)	Y (a, b, d, e) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-97	↓	Y (a, c [traffic control required], d) ; N (b [missing label])	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-98	↓	Y (a, b, c [traffic control required], d)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-99	↓	Y (a, b, c [traffic control required], d)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
B-100	↓	Y (a [contractor parking lot], b, d) ; N (c)	Y (a, b, c, d, e)	Y (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
AP-1-B-3	IW	Y (a [walk up access only], b, d) ; N (c)	Y (a, b, c, d, e)	NA (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
AP-1-B-7	IW	Y (a [walk up access only], b, d) ; N (c)	Y (a, b, c, d, e)	NA (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)
AP-1-B-8	IW	Y (a [walk up access only], b, d) ; N (c)	Y (a, b, c, d, e)	NA (a, b, c, d, e)	Y (a, b, c, d, e, f)	Y (a) ; NA (b) ; N (c)

NOTES:
IW = Interstitial Well

GOLDER
MEMBER OF WSP

INSPECTOR/DATE _____K. Minkara / 08/10/2020

APPENDIX A

Well Inspection Form September 2020

WELL INSPECTION FORM
PLANT MCDONOUGH
SEPTEMBER 2020

Well-ID	POSITION ↑ or ↓	LOCATION / IDENTIFICATION a. Visible and accessible b. Properly identified wth correct ID c. Not in a high traffic area that requires traffic protection d. No standing water nearby, adequate surrounding drainage **(S) for Satisfactory** **Discrepancies identified below**	PROTECTIVE CASING a. Free from damage, degradation, or deterioration b. Functioning weep hole c. Annular space free of debris and water, and has enough pea gravel d. Functioning lock and in good condition **(S) for Satisfactory** **Discrepancies identified below**	SURFACE PAD a. Pad & bollards in good condition b. Sloped away from the well c. In contact with protective casing d. Stable and in contact with ground surface e. Free of debris f. Survey pin clearly identified **(S) for Satisfactory** **Discrepancies identified below**	INTERNAL CASING a. Cap prevents entry of foreign material b. Free of kinks or bends or any obstruction from foreign objects c. Weephole present and cap not too tight to allow equilibrium for air presssure d. Survey point clearly marked on the inner casing e. Sounded depth consistent with well log f. Stable/immobile **(S) for Satisfactory** **Discrepancies identified below**	SAMPLING (Groundwater Wells Only) a. Well recharges adequately when purged b. If dedicated sampling equipment installed, it is in good condition and specified in the approved groundater plan for the facility c. Does not require redevelopment **(S) for Satisfactory** **Discrepancies identified below**
DGWA-53	↑	S	S	S	S	Poor recharge, requires purge dry and returning to sample
DGWA-70A	↑	S	S	S	S	S
DGWA-71	↑	S	S	S	S	S
DGWC-2	↓	S	S	S	S	S
DGWC-4	↓	S	S	S	S	S
DGWC-5	↓	S	S	S	S	S
DGWC-8	↓	S	S	S	S	S
DGWC-9	↓	S	S	S	S	S
DGWC-10	↓	S	S	S	S	S
DGWC-11	↓	S	S	S	S	S
DGWC-12	↓	S	S	S	S	S
DGWC-13	↓	S	S	S	S	S
DGWC-14	↓	S	S	S	S	S
DGWC-15	↓	S	S	S	S	S
DGWC-17	↓	S	S	S	S	S
DGWC-19	↓	S	S	S	S	S
DGWC-20	↓	S	S	S	S	S
DGWC-21	↓	S	S	S	S	S
DGWC-22	↓	S	S	S	S	S
DGWC-23	↓	S	S	S	S	S
DGWC-37	↓	S	S	S	S	S
DGWC-38	↓	S	S	Bollard knocked down	S	S
DGWC-39	↓	Overgrown	S	S	S	S
DGWC-40	↓	S	S	S	S	S
DGWC-42	↓	S	S	S	S	S
DGWC-47	↓	S	S	S	S	S
DGWC-48	↓	S	S	S	S	S
DGWC-67	↓	S	S	S	S	S
DGWC-68A	↓	S	S	S	S	S
DGWC-69	↓	S	S	S	S	S

INSPECTOR/DATE _____K. Minkara / 09/21/2020

WELL INSPECTION FORM
PLANT MCDONOUGH
SEPTEMBER 2020

Well-ID	POSITION ↑ or ↓	LOCATION / IDENTIFICATION a. Visible and accessible b. Properly identified wth correct ID c. Not in a high traffic area that requires traffic protection d. No standing water nearby, adequate surrounding drainage **(S) for Satisfactory** **Discrepancies identified below**	PROTECTIVE CASING a. Free from damage, degradation, or deterioration b. Functioning weep hole c. Annular space free of debris and water, and has enough pea gravel d. Functioning lock and in good condition **(S) for Satisfactory** **Discrepancies identified below**	SURFACE PAD a. Pad & bollards in good condition b. Sloped away from the well c. In contact with protective casing d. Stable and in contact with ground surface e. Free of debris f. Survey pin clearly identified **(S) for Satisfactory** **Discrepancies identified below**	INTERNAL CASING a. Cap prevents entry of foreign material b. Free of kinks or bends or any obstruction from foreign objects c. Weephole present and cap not too tight to allow equilibrium for air presssure d. Survey point clearly marked on the inner casing e. Sounded depth consistent with well log f. Stable/immobile **(S) for Satisfactory** **Discrepancies identified below**	SAMPLING (Groundwater Wells Only) a. Well recharges adequately when purged b. If dedicated sampling equipment installed, it is in good condition and specified in the approved groundater plan for the facility c. Does not require redevelopment **(S) for Satisfactory** **Discrepancies identified below**
B-3	↓	S	S	S	S	S
B-6	↓	S	S	S	S	S
B-7	↓	S	S	S	S	S
B-16	↓	S	S	S	S	S
B-18	↓	S	S	S	S	S
B-24	↓	S	S	S	S	S
B-25	↓	S	S	S	S	S
B-26	↓	S	S	S	S	S
B-28	↓	S	S	S	S	S
B-29	↓	S	S	S	S	S
B-31	↓	S	S	S	S	S
B-41	↓	S	S	S	S	S
B-50	↓	S	S	S	S	S
B-51	↓	S	S	S	S	S
B-52	↓	S	S	S	S	S
B-54	↓	S	S	S	S	S
B-55	↓	S	S	S	S	S
B-56	↓	S	S	S	S	S
B-57	↓	S	S	S	S	S
B-58	↓	S	S	S	S	S
B-59	↓	S	S	S	S	S
B-60	↓	S	S	S	S	S
B-61	↓	S	S	S	S	S
B-62	↓	S	S	S	S	S
B-63	↓	S	Needs washers	S	S	S
B-64	↓	Requires traffic control	S	S	S	S
B-65	↓	Not labeled	S	S	S	S
B-66	↓	S	S	S	S	S
B-68	↓	S	S	S	S	S
B-76	↓	S	S	S	S	S

INSPECTOR/DATE _____K. Minkara / 09/21/2020

WELL INSPECTION FORM
PLANT MCDONOUGH
SEPTEMBER 2020

Well-ID	POSITION ↑ or ↓	LOCATION / IDENTIFICATION a. Visible and accessible b. Properly identified wth correct ID c. Not in a high traffic area that requires traffic protection d. No standing water nearby, adequate surrounding drainage **(S) for Satisfactory** **Discrepancies identified below**	PROTECTIVE CASING a. Free from damage, degradation, or deterioration b. Functioning weep hole c. Annular space free of debris and water, and has enough pea gravel d. Functioning lock and in good condition **(S) for Satisfactory** **Discrepancies identified below**	SURFACE PAD a. Pad & bollards in good condition b. Sloped away from the well c. In contact with protective casing d. Stable and in contact with ground surface e. Free of debris f. Survey pin clearly identified **(S) for Satisfactory** **Discrepancies identified below**	INTERNAL CASING a. Cap prevents entry of foreign material b. Free of kinks or bends or any obstruction from foreign objects c. Weephole present and cap not too tight to allow equilibrium for air presssure d. Survey point clearly marked on the inner casing e. Sounded depth consistent with well log f. Stable/immobile **(S) for Satisfactory** **Discrepancies identified below**	SAMPLING (Groundwater Wells Only) a. Well recharges adequately when purged b. If dedicated sampling equipment installed, it is in good condition and specified in the approved groundater plan for the facility c. Does not require redevelopment **(S) for Satisfactory** **Discrepancies identified below**
B-77	↓	S	S	S	S	S
B-78	↓	S	S	S	S	S
B-79	↓	S	S	S	S	S
B-80	↓	S	S	S	S	S
B-81	↓	S	S	S	S	S
B-82	↓	S	S	S	S	S
B-83	↓	S	S	S	S	S
B-84	↓	Not labeled	S	S	S	S
B-85	↓	S	S	S	S	S
B-86	↓	S	S	S	S	S
B-87	↓	S	S	S	S	S
B-88	↓	S	S	S	S	S
B-89	↓	S	S	S	S	S
B-90	↓	Requires traffic control	S	S	S	S
B-91	↓	Requires traffic control	Annulus flooded, needs washers	S	S	S
B-92	↓	Requires traffic control	S	S	S	S
B-93	↓	Requires traffic control	S	S	S	S
B-94	↓	Requires traffic control	S	S	S	S
B-95	↓	Requires traffic control	S	S	S	S
B-96	↓	Requires traffic control	S	S	S	S
B-97	↓	Requires traffic control	S	S	S	S
B-98	↓	Requires traffic control	S	S	S	S
B-99	↓	S	S	S	S	S
B-100	↓	S	S	S	S	S
AP-1-B-3	IW	S	S	S	S	S
AP-1-B-7	IW	S	S	S	S	S
AP-1-B-8	IW	S	S	S	S	S

NOTES:
IW = Interstitial Well

GOLDER
MEMBER OF WSP

INSPECTOR/DATE _____K. Minkara / 09/21/2020

APPENDIX A

Well Inspection Form
February 2021

WELL INSPECTION FORM
PLANT MCDONOUGH

Date: February 21, 2021
Inspector: S. Brodie

Well-ID	POSITION	**LOCATION / IDENTIFICATION** a. Visible and accessible b. Properly identified wth correct ID c. Not in a high traffic area that requires traffic protection d. No standing water nearby, adequate surrounding drainage **(S) for Satisfactory** **Discrepancies identified below**	**PROTECTIVE CASING** a. Free from damage, degradation, or deterioration b. Functioning weep hole c. Annular space free of debris and water, and has enough pea gravel d. Functioning lock and in good condition **(S) for Satisfactory** **Discrepancies identified below**	**SURFACE PAD** a. Pad & bollards in good condition b. Sloped away from the well c. In contact with protective casing d. Stable and in contact with ground surface e. Free of debris f. Survey pin clearly identified **(S) for Satisfactory** **Discrepancies identified below**	**INTERNAL CASING** a. Cap prevents entry of foreign material b. Free of kinks or bends or any obstruction from foreign objects c. Weephole present and cap not too tight to allow equilibrium for air presssure d. Survey point clearly marked on the inner casing e. Sounded depth consistent with well log f. Stable/immobile **(S) for Satisfactory** **Discrepancies identified below**	**SAMPLING (Groundwater Wells Only)** a. Well recharges adequately when purged b. If dedicated sampling equipment installed, it is in good condition and specified in the approved groundater plan for the facility c. Does not require redevelopment **(S) for Satisfactory** **Discrepancies identified below**
DGWA-53	↑	S	S	S	S	Poor recharge, requires purge dry and returning to sample
DGWA-70A	↑	S	S	S	S	S
DGWA-71	↑	S	Cracked Lid	S	S	S
DGWC-2	↓	S	S	S	S	S
DGWC-4	↓	S	S	S	S	S
DGWC-5	↓	S	S	S	S	S
DGWC-8	↓	S	S	S	S	S
DGWC-9	↓	S	S	S	S	3 Well Volumes
DGWC-10	↓	S	S	S	No pvc weephole	S
DGWC-11	↓	S	S	S	S	S
DGWC-12	↓	S	S	S	S	S
DGWC-13	↓	S	S	S	S	S
DGWC-14	↓	S	S	S	S	S
DGWC-15	↓	S	S	S	S	S
DGWC-17	↓	S	S	S	S	S
DGWC-19	↓	S	S	S	S	S
DGWC-20	↓	S	S	S	S	S
DGWC-21	↓	S	S	S	S	S
DGWC-22	↓	S	S	Bollard knocked over	S	S
DGWC-23	↓	S	S	S	S	S
DGWC-37	↓	S	S	S	S	S
DGWC-38	↓	S	S	Bollard knocked over	S	S
DGWC-39	↓	S	S	S	S	S
DGWC-40	↓	S	S	S	S	S
DGWC-42	↓	S	S	S	S	S
DGWC-47	↓	S	S	S	S	S
DGWC-48	↓	S	S	S	S	S
DGWC-67	↓	S	S	S	S	S
DGWC-68A	↓	S	S	S	S	S
DGWC-69	↓	S	S	S	S	S
B-3	↓	S	S	S	S	S
B-6	↓	S	S	S	S	S
B-7	↓	S	S	S	S	S
B-16	↓	S	S	S	S	S
B-18	↓	S	S	S	S	S
B-24	↓	S	S	S	S	S
B-25	↓	S	S	S	S	S
B-26	↓	S	Weep Hole Covered by Debris	S	S	S
B-28	↓	S	S	S	S	S
B-29	↓	S	S	Ants near pad	S	S
B-31	↓	S	S	S	S	S
B-41	↓	S	S	S	WASPS	S
B-50	↓	S	S	S	S	S
B-51	↓	S	S	S	WASPS	S
B-52	↓	S	S	S	S	S
B-54	↓	S	S	S	S	S
B-55	↓	S	Pad not completely touching ground	S	No pvc weephole and no cap (Transducer)	S
B-56	↓	S	S	S	S	S
B-57	↓	S	S	S	S	S
B-58	↓	S	Needs pea gravel	S	S	S
B-59	↓	S	S	S	S	S
B-60	↓	S	S	S	S	S
B-61	↓	S	S	S	S	S

WELL INSPECTION FORM
PLANT MCDONOUGH

Date: February 21, 2021
Inspector: S. Brodie

Well-ID	POSITION	LOCATION / IDENTIFICATION a. Visible and accessible b. Properly identified wth correct ID c. Not in a high traffic area that requires traffic protection d. No standing water nearby, adequate surrounding drainage (S) for Satisfactory Discrepancies identified below	PROTECTIVE CASING a. Free from damage, degradation, or deterioration b. Functioning weep hole c. Annular space free of debris and water, and has enough pea gravel d. Functioning lock and in good condition (S) for Satisfactory Discrepancies identified below	SURFACE PAD a. Pad & bollards in good condition b. Sloped away from the well c. In contact with protective casing d. Stable and in contact with ground surface e. Free of debris f. Survey pin clearly identified (S) for Satisfactory Discrepancies identified below	INTERNAL CASING a. Cap prevents entry of foreign material b. Free of kinks or bends or any obstruction from foreign objects c. Weephole present and cap not too tight to allow equilibrium for air presssure d. Survey point clearly marked on the inner casing e. Sounded depth consistent with well log f. Stable/immobile (S) for Satisfactory Discrepancies identified below	SAMPLING (Groundwater Wells Only) a. Well recharges adequately when purged b. If dedicated sampling equipment installed, it is in good condition and specified in the approved groundater plan for the facility c. Does not require redevelopment (S) for Satisfactory Discrepancies identified below
B-62	↓	Needs ID	Needs pea gravel	S	S	S
B-63	↓	S	Needs washers	S	S	S
B-64	↓	Needs ID	S	S	S	S
B-65	↓	Needs ID	S	Bolt intake broken	S	S
B-66	↓	S	S	S	S	S
B-68	↓	S	S	S	S	S
B-72	↓	S	S	S	S	S
B-73	↓	S	S	S	S	S
B-74	↓	S	S	S	S	S
B-76	↓	Needs ID	S	S	S	S
B-77	↓	S	S	S	S	S
B-78	↓	Needs ID	S	S	S	S
B-79	↓	Needs ID	S	S	S	S
B-80	↓	S	S	S	S	S
B-81	↓	S	S	S	S	S
B-82	↓	Downgraide of discharge pipe	Weep Hole	S	Weep hole	S
B-83	↓	S	S	S	S	S
B-84	↓	S	Needs Bolt	S	S	S
B-85	↓	S	S	S	S	S
B-86	↓	S	S	S	S	S
B-87	↓	S	S	Plant Growth	S	S
B-88	↓	S	S	Overgrown	S	S
B-89	↓	Needs ID	S	Stripped Bolt	S	S
B-90	↓	Needs ID	S	Cap off Transducer	S	S
B-91	↓	Needs ID	S	S	S	S
B-92	↓	Needs ID	S	S	S	S
B-93	↓	Needs ID	S	S	S	S
B-94	↓	S	S	S	S	S
B-95	↓	Close to Road	Needs new lock	Cracked Pad	Broken Cap	S
B-96	↓	Needs ID	S	S	S	S
B-97	↓	Needs ID	S	S	S	S
B-98	↓	Needs ID	S	S	S	S
B-99	↓	Needs ID	S	S	S	S
B-100	↓	S	S	S	S	S
B-101D	↓	S	S	S	S	S
B-102D	↓	S	S	Cracked Pad	S	S
B-103D	↓	S	S	S	S	S
B-104D	↓	S	S	S	S	S
B-105D	↓	S	S	S	S	S
B-106D	↓	S	S	S	S	S
B-107D	↓	S	S	S	S	S
B-108D	↓	S	S	S	S	S
B-109D	↓	S	S	S	S	S
B-110D	↓	S	Missing Bolt	S	S	S
B-111D	↓	Needs ID	S	Pad not fully in contact with ground	S	S
AP-1-B-3	IW	S	S	S	Missing PVC Weephole	S
AP-1-B-7	IW	S	S	S	S	S
AP-1-B-8	IW	S	S	S	S	S

NOTES:
IW = Interstitial Well
1. Provide pictures of any deficiencies.
2. Notify SCS /GPC of any noted deficiencies.
3. Provide additional comments as necessary to address any deficiencies.

APPENDIX A

Data Validation Summaries August & September 2020

Quality Control Review of Analytical Data- Ash Pond AP-1
Submitted by Pace Analytical Services, LLC
August & September 2020

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 Plant McDonough CCR Ash Pond AP-1 between August 11, 2020 and September 25, 2020. 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), Inductively Coupled Plasma (6010D), Determination of Inorganic Anions By Ion Chromatography (USEPA Method 300.0), Total Dissolved Solids (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 (CLP) Inorganic Data by Inductively Coupled Plasma – Atomic Emission Spectroscopy and Inductively Coupled Plasma – Mass Spectroscopy (September 2011, Rev. 2.0), US EPA Region IV Data Validation Standard Operating Procedures for CLP Mercury Data by Cold Vapor Atomic Absorption (September 2011, Rev. 2.0), the National Functional Guidelines for Inorganic Superfund Methods Data Review (January 2017), and US Department of Energy, Evaluation of Radiochemical Data Usability (April 1997). 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 field, equipment and 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.

Accuracy: Laboratory goals for accuracy were met with the exception of barium, chloride, fluoride and sulfate as described in the qualification sections below.

Detection Limits: Project goals for detection limits were met. Certain samples were diluted due to elevated concentrations of 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 in accordance with specific analytical methods.

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.

U The analyte was not detected above the method detection limit.

J The analyte was reported above the method detection limit and below the reporting limit. The concentration reported is an estimated value.

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 samples collected at the site and reported in sample delivery groups (SDGs) 92490488, 92490942, 92490963, 92496940, 92496907, 92497118, 92497117 92497129, and 92497125, qualifications may not have been required or applied to all samples collected. A summary of sample qualifications can be found in Table 2.

- Certain mercury results in SDG 92490963, and certain chromium and antimony results in SDG 92490488 were qualified as non-detect (U) when the analyte was detected at a similar level in an associated blank sample. As shown in Table 2, if the original sample results were below the reporting limit (RL), the results were qualified as non-detect (U) and the results were raised to the RL.

- Certain barium results in SDG 92490942 and certain chloride, fluoride and sulfate results in SDG 92496940 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.

Golder reviewed the data from samples collected at Plant McDonough CCR Ash Pond AP-1 from August 11, 2020 through September 25, 2020 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

Paar, J.G. & Porterfield, D.R. *Evaluation of Radiochemical Data Usability.* United States Department of Energy, Office of Environmental Restoration and Waste Management, Oak Ridge National Laboratory, April 1997.

USEPA, January 2017, National, Office of Superfund Remediation and Technology Innovation, *National Functional Guidelines for Inorganic Superfund Methods Data Review,* Revision 0.0.

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, September 2011, Region 4, Science and Ecosystem Support Division, Quality Assurance Section, MTSB, *Data Validation Standard Operating Procedures for Contract Laboratory Program Mercury Data By Cold Vapor Atomic Absorption,* Revision 2.0.

TABLE 1

Sample Summary Table
SCS Plant McDonough AP-1

						Analyses						
SDGs	***Field Identification***	***Collection Date***	***Lab Identification***	***Matrix***	***QC Samples***	**Field pH**	**Total Metals (EPA 6020B)**	**Calcium (EPA 6010D)**	**Mercury (EPA 7470A)**	**Anions (EPA 300.0)**	**TDS (SM 2540C)**	**Radium-226, Radium-228 (9315, 9320)**
92490488	DGWA-70A	8/11/2020	92490488001	GW	-	X	X	-	X	X	-	X
92490488	DGWA-71	8/11/2020	92490488002	GW	-	X	X	-	X	X	-	X
92490488	DGWA-53	8/13/2020	92490488004	GW	-	X	X	-	X	X	-	X
92490488	EB-1	8/11/2020	92490488003	WQ	EB (DGWA-70A)	X	X	-	X	X	-	X
92490942	DGWC-37	8/13/2020	92490942001	GW	-	X	X	-	X	X	-	X
92490942	DGWC-38	8/13/2020	92490942002	GW	-	X	X	-	X	X	-	X
92490942	DGWC-39	8/13/2020	92490942003	GW	-	X	X	-	X	X	-	X
92490942	DGWC-40	8/13/2020	92490942004	GW	-	X	X	-	X	X	-	X
92490942	DGWC-67	8/13/2020	92490942005	GW	-	X	X	-	X	X	-	X
92490942	DGWC-68A	8/13/2020	92490942006	GW	-	X	X	-	X	X	-	X
92490942	EB-2	8/13/2020	92490942008	WQ	EB (DGWC-67)	X	X	-	X	X	-	X
92490942	DGWC-69	8/13/2020	92490942007	GW	-	X	X	-	X	X	-	X
92490963	B-62	8/13/2020	92490963001	GW	-	X	X	-	X	X	-	X
92490963	B-100	8/17/2020	92490963008	GW	-	X	X	-	X	X	-	X
92496940	DGWA-53	9/22/2020	92496940001	GW	-	X	X	X	X	X	X	-
92496940	DGWA-70A	9/22/2020	92496940002	GW	-	X	X	X	X	X	X	-
92496940	DGWA-71	9/22/2020	92496940003	GW	-	X	X	X	X	X	X	-
92496940	EB-1	9/22/2020	92496940004	WQ	EB (DGWA-70A)	X	X	X	X	X	X	-
92496907	EB-1	9/22/2020	92496907004	WQ	EB (DGWA-70A)	-	-	-	-	-	-	X
92496907	DGWA-53	9/22/2020	92496907001	GW	-	-	-	-	-	-	-	X
92496907	DGWA-70A	9/22/2020	92496907002	GW	-	-	-	-	-	-	-	X
92496907	DGWA-71	9/22/2020	92496907003	GW	-	-	-	-	-	-	-	X
92497118	DGWC-40	9/23/2020	92497118001	GW	-	-	-	-	-	-	-	X
92497118	DGWC-67	9/23/2020	92497118002	GW	-	-	-	-	-	-	-	X
92497118	DGWC-68A	9/23/2020	92497118003	GW	-	-	-	-	-	-	-	X
92497118	DGWC-69	9/23/2020	92497118004	GW	-	-	-	-	-	-	-	X
92497118	FD-2	9/23/2020	92497118005	GW	FD (DGWC-68A)	-	-	-	-	-	-	X
92497129	DGWC-40	9/23/2020	92497129001	GW	-	X	X	X	X	X	X	-
92497129	DGWC-67	9/23/2020	92497129002	GW	-	X	X	X	X	X	X	-
92497129	DGWC-68A	9/23/2020	92497129003	GW	-	X	X	X	X	X	X	-
92497129	DGWC-69	9/23/2020	92497129004	GW	-	X	X	X	X	X	X	-
92497129	FD-2	9/23/2020	92497129005	GW	FD (DGWC-68A)	X	X	X	X	X	X	-
92497118	DGWC-37	9/24/2020	92497118006	GW	-	-	-	-	-	-	-	X
92497118	DGWC-38	9/24/2020	92497118007	GW	-	-	-	-	-	-	-	X
92497129	DGWC-37	9/24/2020	92497129006	GW	-	X	X	X	X	X	X	-
92497129	DGWC-38	9/24/2020	92497129007	GW	-	X	X	X	X	X	X	-
92497117	B-62	9/24/2020	92497117002	GW	-	-	-	-	-	-	-	X
92497125	B-62	9/24/2020	92497125002	GW	-	X	X	X	X	X	X	-
92497118	DGWC-39	9/25/2020	92497118008	GW	-	-	-	-	-	-	-	X
92497129	DGWC-39	9/25/2020	92497129008	GW	-	X	X	X	X	X	X	-
92497117	B-100	9/25/2020	92497117008	GW	-	-	-	-	-	-	-	X
92497117	FB-3	9/24/2020	92497117004	WQ	FB (B-62)	-	-	-	-	-	-	X
92497125	FB-3	9/24/2020	92497125004	WQ	FB (B-62)	X	X	X	X	X	X	-
92497125	B-100	9/25/2020	92497125008	GW	-	X	X	X	X	X	X	-

Abbreviations:
EB - Equipment blank; FB- Field Blank; FD - Field Duplicate
GW - Groundwater
TDS - Total dissolved solids
WQ - Water quality control

TABLE 2
Qualifier Summary Table
Plant McDonough AP-1

SDG	*Sample Name*	*Constituent*	*New Result*	*New RL or MDC*	*Qualifier*	*Reason*
92490963	B-100	Mercury	0.0002	-	U	Method blank contamination
92490488	DGWA-70A	Chromium	0.01	-	U	Method blank contamination
92490488	DGWA-71	Chromium	0.01	-	U	Method blank contamination
92490488	DGWA-70A	Antimony	0.003	-	U	Equipment blank contamination
92490942	DGWC-68A	Barium	-	-	J+	MS recovered above acceptance criteria
92496940	DGWA-53	Chloride	-	-	J+	MS/MSD recovered above acceptance criteria
92496940	DGWA-53	Fluoride	-	-	J+	MS/MSD recovered above acceptance criteria
92496940	DGWA-53	Sulfate	-	-	J+	MS/MSD recovered above acceptance criteria

Abbreviations:
RL : Reporting limit
MDC : Minimum detectable concentration
SDG : Sample delivery group
MS/MSD: Matrix spike/matrix spike duplicate

Qualifiers:
J+ : Estimated value, bias high
U : Non-detect result

APPENDIX A

Data Validation Summaries March and April 2021

Quality Control Review of Analytical Data- Ash Pond AP-1
Submitted by Pace Analytical Services, LLC
March & April 2021

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 Plant McDonough CCR Ash Pond AP-1 between March 1, 2021 and April 16, 2021. 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 (ICP-MS) (USEPA Method 6020B), Mercury in Liquid Wastes (USEPA Method 7470A), Inductively Coupled Plasma (ICP) (6010D), Determination of Inorganic Anions By Ion Chromatography (USEPA Method 300.0), Total Dissolved Solids (TDS) (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 (CLP) Inorganic Data by Inductively Coupled Plasma – Atomic Emission Spectroscopy and Inductively Coupled Plasma – Mass Spectroscopy (September 2011, Rev. 2.0), US EPA Region IV Data Validation Standard Operating Procedures for CLP Mercury Data by Cold Vapor Atomic Absorption (September 2011, Rev. 2.0), the National Functional Guidelines for Inorganic Superfund Methods Data Review (January 2017), and US Department of Energy, Evaluation of Radiochemical Data Usability (April 1997). 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 field, equipment and 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 TDS, as described in the qualification section below.

Field Precision: Field goals for precision were met.

Accuracy: Laboratory goals for accuracy were met, with the exception of sulfate, as described in the qualification sections below.

Detection Limits and Blanks: Project goals for detection limits were met. Certain samples were diluted due to elevated concentrations of 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. Detections were found in certain blank results, as described in the qualification sections below.

Completeness: There were no rejected analytical results for this event, resulting in a completion of 100%.

Holding Times: All holding time requirements were met in accordance with specific analytical methods.

QUALIFICATIONS

In general, chemical results for the samples collected at the Site were qualified on the basis of 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.

U The analyte was not detected above the method detection limit.

J The analyte was reported above the method detection limit and below the reporting limit. The concentration reported is an estimated value.

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 samples collected at the site and reported in sample delivery groups (SDGs) 92524830, 92524823, 92526996, 92527005, 92531031, 92531033, 92526286, 92526280, 92533252 and 92533251, qualifications may not have been required or applied to all samples collected. A summary of sample qualifications can be found in Table 2.

- The TDS result in sample B-119D from SDG 92533252 was qualified as estimated when the associated lab duplicate exceeded the relative percent difference criteria.
- The sulfate result for sample DGWC-38 from SDG 92526996 was qualified as estimated (bias high) when the MS/MSD recovered above laboratory criteria.
- Certain antimony results in SDG 92526996 (DGWC-40, DGWC-68A, DGWC-69, and DUP-3) 92526286 (B-100 and B-105) and 92533251 (B-113D and B-112D) were qualified as non-detect (U) when the analyte was detected at a similar level in an associated blank sample. As shown in Table 2, if the original sample results were below the reporting limit (RL), the results were reported as the RL and qualified as non-detect (U). If results were above the RL, the results were reported and qualified U.
- Radium-228 from sample DGWC-67 in SDG 92527005 and a radium-226 from sample DGWA-53 in SDG 92524823 were qualified as non-detect (U) when the analyte was detected at a similar level in an associated blank sample.

Golder reviewed the data from samples collected at Plant McDonough CCR Ash Pond AP-1 from March 1, 2021 and April 16, 2021 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. The data are considered usable for meeting project objectives and the results are considered valid.

REFERENCE

Paar, J.G. & Porterfield, D.R. *Evaluation of Radiochemical Data Usability.* United States Department of Energy, Office of Environmental Restoration and Waste Management, Oak Ridge National Laboratory, April 1997.

USEPA, January 2017, National, Office of Superfund Remediation and Technology Innovation, *National Functional Guidelines for Inorganic Superfund Methods Data Review,* Revision 0.0.

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, September 2011, Region 4, Science and Ecosystem Support Division, Quality Assurance Section, MTSB, *Data Validation Standard Operating Procedures for Contract Laboratory Program Mercury Data By Cold Vapor Atomic Absorption,* Revision 2.0.

TABLE 1

Sample Summary Table
SCS Plant McDonough AP-1

						Analyses						
SDGs	***Field Identification***	***Collection Date***	***Lab Identification***	***Matrix***	***QC Samples***	***Field pH***	***Total Metals (SW 6020B)***	***Calcium (SW 6010D)***	***Mercury (EPA 7470A)***	***Anions (EPA 300.0)***	***TDS (SM 2540C-2011)***	***Radium 226, Radium 228 (9315, 9320)***
92524830	DGWA-70A	3/1/2021	92524830001	GW	-	X	X	X	X	X	X	-
92524830	DGWA-71	3/1/2021	92524830002	GW	-	X	X	X	X	X	X	-
92524830	DGWA-53	3/12/2021	92524830003	GW	-	X	X	X	X	X	X	-
92524823	DGWA-70A	3/1/2021	92524823001	GW	-	-	-	-	-	-	-	X
92524823	DGWA-71	3/1/2021	92524823002	GW	-	-	-	-	-	-	-	X
92524823	DGWA-53	3/12/2021	92524823003	GW	-	-	-	-	-	-	-	X
92526996	DGWC-37	3/11/2021	92526996006	GW	-	X	X	X	-	X	X	-
92526996	DGWC-38	3/11/2021	92526996007	GW	-	X	X	X	-	X	X	-
92526996	DGWC-39	3/11/2021	92526996008	GW	-	X	X	X	-	X	X	-
92526996	DGWC-40	3/8/2021	92526286004	GW	-	X	X	X	-	X	X	-
92526996	DGWC-67	3/11/2021	92526996009	GW	-	X	X	X	-	X	X	-
92526996	DGWC-68A	3/10/2021	92526996001	GW	-	X	X	X	-	X	X	-
92526996	DGWC-69	3/10/2021	92526996002	GW	-	X	X	X	-	X	X	-
92526996	DUP-3	3/10/2021	92526996003	GW	FD (DGWC-69)	-	X	X	-	X	X	-
92526996	FB-3	3/10/2021	92526996004	WQ	FB (DGWC-68A)	-	X	X	-	X	X	-
92527005	DGWC-68A	3/11/2021	92527005001	GW	-	-	-	-	-	-	-	X
92527005	DGWC-69	3/11/2021	92527005002	GW	-	-	-	-	-	-	-	X
92527005	DUP-3	3/11/2021	92527005003	GW	FD (DGWC-69)	-	-	-	-	-	-	X
92527005	FB-3	3/8/2021	92527005004	WQ	FB (DGWC-68A)	-	-	-	-	-	-	X
92527005	DGWC-37	3/10/2021	92527005006	GW	-	-	-	-	-	-	-	X
92527005	DGWC-38	3/10/2021	92527005007	GW	-	-	-	-	-	-	-	X
92527005	DGWC-39	3/10/2021	92527005008	GW	-	-	-	-	-	-	-	X
92527005	DGWC-67	3/10/2021	92527005009	GW	-	-	-	-	-	-	-	X
92527005	DGWC-40	3/10/2021	92526280004	GW	-	-	-	-	-	-	-	X
92531031	B-62	3/12/2021	92526988002	GW	-	X	X	X	-	X	X	-
92531033	B-62	3/12/2021	92526990002	GW	-	-	-	-	-	-	-	X
92526286	B-100	3/8/2021	92526286002	GW	-	X	X	X	-	X	X	-
92526286	B-105D	3/8/2021	92526286003	GW	-	X	X	X	-	X	X	-
92526286	B-110D	3/16/2021	92526996010	GW	-	X	X	X	-	X	X	-
92526280	B-100	3/8/2021	92526280002	GW	-	-	-	-	-	-	-	X
92526280	B-105D	3/8/2021	92526280003	GW	-	-	-	-	-	-	-	X
92526280	B-110D	3/16/2021	92527005010	GW	-	-	-	-	-	-	-	X
92533252	B-116D	4/13/2021	92533252001	GW	-	X	X	X	X	X	X	-
92533252	B-117D	4/14/2021	92533252002	GW	-	X	X	X	X	X	X	-
92533252	B-118	4/13/2021	92533252003	GW	-	X	X	X	X	X	X	-
92533252	B-119D	4/13/2021	92533252004	GW	-	X	X	X	X	X	X	-
92533251	EB-1	4/14/2021	92533251001	WQ	EB (B-117D)	X	X	X	-	X	X	-
92533251	FB-1	4/14/2021	92533251002	WQ	FB (B-117D)	X	X	X	-	X	X	-
92533251	B-113D	4/16/2021	92533251003	GW	-	X	X	X	-	X	X	-
92533251	DUP-1	4/15/2021	92533251004	GW	FD (B-112D)	X	X	X	-	X	X	-
92533251	B-112D	4/15/2021	92533251005	GW	-	X	X	X	-	X	X	-

Abbreviations:
SDG - Sample Delivery Group
WQ - Water quality control
SW - Solid Waste
EPA - Environmental Protection Agency
EB - Equipment blank
FB - Field blank
FD - Field duplicate
GW - Groundwater
TDS - Total dissolved solids
SM - Standard Method

TABLE 2
Qualifier Summary Table
Plant McDonough AP-1

SDG	Sample Name	Constituent	New Result	New RL or MDC	Qualifier	Reason
92524823	DGWA-53	Radium-226	-	0.786	U	Blank contamination
92526286	B-100	Antimony	0.003	-	U	Blank contamination
92526286	B-105D	Antimony	0.003	-	U	Blank contamination
92526996	DGWC-68A	Antimony	0.003	-	U	Blank contamination
92526996	DUP-3	Antimony	0.003	-	U	Blank contamination
92526996	DGWC-69	Antimony	0.003	-	U	Blank contamination
92526996	DGWC-40	Antimony	0.003	-	U	Blank contamination
92526996	DGWC-38	Sulfate	-	-	J+	MS/MSD above acceptance criteria
92527005	DGWC-67	Radium-228	-	0.922	U	Blank contamination
92533251	B-113D	Antimony	0.003	-	U	Blank contamination
92533251	B-112D	Antimony	0.003	-	U	Blank contamination
92533252	B-119D	TDS	-	-	J	Lab duplicate RPD outside of acceptance limits

Abbreviations:
SDG : Sample delivery group
MDC : Minimum detectable concentration
RL : Reporting limit
MS/MSD: Matrix spike/matrix spike duplicate
RPD: Relative Percent Difference

Qualifiers:
U : Non-detect result
J: Estimated value
J+: Estimated value, high bias

APPENDIX A

Laboratory Accreditation

COMMONWEALTH of VIRGINIA

Department of General Services

Division of Consolidated Laboratory Services

600 North 5th Street
Richmond, Virginia 23219-3691
(804) 648-4480
FAX (804) 692-0416

06/10/2020

Craig Tronzo
Pace Analytical Services, LLC - Asheville NC
2225 Riverside Drive
Asheville NC 28804

VELAP ID: 460222

Dear Craig Tronzo:

The Division of Consolidated Laboratory Services (DCLS) has accredited Pace Analytical Services, LLC - Asheville NC pursuant to the provisions of 1VAC30-46 and The NELAC Institute (TNI) 2009 Standard. Certificate number 10807 and the corresponding Scope of Accreditation are enclosed. This certificate expires 06/14/2021. The certificate must be conspicuously displayed in the laboratory along with the associated Scope of Accreditation.

Please note that your laboratory is required to notify the Virginia Environmental Laboratory Accreditation Program (VELAP) in writing of any changes in key accreditation criteria within 30 calendar days of the change per 1VAC30-46-90 A. This requirement includes changes in ownership, location, key personnel, and major instrumentation.

To maintain accreditation, the laboratory must continue to comply with 1VAC30-46. This includes ongoing satisfactory proficiency testing. The method checklists used by VELAP in the on-site assessment process are available upon request as a supplement to internal audits.

Please direct all correspondences and questions regarding accreditation to your laboratory's lead assessor, Ila Meyer-Fritzsche, at ila.meyer-fritzsche@dgs.virginia.gov or (804) 648-4480 x306.

Sincerely yours,

Cathy Westerman
Manager, Laboratory Certification Program

Enclosures
cc: Felicia Grogan

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF GENERAL SERVICES
DIVISION OF CONSOLIDATED LABORATORY SERVICES

Certifies that

VA Laboratory ID#: 460222
Pace Analytical Services, LLC - Asheville NC

2225 Riverside Drive
Asheville, NC 28804

Owner: PAS PARENT, LLC
Operator: PACE ANALYTICAL SERVICES, LLC
Responsible Official: FELICIA GROGAN

Having met the requirements of 1 VAC 30-46 and
having been found compliant with the 2009 TNI Standard approved by The NELAC Institute
is hereby approved as an

Accredited Environmental Laboratory

As more fully described in the attached Scope of Accreditation

Effective Date: **June 15, 2020**
Expiration Date: **June 14, 2021**
Certificate # 10807

Denise M. Toney, Ph.D., HCLD
DGS Deputy Director for Laboratories

Continued accreditation status depends on successful ongoing participation in the program.
Certificate to be conspicuously displayed at the laboratory.
Not valid unless accompanied by a valid Virginia Environmental Laboratory Accreditation Program (VELAP) Scope of Accreditation.
Customers are urged to verify the laboratory's current accreditation status.

Certificate Not Transferable

Surrender Upon Revocation

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 10807

Pace Analytical Services, LLC - Asheville NC
2225 Riverside Drive
Asheville, NC 28804

Virginia Laboratory ID: 460222
Effective Date: June 15, 2020
Expiration Date: June 14, 2021

DRINKING WATER

METHOD	ANALYTE	PRIMARY
EPA 200.8 REV 5.4	COPPER	VA
EPA 353.2 REV 2 (AS LACHAT 10-107-04-1 A + C)	NITRATE AS N	VA
SM 2320 B-2011	ALKALINITY AS CACO3	VA
SM 9223 COLISURE®	TOTAL COLIFORMS	VA
EPA 200.8 REV 5.4	LEAD	VA
EPA 353.2 REV 2 (AS LACHAT 10-107-04-1-A)	NITRITE AS N	VA
SM 9223 COLISURE®	ESCHERICHIA COLI	VA

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 1010	FLASHPOINT	VA
EPA 160.4	RESIDUE-VOLATILE	VA
EPA 180.1 REV 2	TURBIDITY	VA
EPA 200.7 REV 4.4	ANTIMONY	VA
EPA 200.7 REV 4.4	BARIUM	VA
EPA 200.7 REV 4.4	BORON	VA
EPA 200.7 REV 4.4	CALCIUM	VA
EPA 200.7 REV 4.4	COBALT	VA
EPA 200.7 REV 4.4	IRON	VA
EPA 200.7 REV 4.4	MAGNESIUM	VA
EPA 200.7 REV 4.4	MOLYBDENUM	VA
EPA 200.7 REV 4.4	POTASSIUM	VA
EPA 200.7 REV 4.4	SILICA AS SIO2	VA
EPA 200.7 REV 4.4	SODIUM	VA
EPA 200.7 REV 4.4	TIN	VA
EPA 200.7 REV 4.4	VANADIUM	VA
EPA 200.8 REV 5.4	ALUMINUM	VA
EPA 200.8 REV 5.4	ARSENIC	VA
EPA 200.8 REV 5.4	BERYLLIUM	VA
EPA 200.8 REV 5.4	CHROMIUM	VA
EPA 200.8 REV 5.4	COPPER	VA
EPA 200.8 REV 5.4	MANGANESE	VA
EPA 200.8 REV 5.4	NICKEL	VA
EPA 200.8 REV 5.4	SILVER	VA
EPA 200.8 REV 5.4	VANADIUM	VA
EPA 200.8 REV 5.4 - EXTENDED	BORON	VA
EPA 200.8 REV 5.4 - EXTENDED	IRON	VA
EPA 200.8 REV 5.4 - EXTENDED	POTASSIUM	VA
EPA 120.1	CONDUCTIVITY	VA
EPA 1631 E	MERCURY	VA
EPA 200.7 REV 4.4	ALUMINUM	VA
EPA 200.7 REV 4.4	ARSENIC	VA
EPA 200.7 REV 4.4	BERYLLIUM	VA
EPA 200.7 REV 4.4	CADMIUM	VA
EPA 200.7 REV 4.4	CHROMIUM	VA
EPA 200.7 REV 4.4	COPPER	VA
EPA 200.7 REV 4.4	LEAD	VA
EPA 200.7 REV 4.4	MANGANESE	VA
EPA 200.7 REV 4.4	NICKEL	VA
EPA 200.7 REV 4.4	SELENIUM	VA
EPA 200.7 REV 4.4	SILVER	VA
EPA 200.7 REV 4.4	THALLIUM	VA
EPA 200.7 REV 4.4	TITANIUM	VA
EPA 200.7 REV 4.4	ZINC	VA
EPA 200.8 REV 5.4	ANTIMONY	VA
EPA 200.8 REV 5.4	BARIUM	VA
EPA 200.8 REV 5.4	CADMIUM	VA
EPA 200.8 REV 5.4	COBALT	VA
EPA 200.8 REV 5.4	LEAD	VA
EPA 200.8 REV 5.4	MOLYBDENUM	VA
EPA 200.8 REV 5.4	SELENIUM	VA
EPA 200.8 REV 5.4	THALLIUM	VA
EPA 200.8 REV 5.4	ZINC	VA
EPA 200.8 REV 5.4 - EXTENDED	CALCIUM	VA
EPA 200.8 REV 5.4 - EXTENDED	MAGNESIUM	VA
EPA 200.8 REV 5.4 - EXTENDED	SODIUM	VA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 10807

Pace Analytical Services, LLC - Asheville NC
2225 Riverside Drive
Asheville, NC 28804

Virginia Laboratory ID: 460222
Effective Date: June 15, 2020
Expiration Date: June 14, 2021

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 200.8 REV 5.4 - EXTENDED	TIN	VA
EPA 218.6 REV 3.3	CHROMIUM VI	VA
EPA 300.0 REV 2.1	BROMIDE	VA
EPA 300.0 REV 2.1	FLUORIDE	VA
EPA 300.0 REV 2.1	NITRATE/NITRITE	VA
EPA 300.0 REV 2.1	ORTHOPHOSPHATE AS P	VA
EPA 3005 A	PREP: ACID DIGESTION OF WATERS FOR TOTAL RECOVERABLE OR DISSOLVED METALS	VA
EPA 350.1 REV 2	AMMONIA AS N	VA
EPA 353.2 REV 2 (AS LACHAT 10-107-04-1 A + C)	NITRATE AS N	VA
EPA 353.2 REV 2 (AS LACHAT 10-107-04-1-A)	NITRITE AS N	VA
EPA 420.4 REV 1 (AS LACHAT 10-210-00-1-X)	TOTAL PHENOLICS	VA
EPA 6010 D	ANTIMONY	VA
EPA 6010 D	BARIUM	VA
EPA 6010 D	BORON	VA
EPA 6010 D	CALCIUM	VA
EPA 6010 D	COBALT	VA
EPA 6010 D	IRON	VA
EPA 6010 D	LITHIUM	VA
EPA 6010 D	MANGANESE	VA
EPA 6010 D	NICKEL	VA
EPA 6010 D	SELENIUM	VA
EPA 6010 D	SILVER	VA
EPA 6010 D	STRONTIUM	VA
EPA 6010 D	TIN	VA
EPA 6010 D	VANADIUM	VA
EPA 6010 D - EXTENDED	SILICON	VA
EPA 6020 B	ANTIMONY	VA
EPA 6020 B	BARIUM	VA
EPA 6020 B	CADMIUM	VA
EPA 6020 B	CHROMIUM	VA
EPA 6020 B	COPPER	VA
EPA 6020 B	LEAD	VA
EPA 6020 B	MANGANESE	VA

METHOD	ANALYTE	PRIMARY
EPA 200.8 REV 5.4 - EXTENDED	TITANIUM	VA
EPA 245.1 REV 3	MERCURY	VA
EPA 300.0 REV 2.1	CHLORIDE	VA
EPA 300.0 REV 2.1	NITRATE AS N	VA
EPA 300.0 REV 2.1	NITRITE AS N	VA
EPA 300.0 REV 2.1	SULFATE	VA
EPA 3010 A	PREP: ACID DIGESTION OF AQUEOUS SAMPLES AND EXTRACTS FOR TOTAL METALS	VA
EPA 351.2 REV 2 (AS LACHAT 10-107-06-2-D)	KJELDAHL NITROGEN - TOTAL (TKN)	VA
EPA 353.2 REV 2 (AS LACHAT 10-107-04-1-A)	NITRATE/NITRITE	VA
EPA 365.1 REV 2 (AS LACHAT 10-115-01-1-E)	PHOSPHORUS, TOTAL	VA
EPA 6010 D	ALUMINUM	VA
EPA 6010 D	ARSENIC	VA
EPA 6010 D	BERYLLIUM	VA
EPA 6010 D	CADMIUM	VA
EPA 6010 D	CHROMIUM	VA
EPA 6010 D	COPPER	VA
EPA 6010 D	LEAD	VA
EPA 6010 D	MAGNESIUM	VA
EPA 6010 D	MOLYBDENUM	VA
EPA 6010 D	POTASSIUM	VA
EPA 6010 D	SILICA AS SIO2	VA
EPA 6010 D	SODIUM	VA
EPA 6010 D	THALLIUM	VA
EPA 6010 D	TITANIUM	VA
EPA 6010 D	ZINC	VA
EPA 6020 B	ALUMINUM	VA
EPA 6020 B	ARSENIC	VA
EPA 6020 B	BERYLLIUM	VA
EPA 6020 B	CALCIUM	VA
EPA 6020 B	COBALT	VA
EPA 6020 B	IRON	VA
EPA 6020 B	MAGNESIUM	VA
EPA 6020 B	MOLYBDENUM	VA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 10807

Pace Analytical Services, LLC - Asheville NC
2225 Riverside Drive
Asheville, NC 28804

Virginia Laboratory ID: 460222
Effective Date: June 15, 2020
Expiration Date: June 14, 2021

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 6020 B	NICKEL	VA
EPA 6020 B	SELENIUM	VA
EPA 6020 B	SODIUM	VA
EPA 6020 B	TIN	VA
EPA 6020 B	ZINC	VA
EPA 6020 B - EXTENDED	BORON	VA
EPA 6020 B - EXTENDED	STRONTIUM	VA
EPA 6020 B - EXTENDED	URANIUM	VA
EPA 7470 A	MERCURY	VA
EPA 9012 B	TOTAL CYANIDE	VA
EPA 9056 A	BROMIDE	VA
EPA 9056 A	FLUORIDE	VA
EPA 9056 A	NITRITE AS N	VA
EPA 9056 A	SULFATE	VA
EPA 9060 A	TOTAL ORGANIC CARBON (TOC)	VA
LACHAT QUIKCHEM 10-204-00-1-X	CYANIDE	VA
SM 2340 B-2011	TOTAL HARDNESS AS CACO3	VA
SM 2540 C-2011	RESIDUE-FILTERABLE (TDS)	VA
SM 2540 F-2011	RESIDUE-SETTLEABLE	VA
SM 4500-CL^- E-2011	CHLORIDE	VA
SM 4500-P E-2011	ORTHOPHOSPHATE AS P	VA
SM 5210 B-2011	BIOCHEMICAL OXYGEN DEMAND (BOD)	VA
SM 5220 D-2011	CHEMICAL OXYGEN DEMAND (COD)	VA

METHOD	ANALYTE	PRIMARY
EPA 6020 B	POTASSIUM	VA
EPA 6020 B	SILVER	VA
EPA 6020 B	THALLIUM	VA
EPA 6020 B	VANADIUM	VA
EPA 6020 B - EXTENDED	BISMUTH	VA
EPA 6020 B - EXTENDED	LITHIUM	VA
EPA 6020 B - EXTENDED	TITANIUM	VA
EPA 7196 A	CHROMIUM VI	VA
EPA 9010 C	PREP: CYANIDE DISTILLATION	VA
EPA 9040 C	PH	VA
EPA 9056 A	CHLORIDE	VA
EPA 9056 A	NITRATE AS N	VA
EPA 9056 A	ORTHOPHOSPHATE AS P	VA
EPA 9056 A - EXTENDED	NITRATE/NITRITE	VA
EPA 9095 B	FREE LIQUID	VA
SM 2320 B-2011	ALKALINITY AS CACO3	VA
SM 2540 B-2011	RESIDUE-TOTAL (TS)	VA
SM 2540 D-2011	RESIDUE-NONFILTERABLE (TSS)	VA
SM 3500-CR B-2011	CHROMIUM VI	VA
SM 4500-CN^- E-2011	CYANIDE	VA
SM 4500-$S2^-$ D-2011	SULFIDE	VA
SM 5210 B-2011	CARBONACEOUS BOD (CBOD)	VA
SM 5310 B-2011	TOTAL ORGANIC CARBON (TOC)	VA

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 1010 A	FLASHPOINT	VA
EPA 1312	PREP: SYNTHETIC PRECIPITATION LEACHING PROCEDURE	VA
EPA 3050 B	PREP: ACID DIGESTION OF SEDIMENTS, SLUDGES, AND SOILS	VA
EPA 6010 D	ANTIMONY	VA
EPA 6010 D	BARIUM	VA
EPA 6010 D	BORON	VA
EPA 6010 D	CALCIUM	VA
EPA 6010 D	COBALT	VA
EPA 6010 D	IRON	VA

METHOD	ANALYTE	PRIMARY
EPA 1311	PREP: TOXICITY CHARACTERISTIC LEACHING PROCEDURE	VA
EPA 3010 A	PREP: ACID DIGESTION OF AQUEOUS SAMPLES AND EXTRACTS FOR TOTAL METALS	VA
EPA 6010 D	ALUMINUM	VA
EPA 6010 D	ARSENIC	VA
EPA 6010 D	BERYLLIUM	VA
EPA 6010 D	CADMIUM	VA
EPA 6010 D	CHROMIUM	VA
EPA 6010 D	COPPER	VA
EPA 6010 D	LEAD	VA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 10807

Pace Analytical Services, LLC - Asheville NC
2225 Riverside Drive
Asheville, NC 28804

Virginia Laboratory ID: 460222
Effective Date: June 15, 2020
Expiration Date: June 14, 2021

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 6010 D	MAGNESIUM	VA
EPA 6010 D	MOLYBDENUM	VA
EPA 6010 D	POTASSIUM	VA
EPA 6010 D	SILVER	VA
EPA 6010 D	STRONTIUM	VA
EPA 6010 D	TITANIUM	VA
EPA 6010 D	ZINC	VA
EPA 7471 B	MERCURY	VA
EPA 9060	TOTAL ORGANIC CARBON (TOC)	VA
EPA 9065	TOTAL PHENOLICS	VA
EPA 6010 D	MANGANESE	VA
EPA 6010 D	NICKEL	VA
EPA 6010 D	SELENIUM	VA
EPA 6010 D	SODIUM	VA
EPA 6010 D	THALLIUM	VA
EPA 6010 D	VANADIUM	VA
EPA 6010 D - EXTENDED	SILICON	VA
EPA 9045 D	PH	VA
EPA 9060 A	TOTAL ORGANIC CARBON (TOC)	VA
EPA 9095 B	FREE LIQUID	VA

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 - GENERAL CHEMISTRY, NON-POTABLE WATER - METALS, NON-POTABLE WATER - MICROBIOLOGY, SOLID AND CHEMICAL MATERIALS - GENERAL CHEMISTRY, SOLID AND CHEMICAL MATERIALS - METALS, SOLID AND CHEMICAL MATERIALS - MICROBIOLOGY

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: October 06, 2020 Expiration Date: June 30, 2021

Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04
NON-TRANSFERABLE E87315-49-10/06/2020
Supersedes all previously issued certificates

Laboratory Scope of Accreditation

Attachment to Certificate #: E87315-49, expiration date June 30, 2021. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E87315** EPA Lab Code: **GA00051** **(770) 734-4200**

E87315
Pace Analytical Services, LLC- Atlanta GA
110 Technology Parkway
Peachtree Corners, GA 30092

Matrix: **Drinking Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Color	SM 2120 B	Secondary Inorganic Contaminants	NELAP	4/10/2002
Escherichia coli	SM 9223 B	Microbiology	NELAP	4/10/2002
Escherichia coli	SM 9223 B /QUANTI-TRAY	Microbiology	NELAP	11/4/2010
Heterotrophic plate count	SIMPLATE	Microbiology	NELAP	5/29/2012
Nitrate	EPA 353.2	Primary Inorganic Contaminants	NELAP	4/17/2020
Nitrite	EPA 353.2	Primary Inorganic Contaminants	NELAP	4/17/2020
Orthophosphate as P	SM 4500-P E	Primary Inorganic Contaminants	NELAP	4/10/2002
pH	SM 4500-H+-B	Primary Inorganic Contaminants,Secondary Inorganic Contaminants	NELAP	4/10/2002
Residual free chlorine	SM 4500-Cl G	Primary Inorganic Contaminants	NELAP	11/4/2010
Total coliforms	SM 9223 B	Microbiology	NELAP	4/10/2002
Total coliforms	SM 9223 B /QUANTI-TRAY	Microbiology	NELAP	11/4/2010
Total nitrate-nitrite	EPA 353.2	Primary Inorganic Contaminants	NELAP	4/17/2020
Total residual chlorine	SM 4500-Cl G	Primary Inorganic Contaminants	NELAP	11/4/2010
Turbidity	EPA 180.1	Secondary Inorganic Contaminants	NELAP	4/10/2002

Laboratory Scope of Accreditation

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State Laboratory ID: **E87315** EPA Lab Code: **GA00051** **(770) 734-4200**

E87315
Pace Analytical Services, LLC- Atlanta GA
110 Technology Parkway
Peachtree Corners, GA 30092

Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Aluminum	EPA 200.7	Metals	NELAP	4/10/2002
Aluminum	EPA 200.8	Metals	NELAP	8/30/2004
Aluminum	EPA 6010	Metals	NELAP	7/1/2003
Aluminum	EPA 6020	Metals	NELAP	8/30/2004
Amenable cyanide	EPA 9010/9014	General Chemistry	NELAP	7/1/2003
Amenable cyanide	SM 4500-CN- G	General Chemistry	NELAP	10/15/2007
Antimony	EPA 200.7	Metals	NELAP	4/10/2002
Antimony	EPA 200.8	Metals	NELAP	8/30/2004
Antimony	EPA 6010	Metals	NELAP	7/1/2003
Antimony	EPA 6020	Metals	NELAP	8/30/2004
Arsenic	EPA 200.7	Metals	NELAP	4/10/2002
Arsenic	EPA 200.8	Metals	NELAP	8/30/2004
Arsenic	EPA 6010	Metals	NELAP	4/10/2002
Arsenic	EPA 6020	Metals	NELAP	8/30/2004
Barium	EPA 200.7	Metals	NELAP	4/10/2002
Barium	EPA 200.8	Metals	NELAP	8/30/2004
Barium	EPA 6010	Metals	NELAP	7/1/2003
Barium	EPA 6020	Metals	NELAP	8/30/2004
Beryllium	EPA 200.7	Metals	NELAP	4/10/2002
Beryllium	EPA 200.8	Metals	NELAP	8/30/2004
Beryllium	EPA 6010	Metals	NELAP	7/1/2003
Beryllium	EPA 6020	Metals	NELAP	8/30/2004
Biochemical oxygen demand	SM 5210 B	General Chemistry	NELAP	4/10/2002
Boron	EPA 200.7	Metals	NELAP	4/10/2002
Boron	EPA 200.8	Metals	NELAP	11/6/2014
Boron	EPA 6010	Metals	NELAP	7/1/2003
Boron	EPA 6020	Metals	NELAP	8/30/2004
Cadmium	EPA 200.7	Metals	NELAP	4/10/2002
Cadmium	EPA 200.8	Metals	NELAP	8/30/2004
Cadmium	EPA 6010	Metals	NELAP	4/10/2002
Cadmium	EPA 6020	Metals	NELAP	8/30/2004
Calcium	EPA 200.7	Metals	NELAP	4/10/2002
Calcium	EPA 200.8	Metals	NELAP	11/6/2014
Calcium	EPA 6010	Metals	NELAP	7/1/2003
Calcium	EPA 6020	Metals	NELAP	8/30/2004
Carbonaceous BOD (CBOD)	SM 5210 B	General Chemistry	NELAP	4/10/2002

Laboratory Scope of Accreditation

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State Laboratory ID: **E87315** EPA Lab Code: **GA00051** **(770) 734-4200**

E87315
Pace Analytical Services, LLC- Atlanta GA
110 Technology Parkway
Peachtree Corners, GA 30092

Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Chromium	EPA 200.7	Metals	NELAP	4/10/2002
Chromium	EPA 200.8	Metals	NELAP	8/30/2004
Chromium	EPA 6010	Metals	NELAP	7/1/2003
Chromium	EPA 6020	Metals	NELAP	8/30/2004
Chromium VI	SM 3500-Cr B (20th/21st/22nd Ed.)/UV-VIS	General Chemistry	NELAP	7/28/2009
Cobalt	EPA 200.7	Metals	NELAP	4/10/2002
Cobalt	EPA 200.8	Metals	NELAP	8/30/2004
Cobalt	EPA 6010	Metals	NELAP	7/1/2003
Cobalt	EPA 6020	Metals	NELAP	8/30/2004
Color	SM 2120 B	General Chemistry	NELAP	4/10/2002
Copper	EPA 200.7	Metals	NELAP	4/10/2002
Copper	EPA 200.8	Metals	NELAP	8/30/2004
Copper	EPA 6010	Metals	NELAP	4/10/2002
Copper	EPA 6020	Metals	NELAP	8/30/2004
Corrosivity (pH)	EPA 9040	General Chemistry	NELAP	7/1/2003
Cyanide	SM 4500-CN E	General Chemistry	NELAP	10/15/2007
Escherichia coli	SM 9223 B /QUANTI-TRAY	Microbiology	NELAP	11/4/2010
Fecal coliforms	COLILERT®-18 (Fecal Coliforms)	Microbiology	NELAP	11/6/2014
Fecal coliforms	SM 9222 D	Microbiology	NELAP	2/21/2002
Hardness	SM 2340 B	General Chemistry	NELAP	7/28/2009
Hardness (calc.)	EPA 200.7	Metals	NELAP	6/6/2002
Heterotrophic plate count	SIMPLATE	Microbiology	NELAP	5/29/2012
Iron	EPA 200.7	Metals	NELAP	4/10/2002
Iron	EPA 200.8	Metals	NELAP	11/6/2014
Iron	EPA 6010	Metals	NELAP	7/1/2003
Iron	EPA 6020	Metals	NELAP	8/30/2004
Iron	SM 3500-Fe D (18th/19th Ed.)/UV-VIS	General Chemistry	NELAP	2/5/2002
Iron-(II) (Ferrous Iron)	SM 3500-Fe B (20th/21st Ed.)/UV-VIS	General Chemistry	NELAP	7/28/2009
Lead	EPA 200.7	Metals	NELAP	4/10/2002
Lead	EPA 200.8	Metals	NELAP	8/30/2004
Lead	EPA 6010	Metals	NELAP	4/10/2002
Lead	EPA 6020	Metals	NELAP	8/30/2004
Lithium	EPA 200.8	Metals	NELAP	10/6/2016

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E87315
Pace Analytical Services, LLC- Atlanta GA
110 Technology Parkway
Peachtree Corners, GA 30092

Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Lithium	EPA 6020	Metals	NELAP	10/6/2016
Magnesium	EPA 200.7	Metals	NELAP	4/10/2002
Magnesium	EPA 200.8	Metals	NELAP	11/6/2014
Magnesium	EPA 6010	Metals	NELAP	7/1/2003
Magnesium	EPA 6020	Metals	NELAP	8/30/2004
Manganese	EPA 200.7	Metals	NELAP	4/10/2002
Manganese	EPA 200.8	Metals	NELAP	8/30/2004
Manganese	EPA 6010	Metals	NELAP	7/1/2003
Manganese	EPA 6020	Metals	NELAP	8/30/2004
Mercury	EPA 245.1	Metals	NELAP	4/10/2002
Mercury	EPA 7470	Metals	NELAP	4/10/2002
Molybdenum	EPA 200.7	Metals	NELAP	4/10/2002
Molybdenum	EPA 200.8	Metals	NELAP	8/30/2004
Molybdenum	EPA 6010	Metals	NELAP	4/10/2002
Molybdenum	EPA 6020	Metals	NELAP	8/30/2004
Nickel	EPA 200.7	Metals	NELAP	4/10/2002
Nickel	EPA 200.8	Metals	NELAP	8/30/2004
Nickel	EPA 6010	Metals	NELAP	4/10/2002
Nickel	EPA 6020	Metals	NELAP	8/30/2004
Nitrate as N	EPA 353.2	General Chemistry	NELAP	4/17/2020
Nitrate-nitrite	EPA 353.2	General Chemistry	NELAP	4/17/2020
Nitrite as N	EPA 353.2	General Chemistry	NELAP	4/17/2020
Orthophosphate as P	SM 4500-P E	General Chemistry	NELAP	4/10/2002
Oxygen, dissolved	ASTM D888-09C	General Chemistry	NELAP	11/6/2014
Oxygen, dissolved	SM 4500-O G	General Chemistry	NELAP	4/10/2002
pH	EPA 9040	General Chemistry	NELAP	7/1/2003
pH	SM 4500-H+-B	General Chemistry	NELAP	10/15/2007
Phosphorus, total	EPA 200.7	Metals	NELAP	9/27/2002
Phosphorus, total	EPA 6010	Metals	NELAP	7/1/2003
Potassium	EPA 200.7	Metals	NELAP	4/10/2002
Potassium	EPA 200.8	Metals	NELAP	11/6/2014
Potassium	EPA 6010	Metals	NELAP	4/10/2002
Potassium	EPA 6020	Metals	NELAP	8/30/2004
Residual free chlorine	SM 4500-Cl G	General Chemistry	NELAP	11/4/2010
Residue-filterable (TDS)	SM 2540 C	General Chemistry	NELAP	10/15/2007
Residue-nonfilterable (TSS)	SM 2540 D	General Chemistry	NELAP	10/15/2007

Laboratory Scope of Accreditation

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State Laboratory ID: **E87315** EPA Lab Code: **GA00051** **(770) 734-4200**

E87315
Pace Analytical Services, LLC- Atlanta GA
110 Technology Parkway
Peachtree Corners, GA 30092

Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Residue-settleable	SM 2540 F	General Chemistry	NELAP	10/15/2007
Residue-total	SM 2540 B	General Chemistry	NELAP	10/15/2007
Residue-volatile	SM 2540 E	General Chemistry	NELAP	10/6/2016
Selenium	EPA 200.7	Metals	NELAP	4/10/2002
Selenium	EPA 200.8	Metals	NELAP	8/30/2004
Selenium	EPA 6010	Metals	NELAP	4/10/2002
Selenium	EPA 6020	Metals	NELAP	8/30/2004
Silicon	EPA 200.7	Metals	NELAP	4/10/2002
Silicon	EPA 6010	Metals	NELAP	7/1/2003
Silver	EPA 200.7	Metals	NELAP	4/10/2002
Silver	EPA 200.8	Metals	NELAP	8/30/2004
Silver	EPA 6010	Metals	NELAP	7/1/2003
Silver	EPA 6020	Metals	NELAP	8/30/2004
Sodium	EPA 200.7	Metals	NELAP	4/10/2002
Sodium	EPA 200.8	Metals	NELAP	11/6/2014
Sodium	EPA 6010	Metals	NELAP	7/1/2003
Sodium	EPA 6020	Metals	NELAP	8/30/2004
Strontium	EPA 200.7	Metals	NELAP	9/27/2002
Strontium	EPA 6010	Metals	NELAP	7/1/2003
Strontium	EPA 6020	Metals	NELAP	8/30/2004
Thallium	EPA 200.7	Metals	NELAP	4/10/2002
Thallium	EPA 200.8	Metals	NELAP	8/30/2004
Thallium	EPA 6010	Metals	NELAP	7/1/2003
Thallium	EPA 6020	Metals	NELAP	8/30/2004
Tin	EPA 200.7	Metals	NELAP	4/10/2002
Tin	EPA 200.8	Metals	NELAP	11/6/2014
Tin	EPA 6010	Metals	NELAP	7/1/2003
Tin	EPA 6020	Metals	NELAP	8/30/2004
Titanium	EPA 200.7	Metals	NELAP	4/10/2002
Titanium	EPA 200.8	Metals	NELAP	11/6/2014
Titanium	EPA 6010	Metals	NELAP	7/1/2003
Titanium	EPA 6020	Metals	NELAP	8/30/2004
Total coliforms	SM 9223 B /QUANTI-TRAY	Microbiology	NELAP	11/4/2010
Total cyanide	EPA 9010/9014	General Chemistry	NELAP	7/1/2003
Total residual chlorine	SM 4500-Cl G	General Chemistry	NELAP	11/4/2010
Total, fixed, and volatile residue	SM 2540 G	General Chemistry	NELAP	9/27/2002

Laboratory Scope of Accreditation

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State Laboratory ID: **E87315** EPA Lab Code: **GA00051** **(770) 734-4200**

E87315
Pace Analytical Services, LLC- Atlanta GA
110 Technology Parkway
Peachtree Corners, GA 30092

Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Turbidity	EPA 180.1	General Chemistry	NELAP	4/10/2002
Vanadium	EPA 200.7	Metals	NELAP	4/10/2002
Vanadium	EPA 200.8	Metals	NELAP	8/30/2004
Vanadium	EPA 6010	Metals	NELAP	7/1/2003
Vanadium	EPA 6020	Metals	NELAP	8/30/2004
Zinc	EPA 200.7	Metals	NELAP	4/10/2002
Zinc	EPA 200.8	Metals	NELAP	8/30/2004
Zinc	EPA 6010	Metals	NELAP	4/10/2002
Zinc	EPA 6020	Metals	NELAP	8/30/2004

Laboratory Scope of Accreditation

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E87315
Pace Analytical Services, LLC- Atlanta GA
110 Technology Parkway
Peachtree Corners, GA 30092

Matrix: **Solid and Chemical Materials**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Aluminum	EPA 6010	Metals	NELAP	4/10/2002
Antimony	EPA 6010	Metals	NELAP	4/10/2002
Arsenic	EPA 6010	Metals	NELAP	4/10/2002
Barium	EPA 6010	Metals	NELAP	4/10/2002
Beryllium	EPA 6010	Metals	NELAP	4/10/2002
Boron	EPA 6010	Metals	NELAP	4/10/2002
Cadmium	EPA 6010	Metals	NELAP	4/10/2002
Calcium	EPA 6010	Metals	NELAP	4/10/2002
Chromium	EPA 6010	Metals	NELAP	4/10/2002
Cobalt	EPA 6010	Metals	NELAP	4/10/2002
Copper	EPA 6010	Metals	NELAP	4/10/2002
Fecal coliforms	SM 9222 D	Microbiology	NELAP	7/28/2009
Fixed Residue	SM 2540 G-2011	General Chemistry	NELAP	10/1/2020
Iron	EPA 6010	Metals	NELAP	4/10/2002
Lead	EPA 6010	Metals	NELAP	4/10/2002
Magnesium	EPA 6010	Metals	NELAP	4/10/2002
Manganese	EPA 6010	Metals	NELAP	4/10/2002
Mercury	EPA 7471	Metals	NELAP	4/10/2002
Molybdenum	EPA 6010	Metals	NELAP	4/10/2002
Nickel	EPA 6010	Metals	NELAP	4/10/2002
pH	EPA 9045	General Chemistry	NELAP	4/10/2002
Phosphorus, total	EPA 6010	Metals	NELAP	4/10/2002
Potassium	EPA 6010	Metals	NELAP	4/10/2002
Residue-total	SM 2540 G-2011	General Chemistry	NELAP	10/1/2020
Residue-volatile	SM 2540 G-2011	General Chemistry	NELAP	10/1/2020
Selenium	EPA 6010	Metals	NELAP	4/10/2002
Silicon	EPA 6010	Metals	NELAP	4/10/2002
Silver	EPA 6010	Metals	NELAP	4/10/2002
Sodium	EPA 6010	Metals	NELAP	7/9/2002
Strontium	EPA 6010	Metals	NELAP	4/10/2002
Thallium	EPA 6010	Metals	NELAP	4/10/2002
Tin	EPA 6010	Metals	NELAP	4/10/2002
Titanium	EPA 6010	Metals	NELAP	9/27/2002
Toxicity Characteristic Leaching Procedure (TCLP)	EPA 1311	General Chemistry	NELAP	4/10/2002
Vanadium	EPA 6010	Metals	NELAP	4/10/2002
Zinc	EPA 6010	Metals	NELAP	4/10/2002

APPENDIX B

WELL INSTALLATION REPORT(S)

November 23, 2020 Project No. 166849618

Mr. Joju Abraham, PG
Southern Company Services
241 Ralph McGill Blvd NE
Atlanta, GA 30308
jabraham@southernco.com

PIEZOMETER INSTALLATION REPORT (B-99 THROUGH B-100)
GEORGIA POWER COMPANY – PLANT MCDONOUGH, SMYRNA, GEORGIA

Dear Mr. Abraham,

Golder Associates Inc. (Golder) is submitting this *Piezometer Installation Report* to Southern Company Services, Inc. (SCS) and Georgia Power Company (GPC), which documents the construction of piezometers at Plant McDonough in Smyrna, Georgia (Site). Piezometer construction activities were performed in general accordance with the standards described in the Resource Conservation and Recovery Act (RCRA) Technical Enforcement Guidance Document (1986) and the Georgia Water Wells Standards Act of 1985. The installation of the piezometers was conducted under the oversight and direction of Timothy I. Richards, a Georgia Registered Professional Geologist (PG).

The field activities for this investigation were performed in July 2020. The field work consisted of the installation and development of two (2) piezometers. Metro conducted a survey of the installed piezometers between June and July 2020. A summary of the activities is presented below. Figure 1, Site Plan and Piezometer Location Map, presents the location of each of the newly installed piezometers.

Piezometer Drilling and Construction Activities

Piezometers B-99 and B-100 were drilled and installed by SCS at the Site in July 2020. SCS had a current and valid bond with the Water Wells Standards Advisory Council for the state of Georgia at the time of drilling and well installation. A copy of SCS's bond is included in Appendix A and the driller's name is provided on the boring/construction diagrams presented in Appendix B.

An experienced Golder geologist was present on site to oversee and record the drilling and piezometer construction under the supervision of a professional geologist registered to practice in Georgia (Timothy I. Richards). Drilling methods employed for borehole advancement were 4.25' Hollow Stem auger drilling techniques with split-spoon sampling for soil borings where applicable. The drilling equipment consisted of a full-sized CME 550 ATV-mounted drilling rig and 4.25-inch hollow stem augers (HSAs). Prior to use, and between boreholes, downhole equipment was steam cleaned.

As both piezometers were installed above bedrock, rock cores were not collected. Due to the shallow depth of the water table, B-99 was advanced to depth using only 4.25-inch HSAs. B-100 was advanced by 4.25-inch HSA, with

2-foot split spoon samples collected on 5-foot centers. Boring logs and piezometer construction records for the newly installed piezometers are included in Appendix B. The construction data are summarized in Table 1 and the locations of the piezometers are provided on Figure 1.

Piezometers were constructed within the boreholes using factory-cleaned and sealed Schedule 40 poly-vinyl chloride (PVC) products with flush-threaded fittings. Specifically, piezometer B-99 was constructed with a 5-foot section of 3-inch outer diameter (OD) and 2-inch inner diameter (ID), flush-threaded, 0.010-inch factory-slotted PVC U-Pack screens. Piezometer B-100 was constructed with a 10-foot section of 3-inch outer diameter (OD) and 2-inch inner diameter (ID), flush-threaded, 0.010-inch factory-slotted PVC U-Pack screens The drillers filled the annulus of each U-Pack screen section with No. 1 filter sand. In each case, the screen was placed near the bottom of the borehole, with the remainder of the piezometer constructed from 10-foot sections of 2-inch ID, flush-threaded, PVC casing riser. A flush-threaded PVC end cap was placed on the bottom of each piezometer to provide a 0.4-foot sump/sediment trap. Piezometers B-99 was installed as a flush-mounted wells and extends approximately 2.52 inches above grade; B-100 was completed as a “stick-up” and extends approximately 31.44 inches above grade. The PVC products used were American Society for Testing and Materials (ASTM) and National Sanitation Foundation (NSF)-rated.

Following placement of the screen and casing, the annular space in each borehole adjacent to the screen was filled with U.S. Standard Sieve size No. 1 filter pack sand as appropriate for the formation. The filter pack sand was placed into each borehole and extends approximately 2 feet above the depth of the top of the screen. Immediately following placement of the filter pack, each piezometer was pumped using a portable submersible pump until visibly clear water was discharged. If settling occurred during pumping, additional sand was placed so that the filter sand thickness was no less than 2 feet above the screen. A filter pack seal, composed of 2 to 3 feet of hydrated time-release 3/8” coated bentonite pellets, was then placed on top of the filter pack by slowly pouring the material down the boreholes tamping it into place. The bentonite was hydrated using potable water and allowed to cure for at least two hours prior to grouting the piezometers.

Following hydration of the bentonite, the remaining annular space was grouted with an AquaGuard® bentonite grout mixture to approximately 2 feet below ground surface using a tremie method. Based on information provided by the product manufacturer, AquaGuard® is a bentonite grout consisting of bentonite and additives that allow for a mixture of 30% solids by weight to facilitate grouting via tremie pipe, with additives that slow the bentonite curing so that proper placement can be achieved. B-99 surface piezometer surface completion consists of an 8-inch round flush mount with a 2-foot by 2-foot concrete pad. B-100 piezometer surface completion consists of a locked, aluminum protective casing and a 4-foot by 4-foot by 4-inch concrete pad with bollards. The annular space of the aluminum protective casing was filled with gravel to approximately 2 inches from top of PVC.

Piezometer Development Activities

The newly installed piezometers were developed in July 2020 in accordance with the Monitoring Well Development Procedures, dated March 2016, prepared by SCS. The piezometer screen intervals were surged and then pumped using a Reclaimer pump system. During development, water quality measurements of pH, temperature, specific conductance, and turbidity were periodically collected using field-calibrated water quality equipment after the piezometer responded to improving conditions. Development activities were conducted utilizing a SmarTroll® multimeter and a Lamotte 2020 turbidimeter, and for monitoring water quality measurements. Equipment calibration forms and development forms are included in Appendix B with development details summarized in Table 2.

As presented in Table 2, between approximately 290 gallons were removed from B-99 and approximately 600 gallons were removed from B-100 during development. During development, attempts were made for each piezometer to achieve a turbidity value below approximately 10 nephelometric turbidity units (NTUs). Water level measurements were collected using a decontaminated electronic water level indicator, referenced to a notch (or permanent marking) at the top of the casing and recorded to within 0.01 foot.

Piezometer Survey

The newly installed piezometers were surveyed in July 2020 by Metro Engineering & Surveying Co., Inc. (James R. Green). Surveyed locations and elevations are presented on the boring/construction diagrams and a site map showing the locations of the newly installed piezometers is presented on Figure 1. The certified well survey is attached as Appendix C.

We appreciate the opportunity to assist SCS and GPC with this project. Should you have any questions or require additional information, please contact the undersigned at (770) 496-1893.

Sincerely,

Golder Associates Inc.

Brian A. Steele, PG
Senior Project Geologist

Timothy I. Richards, PG
Associate, Senior Consultant

BAS/TIR

CC: Georgia Power Company - Plant McDonough
Ben Hodges, Geologist, Georgia Power Company
Dawn L. Prell - Golder
Rachel P. Kirkman, PG - Golder

Attachments: Figure 1 - Site Plan and Piezometer Location Map
Table 1 - Summary of Piezometer Construction Details
Table 2 - Summary of Piezometer Development Data
Appendix A - SCS Drilling Bond
Appendix B - Boring Logs/Construction Diagrams, Development Forms, and Calibration Logs
Appendix C – Survey Data

https://golderassociates.sharepoint.com/sites/11950g/Shared Documents/200_Reports_Technical Work/Well Installation Reports/B99-B100 Piezometer Installation 7.2020/Plant McDonough Piezometer_B-99-B-100_Install Report - Final.docx

FIGURE 1

SITE PLAN AND PIEZOMETER LOCATION MAP

LEGEND

- PIEZOMETER
- PROPERTY BOUNDARY
- PERMIT BOUNDARY

NOTES

1. ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE

REFERENCE

1. SERVICE LAYER CREDITS: SOURCE: ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

2. COORDINATE SYSTEM: NAD 1983 STATE PLANE GEORGIA WEST (U.S. FEET).

3. MONITORING WELL/PIEZOMETER LOCATIONS SURVEYED BY METRO ENGINEERING

0 600 1,200

1 IN= 600 FT

CLIENT
GEORGIA POWER COMPANY
PLANT MCDONOUGH

PROJECT
B-99 THROUGH B-100 PIEZOMETER INSTALLATION

TITLE
SITE PLAN AND PIEZOMETER LOCATION MAP

CONSULTANT

GOLDER

YYYY-MM-DD	2020-09-22
PREPARED	BAS
DESIGN	BAS
REVIEW	DP/RK
APPROVED	

PROJECT No. 166849618

Rev. 0

FIGURE 1

Path: C:\Users\bstelele\Desktop\McDonough GIS - Other\Well Reports\B-99 to B-100.mxd

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET HAS BEEN MODIFIED FROM ANSI B

TABLE 1

SUMMARY OF PIEZOMETER CONSTRUCTION DETAILS

TABLE 1
SUMMARY OF PIEZOMETER CONSTRUCTION DETAILS
Georgia Power Company - Plant McDonough
Smyrna, Georgia

Borehole ID	LATITUDE	LONGITUDE	NAD 83 NORTHING	NAD 83 EASTING	ELEVATION TOP OF PVC (feet NAVD88)	ELEVATION GROUND SURFACE (feet NAVD88)	Rock Type	Total Depth (feet bgs)	Depth to Bedrock (feet bgs)	Screened Interval (feet bgs)	Core Available	Water Level (feet bTOC)	Date Installed
B-99	33.833247	-84.474573	1394524.2	2203084.5	782.39	782.6	NA	12.30	NA	7.3-12.3	NA	5.93	7/7/2020
B-100	33.821507	-84.477304	1390254.8	2202242.1	777.95	775.3	NA	45.00	NA	34.8-44.8	NA	34.78	7/8/2020

Notes:
NAD - North American Datum
NAVD88 - North American Vertical Datum 1988
NA - Not Available
bgs - Below ground surface
bTOC - Below Top of Casing

TABLE 2

SUMMARY OF PIEZOMETER DEVELOPMENT DATA

Table 2
Summary of Piezometer Development
Georgia Power Company - Plant McDonough
Smyrna, Georgia

Piezometer ID	Date Started	Time Started (hr:min)	Development Method	Measured Total Depth of Well (ft bTOC)	Initial Water level (ft bTOC)	Final Water Level (ft bTOC)	Volume of Casing (gal)	Total Volume Removed (gal)	pH (SU)	Specific Conductance (mS/cm)	Temp (°C)	Turbidity (NTU)	ORP (mV)	DO (mg/L)
B-99	7/16/2020	17:45	Reclaimer Pump	11.93	3.55	6.40	1.4	291.6	6.06	1.052	21.71	2.11	65.28	4.53
B-100	7/14/2020	13:50	Reclaimer Pump	47.58	34.65	36.40	2.1	603.3	5.42	0.968	23.41	5.78	89.19	1.88

Notes:
hr:min - hours:minutes
ft bTOC - feet below Top of Casing
gal - gallons
SU - Standard Units
mS/cm - millisiemens per centimeter
°C - degrees Celcius
NTU - nephelometric turbidity units
mV - millivolts
mg/L - milligrams per liter
ORP - oxygen reduction potential
DO - dissolved oxygen

GOLDER

APPENDIX A

SCS DRILLING BONDS

CONTINUATION
CERTIFICATE

SAFECO Insurance Company of America , Surety upon

a certain Bond No. **4993104**

dated effective June 30, 1987
(MONTH-DAY-YEAR)

on behalf of Southern Company Services, Inc.
(PRINCIPAL)

and in favor of Georgia Department of Natural Resources, Environmental Protection Division
(OBLIGEE)

does hereby continue said bond in force for the further period

beginning on June 30, 2019
(MONTH-DAY-YEAR)

and ending on June 30, 2020
(MONTH-DAY-YEAR)

Amount of bond Fifteen Thousand Dollars and 00/100 ($15,000.00)

Description of bond Water Well Contractors & Drillers

Premium: $100.00

PROVIDED: That this continuation certificate does not create a new obligation and is executed upon the express condition and provision that the Surety's liability under said bond and this and all Continuation Certificates issued in connection therewith shall not be cumulative and that the said Surety's aggregate liability under said bond and this and all such Continuation Certificates on account of all defaults committed during the period (regardless of the number of years) said bond had been and shall be in force, shall not in any event exceed the amount of said bond as hereinbefore set forth.

Signed and dated on 11/10/2020
(MONTH-DAY-YEAR)
SAFECO Insurance Company of America
175 Berkeley Street, Boston, MA 02116

By
Attorney-in-Fact Jeffrey M. Wilson, Attorney-in-Fact

McGriff, Seibels & Williams, Inc.
Agent
2211 7th Avenue South, Birmingham, AL 35233
Address of Agent
(205) 252-9871
Telephone Number of Agent

S-0157/GE 8/08

XDP

Liberty Mutual SURETY

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

American States Insurance Company
First National Insurance Company of America
General Insurance Company of America
Safeco Insurance Company of America

Certificate No: **8201221-016032**

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That American States Insurance Company is a corporation duly organized under the laws of the State of Indiana, that First National Insurance Company of America, General Insurance Company of America, and Safeco Insurance Company of America are corporations duly organized under the laws of the State of New Hampshire (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Anna Childress; Richard H. Mitchell; Sam Audia; Mark W. Edwards, II; Alisa B. Ferris; Robert R. Freel; William M. Smith; Jeffrey M. Wilson

all of the city of Birmingham state of AL each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 8th day of May, 2019.

American States Insurance Company
First National Insurance Company of America
General Insurance Company of America
Safeco Insurance Company of America

By: _____
David M. Carey, Assistant Secretary

State of PENNSYLVANIA
County of MONTGOMERY ss

On this 8th day of May, 2019 before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of American States Insurance Company, First National Insurance Company of America, General Insurance Company of America, and Safeco Insurance Company of America, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Upper Merion Twp., Montgomery County
My Commission Expires March 28, 2021
Member, Pennsylvania Association of Notaries

By: _____
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-law and Authorizations of American States Insurance Company, First National Insurance Company of America, General Insurance Company of America, and Safeco Insurance Company of America, which are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS: Section 12. Power of Attorney.
Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorney-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, of American States Insurance Company, First National Insurance Company of America, General Insurance Company of America, and Safeco Insurance Company of America do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 10th day of November, 2020.

By: _____
Renee C. Llewellyn, Assistant Secretary

LMS-12874 ASIC FNICA GICA SICA_062018

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.

CONTINUATION
CERTIFICATE

SAFECO Insurance Company of America , Surety upon

a certain Bond No. **4993104**

dated effective June 30, 1987
(MONTH-DAY-YEAR)

on behalf of Southern Company Services, Inc.
(PRINCIPAL)

and in favor of Georgia Department of Natural Resources, Environmental Protection Division
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beginning on June 30, 2020
(MONTH-DAY-YEAR)

and ending on June 30, 2021
(MONTH-DAY-YEAR)

Amount of bond Fifteen Thousand Dollars and 00/100 ($15,000.00)

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Signed and dated on 11/10/2020
(MONTH-DAY-YEAR)

SAFECO Insurance Company of America

175 Berkeley Street, Boston, MA 02116

By
Attorney-in-Fact Jeffrey M. Wilson, Attorney-in-Fact

McGriff, Seibels & Williams, Inc.
Agent

2211 7th Avenue South, Birmingham, AL 35233
Address of Agent

(205) 252-9871
Telephone Number of Agent

S-0157/GE 8/08

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Liberty Mutual SURETY

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all of the city of Birmingham state of AL each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 8th day of May, 2019.

American States Insurance Company
First National Insurance Company of America
General Insurance Company of America
Safeco Insurance Company of America

By: _____
David M. Carey, Assistant Secretary

State of PENNSYLVANIA
County of MONTGOMERY ss

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IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Upper Merion Twp., Montgomery County
My Commission Expires March 28, 2021
Member, Pennsylvania Association of Notaries

By: _____
Teresa Pastella, Notary Public

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ARTICLE IV – OFFICERS: Section 12. Power of Attorney.
Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorney-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, of American States Insurance Company, First National Insurance Company of America, General Insurance Company of America, and Safeco Insurance Company of America do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 10th day of November, 2020.

By: _____
Renee C. Llewellyn, Assistant Secretary

LMS-12874 ASIC FNICA GICA SICA_062018

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.

APPENDIX B

BORING LOGS/CONSTRUCTION DIAGRAMS, DEVELOPMENT FORMS AND CALIBRATION LOGS

Location resurveyed June - July 2020

RECORD OF BOREHOLE B-99

SHEET 1 of 1

PROJECT: Plant McDonough
PROJECT NUMBER: 1668496.18
DRILLED DEPTH: 12.30 ft
LOCATION: Smyrna, GA

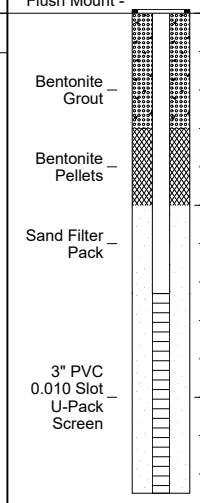
DRILL RIG: CME 550X
DATE STARTED: 7/7/20
DATE COMPLETED: 7/7/20

NORTHING: 1,394,524.2
EASTING: 2,203,084.5
GS ELEVATION: 782.6
TOC ELEVATION: 782.39 ft

DEPTH W.L.:5.93
ELEVATION W.L.: 776.46
DATE W.L.:7/7/20
TIME W.L.:16:10

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC
0		0.00 - 5.00 GRAVEL WITH SILT; non-native, brown to brown-tan with some red, silty, poorly graded gravel with some concrete fill, some organics, slightly weathered, non-cohesive, moist to wet, loose to compact (fill)	GW-GM		777.6	R1		1.03
5	780	5.00 - 9.00 GRAVEL WITH SILT; non-native, brown to brown tan with red, silty, poorly graded gravel with some comcrete fill, some organics, slightly weathered, non-cohesive, wet, loose to compact (fill)	GW-GM		5.00 773.6			
10	775	9.00 - 12.30 SILTY GRAVEL; brown, tan and red, non-cohesive, wet, loose to compact (mix of fill and saprolite)	GM		9.00 770.3			
15	770	Boring completed at 12.30 ft						
20	765							
25	760							
30	755							
35	750							
40	745							

MONITORING WELL DIAGRAM and NOTES



WELL CONSTRUCTION DETAILS

WELL CASING
Interval: 0'-12'3"
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Screw fit with rubber seam

WELL SCREEN
Interval: 7'3"-12'3"
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: Schedule 40 PVC

FILTER PACK
Interval: 5"-12'3"
Type: Filtersil std61
Quantity: 6 bags (50 lbs/bag)

FILTER PACK SEAL
Interval: 3'-5'
Type: 3/8" Coated Pel-Plug
Quantity: 1 bucket

ANNULUS SEAL
Interval: 0'-3'
Type: Aquagaurd Bentonite Grout
Quantity: 8 bags ~90 gal H2O

WELL COMPLETION
Pad: 4'x4'x4"
Protective Casing: Aluminum

DRILLING METHODS
Soil Drill: 4.25-inch ID Hollow Stem Augers
Rock Drill: N/A

LOG SCALE: 1 in = 5 ft
DRILLING COMPANY: SCS CFS
DRILLER: S. Deuty

GA INSPECTOR: Chris Tidwell
CHECKED BY: Brian Steele, PG
DATE: 8/24/20

GOLDER

BOREHOLE RECORD MCDONOUGH MASTER LIST_BACKUP_SURVEY UPDATED (5).GPJ PIEDMONT.GDT 10/22/20

Location resurveyed June - July 2020

RECORD OF BOREHOLE B-100

SHEET 1 of 2

PROJECT: Plant McDonough
PROJECT NUMBER: 1668496.18
DRILLED DEPTH: 45.00 ft
LOCATION: Smyrna, GA

DRILL RIG: CME 550X
DATE STARTED: 7/8/20
DATE COMPLETED: 7/8/20

NORTHING: 1,390,254.8
EASTING: 2,202,242.1
GS ELEVATION: 775.3
TOC ELEVATION: 777.95 ft

DEPTH W.L.:34.78
ELEVATION W.L.: 743.17
DATE W.L.:7/8/20
TIME W.L.:15:50

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLES: SAMPLE NO.	TYPE	BLOWS per 6 in (140 lb hammer 30 inch drop)	N-VALUE / REC	MONITORING WELL DIAGRAM and NOTES
0	775	0.00 - 13.50 SILT-SILTY GRAVEL; mix of topsoil, residuum, fill, rip-rap boulders, soil; clayey silt, red-brown, micaceous, moist, moderately weathered, non-cohesive, moist, (backfilled cuttings)	ML-GM		761.8	R1	AUGER		0.00 / 11.00	Stick Up - Bentonite Grout
10	765									
15	760	13.50 - 18.50 SILT; with sand, gravel and trace clay, red-brown, highly weathered, non-cohesive, dry to moist, loose to compact	ML		13.50 756.8	R2	SS	3-3-2	1.45 / 1.50	
20	755	18.50 - 23.50 SILTY SAND; heavy organic matter (wood), red-brown with black organic matter, moderately weathered, non-cohesive, dry, loose	SM		18.50 751.8	R3	SS	3-3-2	0.60 / 1.50	
25	750	23.50 - 28.50 CLAYEY SAND; some organic matter, brown, silightly weathered, cohesive, w<PL, soft	SC		23.50 746.8	R4	SS	2-1-2	1.60 / 1.50	
30	745	28.50 - 33.50 CLAYEY SAND WITH SILT; trace organic matter, brown with some red, micaceous, moderately weathered, cohesive, w>PL, firm to soft, moist to wet	SC-SM		28.50 741.8	R5	SS	1-2-1	1.50 / 1.50	Bentonite Pellets Sand Filter Pack
35	740	33.50 - 38.50 CLAYEY SAND; some silt, red with some brown, highly weathered trace mica, cohesive, w>PL, wet, soft to very soft, trace gravel	SC		33.50 736.8	R6	SS	WH-WH-2	1.40 / 1.50	
40			SC		38.50	R7	SS	2-6-22	1.30 / 1.50	3" PVC 0.010 Slot

Log continued on next page

WELL CONSTRUCTION DETAILS

WELL CASING
Interval: 0'-44'8"
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Screw fit with rubber seam

WELL SCREEN
Interval: 34'8"-44'8"
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: Schedule 40 PVC

FILTER PACK
Interval: 32'2"-44'8"
Type: Filtersil std61
Quantity: 6 bags (50 lbs/bag)

FILTER PACK SEAL
Interval: 30'-32'2"
Type: 3/8" Coated Pel-Plug
Quantity: 1 bucket

ANNULUS SEAL
Interval: 2'-30'
Type: Aquagaurd Bentonite Grout
Quantity: 8 bags ~90 gal H2O

WELL COMPLETION
Pad: 4'x4'x4"
Protective Casing: Aluminum

DRILLING METHODS
Soil Drill: Auger
Rock Drill: N/A

LOG SCALE: 1 in = 5 ft
DRILLING COMPANY: SCS CFS
DRILLER: S. Deuty

GA INSPECTOR: Chris Tidwell
CHECKED BY: Brian Steele, PG
DATE: 8/24/20

GOLDER

BOREHOLE RECORD MCDONOUGH MASTER LIST_BACKUP_SURVEY UPDATED (5).GPJ PIEDMONT.GDT 10/28/20

Location resurveyed June - July 2020

RECORD OF BOREHOLE B-100

SHEET 2 of 2

PROJECT: Plant McDonough
PROJECT NUMBER: 1668496.18
DRILLED DEPTH: 45.00 ft
LOCATION: Smyrna, GA

DRILL RIG: CME 550X
DATE STARTED: 7/8/20
DATE COMPLETED: 7/8/20

NORTHING: 1,390,254.8
EASTING: 2,202,242.1
GS ELEVATION: 775.3
TOC ELEVATION: 777.95 ft

DEPTH W.L.:34.78
ELEVATION W.L.: 743.17
DATE W.L.:7/8/20
TIME W.L.:15:50

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLES: SAMPLE NO.	TYPE	BLOWS per 6 in (140 lb hammer 30 inch drop)	N-VALUE	REC	MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
40	735	38.50 - 42.50 CLAYEY SAND; some gravel of gneiss (bottom 0.5'), black-brown with red, highly weathered, non-cohesive, wet, loose to compact *(Continued)*	SC		732.8						U-Pack Screen	
		42.50 - 45.00 CLAYEY SAND; some gravel, red with black and brown, highly weathered, cohesive, w~PL, firm to soft, micaceous schist gravel	SC		42.50 730.3	R8	SS	4-5-12		0.00 1.50		
45	730	Boring completed at 45.00 ft			45.00							
50	725											
55	720											
60	715											
65	710											
70	705											
75	700											
80												

WELL CASING
Interval: 0'-44'8"
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Screw fit with rubber seam

WELL SCREEN
Interval: 34'8"-44'8"
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: Schedule 40 PVC

FILTER PACK
Interval: 32'2"-44'8"
Type: Filtersil std61
Quantity: 6 bags (50 lbs/bag)

FILTER PACK SEAL
Interval: 30'-32'2"
Type: 3/8" Coated Pel-Plug
Quantity: 1 bucket

ANNULUS SEAL
Interval: 2'-30'
Type: Aquagaurd Bentonite Grout
Quantity: 8 bags ~90 gal H2O

WELL COMPLETION
Pad: 4'x4'x4"
Protective Casing: Aluminum

DRILLING METHODS
Soil Drill: Auger
Rock Drill: N/A

LOG SCALE: 1 in = 5 ft
DRILLING COMPANY: SCS CFS
DRILLER: S. Deuty

GA INSPECTOR: Chris Tidwell
CHECKED BY: Brian Steele, PG
DATE: 8/24/20

GOLDER

BOREHOLE RECORD MCDONOUGH MASTER LIST_BACKUP_SURVEY UPDATED (5).GPJ PIEDMONT.GDT 10/28/20

GOLDER

WELL DEVELOPMENT FIELD RECORD

PROJECT NAME / NUMBER: 166849618
WELL DIA (in): 2
DEVELOPED BY: J WAGUESPACK
STARTED DEVEL: 07/16/20 (DATE) 17:45 (TIME)
W.L. BEFORE DEVEL: 3.55 (WL) 07/16 (DATE) 17:30 (TIME)
WELL DEPTH BEFORE DEVEL: 11.93
STANDING WATER COLUMN (FT.): 8.38
SCREEN LENGTH: 6.93 - 11.93

WELL ID: B-99
WELL DIA (in): 2
DATE OF INSTALL:
COMPLETED DEVEL: 07/21 (DATE) 17:20 (TIME)
WL AFTER DEVEL: 6.40 (WL) 07.21 (DATE) 17:13 (TIME)
WELL DEPTH AFTER DEVEL: 11.93
STANDING WELL VOLUME: 1.37 gal
DRILLING WATER LOSS: gal

DATE/TIME	VOLUME REMOVED (gal)	PUMPING RATE (gpm)	DTW (ft)	FIELD PARAMETERS pH (s.u.)	Sp. Cond (mS/cm)	TEMP (°C)	Turbidity (NTU)	Color	RDO (mg/L)	ORP (mV)	REMARKS (PUMP FROM BOTTOM)
07/16 17:50	3.5		9.55	6.12	1100.3	21.80	>1000	GRAY	2.26	90.9	3" SURGING
17:55	5		TOP	6.16	1190.2	20.82	>1000	GRAY	3.82	77.1	RECHARGING
18:20	5		4.35		RESUME		DEV				SURGING
18:25	7.5		9.1	6.23	1093.1	20.93	>1000	GRAY	5.54	78.4	
18:30	10		TOP	6.22	1099.5	20.68	>1000	GRAY	5.72	73.2	
07/17	—		3.75		RESUME		DEV				
09:20	10		3.75	7.46	1051.6	22.33	>1000	GRAY	4.09	57.6	3" SURGING
09:25	15		TOP	6.40	1063.7	20.99	>1000	GRAY	5.08	77.0	RECHARGING
09:40	15		4.5	6.13	1040.5	22.51	>1000	GRAY	4.37	77.5	SURGING
09:47	20		TOP	6.13	1063.4	20.88	>1000	GRAY	5.64	73.0	RECHARGING
10:00	20		4.5	6.10	1062.4	20.90	>1000	GRAY	5.52	72.7	
10:07	25		TOP	6.08	1064.1	20.95	>1000	GRAY	5.33	72.6	RECHARGE
10:20			4.5	6.05	1056.4	22.46	>1000	GRAY	5.32	70.8	SURGING
10:27	30		TOP	6.09	1050.1	20.98	>1000	GRAY	5.25	75.2	RECHARGE
10:38			4.5	6.12	1048.4	21.89	>1000	GRAY	5.53	74.4	SURGING
10:45	35		TOP	6.08	1049.4	20.90	>1000	GRAY	5.39	75.2	RECHARGE
10:57			4.5	6.08	1042.7	21.44	>1000	GRAY	4.90	74.5	SURGING
11:05	40		TOP	6.08	1046.2	20.86	>1000	GRAY	5.30	75.2	RECHARGE
11:17			4.5	6.10	1044.5	21.36	>1000	GRAY	4.98	74.4	SURGING
11:26	45		TOP	6.09	1061.6	20.64	>1000	GRAY	5.31	70.1	RECHARGE
11:40			4.5	6.12	1051.5	21.18	>1000	GRAY	4.37	67.9	SURGING
11:48	50		TOP	6.13	1046.4	20.82	>1000	GRAY	5.31	72.1	R
11:57			4.5	6.14	1038.5	21.26	>1000	GRAY	4.98	72.4	S
12:06	55		TOP	6.11	1048.4	20.80	>1000	GRAY	5.56	72.6	R
12:17			4.5	6.12	1043.5	21.49	>1000	GRAY	5.37	73.0	S
12:24	60		TOP	6.18	1049.9	20.88	>1000	GRAY	6.10	69.5	R
12:37			4.5	6.22	1044.9	21.80	>1000	GRAY	5.03	62.6	S
12:47	65		TOP	6.18	1058.9	20.78	>1000	GRAY	5.41	63.1	R
13:01			4.5	6.13	1058.7	21.67	>1000	GRAY	5.12	64.5	S
13:09	70		TOP	6.22	1053.9	21.17	>1000	GRAY	6.20	62.1	R
13:20			4.5	6.27	1040.5	22.89	>1000	GRAY	4.36	66.9	S
13:29	75		TOP	6.17	1056.9	21.06	>1000	GRAY	5.90	63.0	R
13:41			4.5	6.21	1039.7	22.79	>1000	GRAY	4.98	69.7	S
13:50	80		TOP	6.16	1068.2	20.91	>1000	GRAY	5.79	62.1	R
		= TOTAL VOLUME REMOVED (gal.)									

DEVELOPMENT METHOD: RECLAIMER + SURGING

NOTES: TOP = TOP OF PUMP

GOLDER

WELL DEVELOPMENT FIELD RECORD

PROJECT NAME / NUMBER: 166849618
WELL ID: B-99
WELL DIA (in): 2
WELL DIA (in): 2
DEVELOPED BY: J WAGUESPACK
DATE OF INSTALL:
STARTED DEVEL: / (DATE / TIME)
COMPLETED DEVEL: / (DATE / TIME)
W.L. BEFORE DEVEL: / / (WL / DATE / TIME)
WL AFTER DEVEL: / / (WL / DATE / TIME)
WELL DEPTH: BEFORE DEVEL:
WELL DEPTH: AFTER DEVEL:
STANDING WATER COLUMN (FT.):
STANDING WELL VOLUME: gal
SCREEN LENGTH:
DRILLING WATER LOSS: gal

DATE/TIME	VOLUME REMOVED (gal)	PUMPING RATE (gpm)	DTW (ft)	FIELD PARAMETERS pH (s.u.)	Sp. Cond. (mS/cm)	TEMP. (°C)	Turbidity (NTU)	Color	RDO (mg/L)	ORP (mV)	PUMP FROM BOTTOM REMARKS
07/17 14:06	80		4.5	6.15	1059.5	21.40	>1000	GRAY	4.95	59.7	3", SURGING
14:15	85		TOP	6.20	1062.4	20.91	>1000	GRAY	6.07	56.2	RECHARGE
14:30			4.5	6.22	1047.4	22.15	>1000	GRAY	5.10	64.5	SURGING
14:40	90		TOP	6.22	1060.0	21.09	>1000	GRAY	6.32	56.7	R
14:56			4.5	6.18	1051.1	21.47	>1000	GRAY	5.47	57.2	S
15:05	95		TOP	6.22	1067.0	20.95	>1000	GRAY	6.22	52.8	R
15:21			4.5	6.29	1048.6	22.38	>1000	GRAY	4.96	61.1	S
15:30	100		TOP	6.25	1055.9	21.00	>1000	GRAY	6.42	56.8	R
15:42			4.5	6.27	1056.6	21.28	>1000	GRAY	5.62	58.0	S
15:52	105		TOP	6.22	1072.4	20.77	>1000	GRAY	6.01	53.3	R
16:04		DEV	PAUSED - EQUIP ISSUES								
16:42			3.7	6.22	1052.8	22.29	>1000	GRAY	5.32	45.9	S
16:50	110		TOP	6.28	1057.0	20.98	>1000	GRAY	6.36	46.2	R
17:07			4.1	6.28	1057.0	21.67	>1000	GRAY	4.94	46.6	S
17:17	115		TOP	6.29	1066.4	20.86	>1000	GRAY	6.34	45.6	R
17:32			4.5	6.28	1064.5	21.46	>1000	GRAY	5.15	45.4	S
17:40	120		TOP	6.29	1060.6	20.86	>1000	GRAY	6.34	45.7	R
17:53			4.5	6.29	1061.4	21.49	>1000	GRAY	5.23	45.9	S
18:08	125		TOP	6.33	1064.9	21.35	>1000	GRAY	6.47	42.0	R
07/20 - 08:57	125		3.80	—	—	—	>1000	GRAY	—	—	SURGING
09:06	130		TOP	—	—	—	>1000	GRAY	—	—	RECHARGE
09:17			4.5	6.18	1092.0	21.73	>1000	GRAY	4.32	60.0	S
09:28	135		TOP	6.14	1083.4	21.22	>1000	GRAY	6.21	55.1	R
09:50			3.7	6.15	1050.0	22.38	>1000	GRAY	4.90	52.2	S
10:02	140		TOP	6.14	1077.0	21.36	>1000	GRAY	6.14	50.1	R
10:18			4.5	6.16	1053.8	22.30	>1000	GRAY	5.04	49.9	S
10:28	145		TOP	6.17	1079.6	21.27	>1000	GRAY	6.33	45.6	R
10:47			4.5	6.19	1048.9	23.30	>1000	GRAY	5.16	44.7	S
10:56	150		TOP	6.15	1079.6	21.08	>1000	GRAY	6.43	45.4	R
11:13			4.5	6.19	1047.3	23.32	>1000	GRAY	6.49	42.8	
11:23	155		TOP	6.17	1061.2	21.17	>1000	GRAY	6.56	47.3	R
11:41			4.5	6.21	1049.5	22.20	>1000	GRAY	4.80	44.0	
11:50	160		TOP	6.21	1066.0	21.18	>1000	GRAY	6.53	44.1	R
12:05			4.5	6.21	1050.1	22.69	>1000	GRAY	4.68	43.0	
		= TOTAL VOLUME REMOVED (gal.)									

DEVELOPMENT METHOD: RECLAIMER + SURGING

NOTES: TOP = TOP OF PUMP

GOLDER

WELL DEVELOPMENT FIELD RECORD

PROJECT NAME / NUMBER: 166849618
WELL DIA (in): 2
DEVELOPED BY: J WAGUESPACK
STARTED DEVEL: / (DATE / TIME)
W.L. BEFORE DEVEL: / / (WL / DATE / TIME)
WELL DEPTH BEFORE DEVEL:
STANDING WATER COLUMN (FT.):
SCREEN LENGTH:

WELL ID: B-99
WELL DIA (in): 2
DATE OF INSTALL:
COMPLETED DEVEL: / (DATE / TIME)
WL AFTER DEVEL: / / (WL / DATE / TIME)
WELL DEPTH AFTER DEVEL:
STANDING WELL VOLUME: gal.
DRILLING WATER LOSS: gal.

DATE/TIME	VOLUME REMOVED (gal)	PUMPING RATE (gpm)	DTW (ft)	FIELD PARAMETERS pH (s.u.)	Sp. Cond. (mS/cm)	TEMP. (°C)	Turbidity (NTU)	Color	RDO (mg/L)	ORP (mV)	PUMP FROM BOTTOM REMARKS
07/20 12:13	165		TOP	6.19	1058.7	21.08	33.7	murky	6.30	46.1	3", RECHARGING
12:29			4.5	6.20	1051.6	22.42	7.14	CLR	7.77	46.9	SURGING
12:40	170		TOP	6.21	1061.7	21.25	>1000	GRAY	6.73	46.3	RECHARGING
12:57			4.5	6.23	1040.8	22.17	>1000	GRAY	5.20	49.1	SURGING
13:07	175		TOP	6.22	1061.9	21.22	>1000	GRAY	6.91	46.9	R
13:33			4.5	6.25	1044.7	22.34	>1000	GRAY	4.66	45.2	
13:42	180		TOP	6.23	1067.8	20.91	>1000	GRAY	6.87	43.8	R
14:05			4.5	6.24	1055.9	21.31	>1000	GRAY	5.00	45.8	
14:15	185		TOP	6.26	1067.7	20.92	51.6	murky	7.04	42.2	R
14:40			4.5	6.25	1054.2	21.44	>1000	GRAY	5.95	44.7	SURGING
14:51	190		TOP	6.30	1066.0	21.08	>1000	GRAY	7.28	39.3	R
15:19			4.5	6.32	1050.2	22.65	21.0	murky	5.71	41.9	S
15:28	195		TOP	6.26	1061.5	20.96	>1000	GRAY	7.32	40.6	R
15:55			4.5	6.31	1050.8	21.62	>1000	GRAY	6.18	39.0	S
16:02	200		TOP	6.27	1063.1	21.17	>1000	GRAY	6.78	41.0	R
16:27			4.5	6.30	1053.0	21.23	18.0	murky	6.60	51.5	SURGING
16:37	205		TOP	6.28	1067.5	22.15	>1000	GRAY	7.01	42.3	R
17:01			4.5	6.28	1063.9	22.30	>1000	GRAY	6.89	45.5	
17:09	210		TOP	6.27	1059.0	21.53	>1000	GRAY	6.81	43.3	R
17:33			4.5	6.50	1627.3	22.82	>1000	GRAY	5.38	53.5	S
17:42	215		TOP	6.29	1062.0	21.22	>1000	GRAY	6.89	47.6	R
18:10			4.5	6.31	1046.6	22.78	>1000	GRAY	5.46	43.0	S
18:18	220		TOP	6.28	1060.8	21.08	>1000	GRAY	6.85	44.8	R
07/21 - 08:30			3.82	—	—	—	>1000	GRAY	—	—	SURGING
08:39	225		TOP	—	—	—	>1000	GRAY	—	—	RECHARGING
09:01			4.5	7.20	1043.6	21.79	>1000	GRAY	5.39	57.3	S
09:08	230		TOP	6.43	1062.2	20.91	>1000	GRAY	6.76	63.4	R
09:31			4.5	6.08	1051.2	35.6	murky	21.23°C	6.35	66.6	SURGING
09:40	235		TOP	6.08	1066.1	21.37	>1000	GRAY	6.77	59.5	R
10:04			4.5	6.12	1039.1	22.19	75.7	murky	5.35	58.0	S
10:14	240		TOP	6.13	1062.7	21.40	>1000	GRAY	6.87	53.8	R
10:41			4.5	6.14	1042.5	22.29	26.1	murky	6.17	50.8	S
10:53	245		TOP	6.18	1058.6	21.62	>1000	GRAY	7.10	47.5	R
11:19			4.5	6.29	1017.8	22.65	13.7	CLR	5.67	56.5	S
		= TOTAL VOLUME REMOVED (gal.)									

DEVELOPMENT METHOD: RECLAIMER + SURGING

NOTES: TOP = TOP OF PUMP

166849618
J WAGUESPACK

B-99

	VOL REM.	DTW	pH	SP. COND.	TEMP	NTU	COLOR	RDO	ORP	PUMP FROM BOTTOM + NOTES
07/21/20 11:30	250	TOP	6.19	1056.0	21.75	>1000	GRAY	6.95	49.9	3', ~~SURGING~~ & RECHARGING
11:55		4.5	6.28	1001.1	23.16	15.5	CLR	5.12	62.9	SURGING
12:07	255	TOP	6.14	1051.9	21.80	42.2	GRAY	6.54	56.1	RECHARGE
12:32		4.5	6.28	1007.4	23.10	15.3	CLR	5.15	66.2	S
12:41	260	TOP	6.14	1049.7	21.63	40.0	murky	6.64	59.9	R
13:04		4.5	6.25	1016.6	22.88	28.4	murky	5.41	63.6	S
13:14	265	TOP	6.14	1049.0	21.39	26	murky	6.66	60.6	R
13:41		4.5	6.16	1035.7	22.24	32.5	murky	5.73	57.6	S
13:50	270	TOP	6.18	1050.0	21.97	19	murky	7.02	53.9	R
14:18		4.5	6.40	1018.0	23.93	45.7	murky	4.77	62.7	
14:27	275	TOP	6.18	1048.1	21.43	20.7	murky	6.76	58.7	R
14:54		4.5	6.35	1020.1	22.52	14.1	CLR	5.50	67.5	
15:05	280	TOP	6.24	1050.4	21.35	23.4	murky	7.12	55.8	R
15:33		4.5	6.39	1014.9	22.83	23.0	murky	4.94	67.6	
15:43	285	TOP	6.24	1049.6	21.28	13.0	CLR	7.07	58.5	R
16:12		4.5	6.23	1038.7	21.98	9.2	CLR	5.13	55.3	
16:21	290	TOP	6.20	1048.4	21.51	4.3	CLR	6.86	55.0	R
16:50		4.5	RECHARGED. BEGIN LOW FLOW DEV							
17:20	DEV	COMPLETE + 1.6 GAL								
	291.6 GAL PURGED TOTAL									

Product Name: Low-Flow System

Date: 2020-07-21 17:14:48

Project Information:		Pump Information:	
Operator Name	Jude Waguespack	Pump Model/Type	Reclaimer
Company Name	Golder	Tubing Type	LDPE
Project Name	166849618	Tubing Diameter	.5 in
Site Name	Plant McDonough	Tubing Length	9.5 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	647057		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	9.5 ft

Well Information:		Pumping Information:	
Well ID	B-99	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.4568038 L
Well Total Depth	11.93 ft	Calculated Sample Rate	300 sec
Screen Length	5 ft	Stabilization Drawdown	31.2 in
Depth to Water	3.8 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	16:58:41	300.10	22.10	6.16	1050.54	4.34	5.80	5.32	55.10
Last 5	17:03:41	600.02	21.84	6.10	1051.73	2.58	6.10	4.67	59.72
Last 5	17:08:41	900.01	21.73	6.07	1052.59	2.38	6.20	4.52	62.97
Last 5	17:13:41	1200.00	21.71	6.06	1052.17	2.11	6.40	4.53	65.28
Last 5									
Variance 0			-0.26	-0.06	1.20			-0.65	4.62
Variance 1			-0.12	-0.03	0.86			-0.14	3.25
Variance 2			-0.01	-0.01	-0.43			0.00	2.30

Notes

Development

Grab Samples

MONITORING WELL INSTALLATION LOG

JOB NO. 1605419618 PROJECT Plant McDonough 899-8100 Inside WELL NO. B-108D SHEET 1 OF 1
GA INSP. CAT DRILLING METHOD Auger + Split Spoon GROUND ELEV. TBD WATER DEPTH
WEATHER Sunny DRILLING COMPANY SES CRS COLLAR ELEV. TBD DATE/TIME
TEMP. ~85°F DRILL RIG CME 55SX DRILLER S. Autry STARTED 08:10 (TIME) / 7-8-20 (DATE) COMPLETED 11:10 (TIME) / 7-8-20 (DATE)

MATERIALS INVENTORY

WELL CASING 2 in. dia. ____ l.f. WELL SCREEN 2 in. dia. 10 l.f. BENTONITE SEAL 3/8" coated Pel-Plug
CASING TYPE Schedule 40 PVC SCREEN TYPE Schedule 40 PVC INSTALLATION METHOD Tremie
JOINT TYPE screw fit w/ o-ring seal SLOT SIZE 0.010 in FILTER PACK QTY. 6 bags (50 lb/bag)
GROUT QUANTITY 8 bags + ~90 gal H2O CENTRALIZERS Not used FILTER PACK TYPE Filter-Sil #2 Silica Sand
GROUT TYPE Aquagard Bentonite Grout DRILLING MUD TYPE N/A INSTALLATION METHOD Admixture

ELEV./DEPTH	SOIL/ROCK DESCRIPTION	WELL SKETCH	INSTALLATION NOTES
			Stick up: ~3'
0.0	GROUND SURFACE		Grout: 8 bags Aquagard mixed w/ ~90 gallons H2O from surface to 30' BGS
			Bentonite Seal: 1 bucket Pel Plug 3/8" coated pellets from 32'2" to 30' BGS
			Sand: 6 bags (50 lb/bag) Filter-Sil #2 Silica Sand from 44'8" to 32'2" BGS.
			Screen: 44'8' to 34'8' BGS
	BH terminated at 44'8"	Bentonite Seal; Grout; PVC; Filter Sand; Screened portion	

WELL DEVELOPMENT NOTES

GOLDER

WELL DEVELOPMENT FIELD RECORD

PROJECT NAME / NUMBER: 1668849618
WELL ID: B-100
WELL DIA (in): 2 / 2
DEVELOPED BY: J. WAGUESPACK
DATE OF INSTALL:
STARTED DEVEL: 07/14/20 (DATE) 13:55 (TIME)
COMPLETED DEVEL: 07/16 (DATE) 16:55 (TIME)
W.L. BEFORE DEVEL: 31.65 (WL) 07.14 (DATE) 13:05 (TIME)
WL AFTER DEVEL: 36.4 (WL) 07.16 (DATE) 16:55 (TIME)
WELL DEPTH BEFORE DEVEL: 47.58
WELL DEPTH AFTER DEVEL: 47.58
STANDING WATER COLUMN (FT.): 12.93
STANDING WELL VOLUME: 2.11 gal
SCREEN LENGTH: 37 - 47
DRILLING WATER LOSS: gal

DATE/TIME	VOLUME REMOVED (gal)	PUMPING RATE (gpm)	DTW (ft)	FIELD PARAMETERS pH (s.u.)	Sp. Cond (mS/cm)	TEMP (°C)	Turbidity (NTU)	Color	RDO (mg/L)	ORP (mV)	REMARKS
07/14/14:00	—	2/min	37.50	5.53	1011.5	23.45	>1000	BRO	3.16	71.5	PUMP FROM BOTTOM - 47' 3", SURGING
14:05	5	0.53pm	38.0°	5.37	1012.5	21.89	>1000	BRO	0.76	71.3	
14:10	7.5		38.6	5.37	1002.9	21.76	>1000	BRO	0.64	72.7	SURGING
14:20	12.5		39.0	5.38	988.3	21.69	>1000	BRO	0.61	70.5	
14:30	17.5		39.3	5.39	978.7	21.96	70.9	TAN	0.55	68.6	SURGING
14:40	22.5		39.9	5.40	1003.8	21.46	78.2	TAN	0.54	66.6	SURGING
14:50	27.5		39.4	5.41	989.6	21.49	65.9	TAN	0.59	66.3	SURGING
15:00	32.5		39.7	5.41	975.1	21.49	>1000	BRO	0.89	67.7	SURGING
15:10	37.5		39.7	5.41	967.7	21.44	>1000	BRO	0.59	67.3	
15:20	42.5		39.7	5.41	964.4	21.49	>1000	BRO	0.55	68.2	
15:30	47.5		39.5	5.41	973.4	21.44	76.3	TAN	0.56	66.6	
15:40	52.5		39.6	5.41	970.7	21.46	78.2	TAN	0.59	66.7	
15:50	57.5		39.6	5.42	970.8	21.41	72.2	TAN	0.86	66.9	
16:00	62.5		38.8	5.42	973.4	21.49	65.4	TAN	0.61	66.3	
16:10	67.5		39.0	5.43	972.5	21.35	28.5	CLR	0.93	65.2	→ 5' SURGING
16:20	72.5		39.9	5.72	993.2	21.53	>1000	BRO	6.66	57.8	SURGING
16:30	77.5		40.6	5.78	968.3	21.62	>1000	BRO	7.06	58.7	
16:40	82.5		40.6	5.81	966.7	21.40	83.6	TAN	7.19	59.6	
16:50	87.5		40.3	5.81	969.5	21.53	84.9	TAN	7.78	55.8	PAUSING FOR RECHARGE
16:55	—		35.0	RESUME		DEV - SURGE ENTIRE			SCREEN		
17:00	90		38.6	5.81	976.2	21.81	>1000	BRO	7.15	59.9	SURGING
17:10	95		36.6	5.90	976.6	22.24	>1000	BRO	7.00	57.8	REG. → 40/20 CYCLE
17:20	100		35.6	5.71	975.3	22.42	>1000	BRO	6.90	58.0	SURGING
17:30	105		35.5	5.90	977.2	22.74	>1000	BRO	6.75	58.5	
17:40	110		36.0	5.89	980.0	22.96	>1000	BRO	6.55	60.0	
17:50	115		35.7	5.82	974.4	23.12	>1000	BRO	6.15	65.1	
18:00	120		35.7	5.93	983.0	22.12	>1000	BRO	6.51	59.2	
18:10	125		35.85	5.91	981.5	22.73	>1000	BRO	6.67	59.3	
18:20	130		35.8	5.90	981.7	23.05	>1000	BRO	6.66	59.0	
18:30	135		35.8	5.92	981.0	23.14	>1000	BRO	6.80	58.1	
18:40	140		35.8	5.92	981.3	23.18	>1000	BRO	6.83	57.3	
18:50	145		35.8	5.92	980.4	23.14	>1000	BRO	6.82	57.2	
	CONTINUED ON NEXT PAGE										
		= TOTAL VOLUME REMOVED (gal.)									

DEVELOPMENT METHOD: RECLAIMER + SURGING

NOTES:

GOLDER

WELL DEVELOPMENT FIELD RECORD

PROJECT NAME / NUMBER: 166849618
WELL DIA (in): 2
DEVELOPED BY: J. WAGUESPACK
STARTED DEVEL: 07/14/20 (DATE) / 13:55 (TIME)
W.L. BEFORE DEVEL: 39.65 (WL) / 07-14 (DATE) / 13:05 (TIME)
WELL DEPTH: BEFORE DEVEL: 47.58
STANDING WATER COLUMN (FT.): 12.93
SCREEN LENGTH: 37 - 47

WELL ID: B-100
WELL DIA (in): 2
DATE OF INSTALL:
COMPLETED DEVEL: / (DATE) / (TIME)
WL AFTER DEVEL: / (WL) / (DATE) / (TIME)
WELL DEPTH: AFTER DEVEL:
STANDING WELL VOLUME: 2.11 gal
DRILLING WATER LOSS: gal

DATE/TIME	VOLUME REMOVED (gal)	PUMPING RATE (gpm)	DTW (ft)	FIELD PARAMETERS pH (s.u.)	Sp. Cond (mS/cm)	TEMP. (°C)	Turbidity (NTU)	Color	RDO (mg/L)	ORP (mV)	REMARKS (PUMP FROM BOTTOM (ft'))
07/15 - 09:10	-	0.5	34.68		BEGIN DEV 07/15						SURGE ENTIRE SCREEN
09:15	145		35.3	6.06	1114.8	22.78	>1000	BRO	5.94	51.3	5', SURGING
09:25	150		34.9	5.82	1150.5	21.71	>1000	BRO	6.62	43.0	SURGING
09:35	155		35.4	5.80	1140.2	21.91	>1000	BRO	6.61	42.7	
09:45	160		35.2	5.81	1139.4	22.74	>1000	BRO	6.59	43.3	
09:55	165		35.5	5.82	1135.4	23.01	>1000	BRO	6.58	42.7	
10:05	170		35.0	5.83	1129.4	23.05	>1000	BRO	6.44	42.7	
10:15	175		35.2	5.86	1114.6	22.11	>1000	BRO	6.60	41.9	
10:25	180		34.9	5.85	1104.2	21.71	>1000	BRO	6.43	41.9	
10:35	185		34.85	5.87	1102.2	21.81	>1000	BRO	6.47	42.9	
10:45	190		34.8	5.88	1102.0	22.47	>1000	BRO	6.52	43.0	
10:55	195		34.8	5.88	1100.3	22.65	>1000	BRO	6.55	43.1	
11:05	200		35.3	5.89	1097.9	22.76	>1000	BRO	6.41	42.3	
11:15	205		35.0	5.89	1093.4	22.98	>1000	BRO	6.41	43.2	
11:25	210		35.0	5.86	1092.2	23.05	>1000	BRO	6.01	46.2	
11:35	215		35.1	5.80	1091.8	23.14	>1000	BRO	5.62	51.7	
11:45	220		35.4	5.95	1088.7	22.25	>1000	BRO	6.72	41.1	
11:55	225		35.0	5.93	1089.6	22.90	>1000	BRO	6.50	41.7	
12:05	230		35.2	5.92	1088.0	23.32	>1000	BRO	6.40	41.8	
12:15	235		34.9	5.92	1085.7	23.36	>1000	BRO	6.33	42.7	
12:25	240		34.8	5.90	1087.0	23.43	>1000	BRO	6.22	44.2	
12:35	245		35.0	5.99	1080.3	22.56	>1000	BRO	6.78	38.8	
12:45	250		34.8	5.97	1081.0	22.54	>1000	BRO	6.46	38.2	
12:55	255		35.5	5.96	1077.7	23.01	>1000	BRO	6.54	40.9	
13:05	270		34.9	5.96	1075.3	23.13	67	TAN	6.52	41.7	
13:15	275		34.7	5.99	1073.6	22.88	82.2	TAN	6.69	39.6	
13:25	280		35.0	5.98	1073.4	23.41	46.5	CLR	6.41	39.5	
13:35	285		35.0	5.96	1071.2	23.55	33.4	CLR	6.22	41.1	PUMP -> 8', SURGING
13:45	290		35.6	6.05	1081.4	23.19	>1000	BRO	6.79	34.3	SURGING
13:55	295		35.5	6.06	1076.5	23.50	>1000	BRO	6.84	32.8	
14:05	300		35.1	6.07	1073.7	23.45	107.9	TAN	6.93	33.0	
14:15	305		35.0	6.09	1070.7	23.14	57.1	TAN	6.95	32.1	
14:25	310		34.9	6.10	1068.7	22.89	35.0	murky	7.07	32.6	
14:35	315		35.1	6.10	1068.7	23.08	64.8	TAN	7.07	31.9	
		= TOTAL VOLUME REMOVED (gal.)									

DEVELOPMENT METHOD: RECLAIMER + SURGING

NOTES:

GOLDER

WELL DEVELOPMENT FIELD RECORD

PROJECT NAME / NUMBER: 166849618
WELL DIA (in): 2
DEVELOPED BY: JWAGUESPACK
STARTED DEVEL: ____ / ____ (DATE / TIME)
W L BEFORE DEVEL: ____ / ____ / ____ (WL / DATE / TIME)
WELL DEPTH BEFORE DEVEL: ____
STANDING WATER COLUMN (FT.): ____
SCREEN LENGTH: ____

WELL ID: B-100
WELL DIA (in): 2
DATE OF INSTALL: ____
COMPLETED DEVEL: ____ / ____ (DATE / TIME)
WL AFTER DEVEL: ____ / ____ / ____ (WL / DATE / TIME)
WELL DEPTH AFTER DEVEL: ____
STANDING WELL VOLUME: ____ gal
DRILLING WATER LOSS: ____ gal

DATE/TIME	VOLUME REMOVED (gal)	PUMPING RATE (gpm)	DTW (ft)	FIELD PARAMETERS pH (s.u.)	Sp. Cond. (mS/cm)	TEMP (°C)	Turbidity (NTU)	Color	RDO (mg/L)	ORP (mV)	REMARKS (Pump from bottom (ft'))
07/15-14:45	320	0.5	35.4	6.08	1082.5	22.69	110	TAN	6.96	32.4	8'
14:55	325		35.2	6.10	1073.0	22.78	65.6	TAN	6.93	31.4	
15:05	330		35.5	6.03	1070.8	23.19	43.8	murky	6.36	36.6	pump -> 3", SURGING
15:15	335		35.5	6.00	1057.1	23.50	>1000	BRO	6.33	40.9	
15:25	340		35.7	5.94	1065.7	23.21	>1000	BRO	6.09	47.4	REG -> 20/10 CYCLE
15:35	345		35.8	5.85	1077.7	22.48	>1000	BRO	5.64	53.6	
15:45	350		35.8	5.87	1097.4	21.89	>1000	BRO	6.15	53.8	
15:55	355		35.7	5.90	1091.8	22.20	69.3	TAN	6.11	51.8	
16:05	360		36.0	5.92	1092.2	22.07	90.3	TAN	6.23	49.4	SURGING
16:10	DEV	PAUSED - EQUIPMENT ISSUES									
16:30	360		34.80	DEV		RESUMED					SURGING
16:40	365		35.80	5.83	1088.0	23.09	>1000	BRO	5.65	62.3	
16:50	370		35.70	5.83	1089.5	22.40	>1000	BRO	5.63	61.6	
17:00	375		36.20	5.82	1089.3	22.08	>1000	BRO	5.58	61.9	
17:10	380		36.00	5.81	1089.3	22.03	>1000	BRO	5.42	62.2	
17:20	385		35.40	5.79	1084.7	21.89	>1000	BRO	5.21	63.7	SURGING
17:30	390		36.55	5.80	1087.1	21.22	>1000	BRO	5.40	64.7	
17:40	395		35.9	5.82	1078.1	21.30	29.1	CLR	5.60	64.1	
17:50	400		36.2	5.77	1074.7	21.09	30.1	CLR	5.32	66.4	
18:00	405		36.3	5.82	1074.8	21.18	30.3	CLR	5.63	64.2	
18:10	410		36.2	5.83	1071.3	21.26	27.1	CLR	5.59	63.7	
18:20	415		35.8	5.85	1069.5	21.40	14.2	CLR	5.74	62.9	SURGING
18:30	420		36.2	5.83	1071.7	21.44	90.4	TAN	5.50	65.1	
18:40	425		36.0	5.85	1075.7	21.21	40.4	murky	5.79	62.9	
07/16-09:55	425	—	33.82	—	BEGIN	DEV	07/16	—	—	—	SURGING, 3"
10:05	430	0.5	35.2	5.60	1010.4	21.54	>1000	BRO	5.81	95.9	
10:25	440		35.15	5.68	1005.5	21.46	37.4	murky	6.40	71.1	
10:45	450		35.10	5.75	1005.1	21.89	20.1	CLR	6.33	62.3	
11:05	460		35.20	5.75	998.7	22.07	20.0	CLR	6.08	62.5	-> 5', SURGING
11:25	470		35.5	5.81	1000.6	22.47	47.9	TAN	6.41	60.6	SURGING
11:45	480		35.8	5.85	995.4	22.69	42.9	TAN	6.41	58.9	
12:05	490		35.8	5.87	992.9	22.72	18.1	CLR	6.46	57.4	
12:25	500		35.8	5.86	989.0	22.77	9.18	CLR	6.32	58.1	SURGING
12:45	510		35.8	5.87	985.4	22.73	68.6	TAN	6.57	60.0	SURGING
		= TOTAL VOLUME REMOVED (gal.)									

DEVELOPMENT METHOD: ____

NOTES: ____

GOLDER

WELL DEVELOPMENT FIELD RECORD

PROJECT NAME / NUMBER: 166849618
WELL DIA (in): 2
DEVELOPED BY: J WAGUESPACK
STARTED DEVEL: / (DATE / TIME)
WL BEFORE DEVEL: / / (WL / DATE / TIME)
WELL DEPTH BEFORE DEVEL:
STANDING WATER COLUMN (FT.):
SCREEN LENGTH:

WELL ID: B-100
WELL DIA (in): 2
DATE OF INSTALL:
COMPLETED DEVEL: / (DATE / TIME)
WL AFTER DEVEL: / / (WL / DATE / TIME)
WELL DEPTH AFTER DEVEL:
STANDING WELL VOLUME: gal
DRILLING WATER LOSS: gal

DATE/TIME	VOLUME REMOVED (gal)	PUMPING RATE (gpm)	DTW (ft)	FIELD PARAMETERS pH (s.u.)	Sp. Cond (mS/cm)	TEMP (°C)	Turbidity (NTU)	Color	RDO (mg/L)	ORP (mV)	REMARKS (PUMP FROM BOTTOM)
07/16-13:05	520	0.5	35.6	5.86	974.7	22.72	24.8	murky	6.24	61.9	5'
13:25	530		35.6	5.87	979.3	22.70	34.8	TAN	6.36	61.7	
13:45	540		35.8	5.87	970.3	22.70	8.8	CLR	6.15	62.4	→ 8', SURGING
14:05	550		35.6	5.90	975.3	22.92	37.7	TAN	6.53	61.3	
14:25	560		35.6	5.90	973.2	22.93	8.4	CLR	6.39	61.3	→ 3', SURGING
14:45	570		35.6	5.81	970.5	22.35	27.5	murky	5.81	67.1	
15:05	580		35.6	5.82	970.8	22.33	40.0	murky	6.04	67.3	
15:10	DEV PAUSED - EQUIP. ISSUES										
15:40	580		34.8		DEV	RESUMED					
16:00	590		36.2	5.67	966.5	21.63	7.7	CLR	5.35	80.1	→ 5'
16:10	595		36.4	5.74	971.9	21.80	22.0	murky	6.23	77.5	
16:20	600		36.4	5.78	971.4	21.82	8.8	CLR	6.38	75.2	
	BEGIN LOW FLOW DEVELOPMENT										
16:55		DEV COMPLETE				+ 3.3 GAL					
	603.3	= TOTAL VOLUME REMOVED (gal.)									

DEVELOPMENT METHOD: RECLAIMER + SURGING

NOTES:

Product Name: Low-Flow System

Date: 2020-07-16 16:55:13

Project Information:		Pump Information:	
Operator Name	Jude Waguespack	Pump Model/Type	Reclaimer
Company Name	Golder	Tubing Type	polyethylene
Project Name	166849618	Tubing Diameter	.500 in
Site Name	Plant McDonough	Tubing Length	42 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	647057		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	42 ft

Well Information:		Pumping Information:	
Well ID	B-100	Final Pumping Rate	500 mL/min
Well diameter	2 in	Total System Volume	1.711659 L
Well Total Depth	47.58 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	7.2 in
Depth to Water	34.8 ft	Total Volume Pumped	12.5 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	16:34:05	300.09	22.96	5.52	963.99	5.91	35.40	3.23	83.70
Last 5	16:39:05	600.02	23.15	5.46	965.93	7.37	35.40	2.34	86.30
Last 5	16:44:05	900.01	23.14	5.45	966.96	5.26	35.40	2.23	87.18
Last 5	16:49:05	1200.00	23.29	5.43	968.46	4.55	35.40	2.01	88.41
Last 5	16:54:05	1500.00	23.41	5.42	968.97	5.78	35.40	1.88	89.19
Variance 0			-0.01	-0.01	1.04			-0.11	0.89
Variance 1			0.15	-0.02	1.50			-0.22	1.23
Variance 2			0.12	-0.01	0.51			-0.13	0.78

Notes

Development complete

Grab Samples

Calibration Report: Conductivity Calibration Report
2020-07-14 12:36:47
Probe: 647057
Cell Constant: 1.0477
Stability: Full

Calibration Report: Conductivity Calibration Report
2020-07-15 08:27:55
Probe: 647057
Cell Constant: 1.1573
Stability: Full

Calibration Report: Conductivity Calibration Report
2020-07-16 08:23:59
Probe: 647057
Cell Constant: 1.0632
Stability: Full

Calibration Report: Conductivity Calibration Report
2020-07-17 08:46:48
Probe: 647057
Cell Constant: 1.0496
Stability: Full

Calibration Report: ORP Calibration Report
2020-07-14 12:54:48
Probe: 647057
User Defined: 228.0 mV
Offset: 33.9 mV
Stability: Full

Calibration Report: ORP Calibration Report
2020-07-15 08:51:02
Probe: 647057
User Defined: 228.0 mV
Offset: 34.8 mV
Stability: Full

Calibration Report: ORP Calibration Report
2020-07-16 08:44:30
Probe: 647057
ZoBell's
Offset: 35.7 mV
Stability: Full

Calibration Report: ORP Calibration Report
2020-07-17 09:06:27
Probe: 647057
User Defined: 228.0 mV
Offset: 39.4 mV
Stability: Full

Calibration Report:	pH Calibration Report 2020-07-14 12:51:50 Probe: 647057 4.00 to 7.00 pH Slope: -53.81 mV/pH Offset: 6.63 pH 7.00 to 10.00 pH Slope: -55.07 mV/pH Offset: 6.64 pH Stability: Full

Calibration Report:	pH Calibration Report 2020-07-15 08:47:00 Probe: 647057 4.00 to 7.00 pH Slope: -54.18 mV/pH Offset: 6.62 pH 7.00 to 10.00 pH Slope: -55.99 mV/pH Offset: 6.63 pH Stability: Full

Calibration Report:	pH Calibration Report 2020-07-16 08:40:54 Probe: 647057 4.00 to 7.00 pH Slope: -53.54 mV/pH Offset: 6.60 pH 7.00 to 10.00 pH Slope: -53.64 mV/pH Offset: 6.60 pH Stability: Full

Calibration Report:	pH Calibration Report 2020-07-17 09:03:54 Probe: 647057 4.00 to 7.00 pH Slope: -53.47 mV/pH Offset: 6.63 pH 7.00 to 10.00 pH Slope: -53.92 mV/pH Offset: 6.63 pH Stability: Full

Calibration Report: RDO Calibration Report
2020-07-17 09:14:43
Probe: 647057
Slope: 1.0475
Offset: -0.0000
Stability: Full

Calibration Report: RDO Calibration Report
2020-07-14 13:03:38
Probe: 647057
Slope: 1.1023
Offset: -0.0000
Stability: Full

Calibration Report: RDO Calibration Report
2020-07-15 09:03:31
Probe: 647057
Slope: 1.0505
Offset: -0.0000
Stability: Nominal

Calibration Report: RDO Calibration Report
2020-07-16 09:08:35
Probe: 647057
Slope: 1.1033
Offset: -0.0000
Stability: Nominal

APPENDIX C

CERTIFIED WELL SURVEY

METRO ENGINEERING & SURVEYING CO., INC.
SURVEYORS - ENGINEERS - PHOTOGRAMMETRISTS
PROVIDING PROFESSIONAL SERVICE SINCE 1967

1469 HIGHWAY 20 WEST • MCDONOUGH, GA 30253
phone: 770-707-0777 fax: 770.707-0755
WWW.METRO-ENGINEERING.COM

SURVEYOR'S REPORT

SCOPE OF WORK:

Field survey of existing monitoring wells at Georgia Power Company, Plant McDonough in Smyrna, GA.

Horizontal and vertical datum was derived from RTK GPS observations with corrections from the eGPS network and conventional surveying equipment. Horizontal datum is Georgia State Plane, West Zone, NAD83(2011) and vertical datum is NAVD88.

EQUIPMENT USED TO ESTABLISH THE MONITORING WELL LOCATIONS:

Trimble R8 Dual Frequency GPS Receiver
Leica TS16 Total Station
Leica DNA10 Digital Level

CERTIFICATION:

I hereby certify that the center of well casing (PVC) has a horizontal accuracy of 0.5+/- feet or better using a Trimble R8 Dual Frequency RTK (survey-grade) global positioning system receiver referencing the Georgia State Plane, west zone, NAD83(2011) coordinate system in US survey feet. The top of well casing (PVC) elevation data was determined in feet above mean sea level based on the NAVD88 vertical datum. Vertical data was confirmed to be accurate within 0.01 foot through establishment of a closed level check loop with a Leica DNA10 digital level having a published accuracy of 0.9mm per dual-traverse kilometer.

James R. Green R.L.S. No. 2543

Date: 8/10/20

Plant McDonough
Monitoring Well Locations
August 7, 2020

Well ID	LATITUDE	LONGITUDE	NAIL NORTHING	NAIL EASTING	NAIL ELEV	PVC NORTHING	PVC EASTING	TOP PVC ELEV	ELEV AT BASE
B-100	N33.821507	W84.477304	1390255.7	2202241.1	775.32	1390254.8	2202242.1	777.95	775.3
B-16	N33.827948	W84.473793	1392595.3	2203314.4	823.54	1392595.1	2203315.4	826.47	823.6
B-18	N33.827740	W84.475241	1392520.2	2202876.1	823.89	1392521.0	2202875.5	826.56	823.9
B-24	N33.827616	W84.479935	1392479.7	2201451.1	819.19	1392479.9	2201450.0	822.11	819.3
B-25	N33.828532	W84.479765	1392813.0	2201503.9	833.41	1392813.3	2201502.7	836.54	833.5
B-26	N33.829336	W84.479610	1393105.5	2201551.4	850.61	1393105.6	2201550.4	853.60	850.6
B-28	N33.826209	W84.479175	1391968.5	2201678.9	813.28	1391967.4	2201679.2	816.08	813.3
B-29	N33.825994	W84.480021	1391891.0	2201421.4	813.47	1391890.0	2201422.0	816.43	813.5
B-3	N33.831925	W84.476784	1394044.3	2202412.0	834.86	1394045.1	2202411.5	837.78	835.0
B-31	N33.826387	W84.481648	1392034.9	2200928.0	794.84	1392034.3	2200928.5	797.47	794.9
B-41	N33.823333	W84.478925	1390921.5	2201751.1	792.40	1390920.8	2201751.9	795.20	792.4
B-50	N33.825358	W84.478639	1391656.0	2201840.9	806.49	1391657.1	2201841.0	809.67	809.2
B-51	N33.822173	W84.481705	1390500.7	2200905.6	763.29	1390501.2	2200906.5	765.92	763.3
B-52	N33.827143	W84.480378	1392307.3	2201314.3	820.18	1392308.3	2201314.8	822.89	820.3
B-54	N33.832971	W84.474387	1394422.3	2203141.2	782.54	1394423.5	2203140.7	785.46	782.6
B-55	N33.832207	W84.471067	1394142.2	2204146.8	822.86	1394142.6	2204147.9	825.12	822.9
B-56	N33.831700	W84.470934	1393957.6	2204186.8	820.95	1393957.9	2204187.8	823.59	821.0
B-57	N33.824649	W84.475687	1391397.5	2202736.1	786.03	1391396.3	2202736.9	789.04	786.0
B-58	N33.823902	W84.476706	1391126.5	2202426.0	785.20	1391125.7	2202426.5	788.17	785.2
B-59	N33.832766	W84.474846	1394348.1	2203001.5	785.41	1394349.1	2203001.1	788.00	785.5
B-6	N33.832961	W84.473972	1394420.5	2203266.5	786.45	1394419.5	2203266.5	789.47	786.5
B-60	N33.823839	W84.475205	1391101.4	2202882.2	779.25	1391100.7	2202881.6	782.13	779.2
B-61	N33.823442	W84.476443	1390958.4	2202506.9	778.95	1390957.8	2202505.8	782.09	779.0
B-62	N33.820331	W84.478719	N.A.	N.A.	N.A.	1389828.1	2201811.2	760.08	760.4
B-63	N33.823559	W84.474888	1390998.7	2202977.5	777.37	1390999.1	2202978.1	777.10	777.3
B-64	N33.832856	W84.474746	1394382.3	2203030.6	785.98	1394381.9	2203031.3	785.83	786.1
B-65	N33.832862	W84.471389	N.A.	N.A.	N.A.	1394381.2	2204050.8	821.95	822.3
B-66	N33.831427	W84.470638	1393859.2	2204277.7	813.33	1393858.2	2204277.5	815.90	813.3

Plant McDonough
Monitoring Well Locations
August 7, 2020

B-68	N33.824362	W84.482346	1391298.8	2200715.2	759.05	1391298.2	2200714.2	758.68	759.0
B-7	N33.832841	W84.472887	1394375.6	2203596.0	806.04	1394374.6	2203596.1	809.16	806.1
B-76	N33.822783	W84.475614	1390716.5	2202756.0	760.87	1390717.4	2202756.9	760.53	766.5
B-77	N33.823420	W84.475007	1390949.4	2202941.4	777.12	1390948.7	2202942.0	776.86	777.1
B-78	N33.832708	W84.474987	1394327.3	2202958.7	787.79	1394328.2	2202958.2	790.75	788.0
B-79	N33.833068	W84.474116	1394457.8	2203223.6	785.84	1394458.6	2203223.0	788.66	785.9
B-80	N33.832834	W84.473091	1394373.5	2203533.9	801.73	1394372.6	2203533.9	804.47	801.8
B-81	N33.832815	W84.472409	1394365.8	2203741.3	817.64	1394364.9	2203741.1	820.56	817.7
B-82	N33.831129	W84.470701	1393750.1	2204256.8	807.55	1393750.0	2204258.1	810.07	807.5
B-83	N33.822832	W84.475816	1390735.9	2202695.1	777.17	1390735.5	2202695.6	776.98	777.1
B-84	N33.821939	W84.477307	1390411.2	2202242.5	776.52	1390411.9	2202241.9	776.34	776.6
B-85	N33.832998	W84.474407	1394432.8	2203134.8	782.71	1394433.4	2203134.5	782.54	782.7
B-86	N33.833127	W84.474170	1394479.5	2203207.0	784.52	1394480.0	2203206.6	784.29	784.6
B-87	N33.832915	W84.473100	1394400.8	2203531.3	800.32	1394401.9	2203531.3	803.37	800.4
B-88	N33.832914	W84.472419	1394399.9	2203738.1	816.80	1394401.1	2203738.3	820.07	817.0
B-89	N33.832910	W84.471394	1394398.7	2204048.6	822.53	1394398.4	2204049.4	822.36	822.6
B-90	N33.833185	W84.474151	1394500.4	2203212.8	784.16	1394501.0	2203212.6	784.00	784.2
B-91	N33.833036	W84.474442	N.A.	N.A.	N.A.	1394447.1	2203123.9	782.98	783.1
B-92	N33.832887	W84.474761	1394393.2	2203026.4	785.30	1394392.7	2203026.7	785.08	785.3
B-93	N33.832763	W84.475024	1394348.1	2202947.0	789.19	1394348.7	2202946.7	789.07	789.2
B-94	N33.832915	W84.473158	1394400.9	2203513.8	799.12	1394402.0	2203513.7	801.74	799.2
B-95	N33.833233	W84.474299	1394519.5	2203167.2	784.18	1394518.6	2203167.7	784.00	784.3
B-96	N33.833122	W84.474524	1394479.4	2203098.8	785.19	1394478.7	2203099.3	784.92	785.3
B-97	N33.832988	W84.474823	1394430.6	2203008.0	786.50	1394430.0	2203008.3	786.29	786.6
B-98	N33.832883	W84.475066	1394392.7	2202934.6	789.81	1394392.5	2202934.0	789.67	789.8
B-99	N33.833247	W84.474573	1394524.7	2203084.9	782.57	1394524.2	2203084.5	782.39	782.6
DGWA-53	N33.830346	W84.479224	1393473.5	2201667.7	841.37	1393472.8	2201668.8	844.26	841.3
DGWA-70A	N33.822116	W84.482741	1390480.2	2200591.7	805.67	1390481.4	2200591.6	808.52	805.8
DGWA-71	N33.831695	W84.479078	1393964.3	2201714.7	861.22	1393963.3	2201714.8	863.84	861.2
DGWC-8	N33.832699	W84.471944	1394323.0	2203882.3	824.02	1394322.2	2203882.1	826.38	824.1

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DGWC-37	N33.822121	W84.481661	1390483.0	2200920.7	763.64	1390482.2	2200919.8	766.21	763.7
DGWC-10	N33.831317	W84.470889	1393818.1	2204200.0	820.82	1393818.3	2204201.1	823.55	820.9
DGWC-11	N33.830571	W84.471001	1393546.9	2204167.3	797.99	1393547.1	2204166.2	800.57	798.1
DGWC-12	N33.829478	W84.471122	1393149.8	2204127.3	771.10	1393149.4	2204128.3	773.86	771.2
DGWC-13	N33.828740	W84.471263	1392880.8	2204085.7	791.20	1392881.1	2204084.6	794.10	791.3
DGWC-14	N33.827896	W84.471495	1392574.5	2204014.4	789.69	1392574.2	2204013.3	792.40	789.8
DGWC-15	N33.827810	W84.472595	1392544.2	2203677.9	821.43	1392544.1	2203679.0	824.50	821.5
DGWC-17	N33.828084	W84.474664	1392645.0	2203050.2	834.14	1392645.6	2203051.0	837.05	834.2
DGWC-19	N33.827248	W84.476143	1392341.8	2202601.5	822.87	1392342.6	2202601.0	825.46	822.9
DGWC-2	N33.831683	W84.477745	1393957.1	2202119.4	848.17	1393958.0	2202119.5	850.88	848.3
DGWC-20	N33.826754	W84.477079	1392163.7	2202316.3	819.66	1392164.5	2202315.6	822.14	819.8
DGWC-21	N33.826487	W84.477911	1392066.4	2202063.3	813.47	1392067.5	2202063.5	816.28	813.5
DGWC-22	N33.826647	W84.478805	1392125.2	2201791.7	813.69	1392126.3	2201791.9	816.59	813.7
DGWC-23	N33.826957	W84.479498	1392240.4	2201582.8	815.63	1392239.7	2201582.0	818.37	815.7
DGWC-38	N33.821795	W84.480906	1390363.6	2201149.0	754.67	1390362.7	2201148.6	757.43	754.7
DGWC-39	N33.821635	W84.479616	1390302.5	2201539.8	756.93	1390303.6	2201540.1	759.89	757.0
DGWC-4	N33.832275	W84.475959	1394170.6	2202662.7	812.06	1394171.5	2202662.4	814.85	812.1
DGWC-40	N33.822523	W84.478678	1390625.1	2201826.7	776.12	1390625.7	2201825.9	779.06	776.2
DGWC-42	N33.824453	W84.478540	1391327.4	2201869.1	801.98	1391327.8	2201870.2	804.68	802.0
DGWC-47	N33.825080	W84.476104	1391553.1	2202611.3	794.35	1391553.8	2202610.5	797.45	794.3
DGWC-48	N33.824420	W84.477157	1391314.2	2202289.2	785.21	1391314.6	2202290.2	788.33	785.2
DGWC-5	N33.832647	W84.474964	1394305.3	2202965.3	788.64	1394306.3	2202965.1	791.75	788.7
DGWC-67	N33.823417	W84.481959	1390953.6	2200830.0	766.80	1390953.8	2200830.7	766.70	767.0
DGWC-68A	N33.824370	W84.482278	1391300.9	2200733.4	765.06	1391301.2	2200734.9	765.33	765.4
DGWC-69	N33.825150	W84.482537	1391583.9	2200657.2	763.99	1391585.0	2200657.1	763.75	764.0
DGWC-9	N33.831969	W84.470993	1394055.6	2204168.9	821.86	1394055.9	2204170.0	824.35	821.8

February 12, 2021 Project No. 166849618

Mr. Joju Abraham, PG
Southern Company Services
241 Ralph McGill Blvd NE
Atlanta, GA 30308
jabraham@southernco.com

PIEZOMETER INSTALLATION REPORT (B-101D THROUGH B-111D)
GEORGIA POWER COMPANY – PLANT MCDONOUGH, SMYRNA, GEORGIA

Dear Mr. Abraham,

Golder Associates Inc. (Golder) is submitting this *Piezometer Installation Report* to Southern Company Services, Inc. (SCS) and Georgia Power Company (Georgia Power), which documents the construction of piezometers at Plant McDonough in Smyrna, Georgia (Site). Piezometer construction activities were performed in general accordance with the standards described in the Resource Conservation and Recovery Act (RCRA) Technical Enforcement Guidance Document (1986) and the Georgia Water Wells Standards Act of 1985. The installation of the piezometers was conducted under the oversight and direction of Timothy I. Richards, a Georgia Registered Professional Geologist (PG).

The field activities for this investigation were performed in October 2020 through December 2020. The field work consisted of the installation and development of eleven (11) piezometers installed for purposes of vertical delineation of target constituents for Coal Combustion Residuals (CCR) compliance monitoring in groundwater. Metro Engineering & Surveying (Metro) conducted a survey of the installed piezometers in November 2020. A summary of the activities is presented below. Figure 1 presents the location of each of the newly installed piezometers.

Drilling and Construction Activities

Piezometers B-101D through B-111D were drilled and installed by Cascade at the site between October and November 2020. Cascade had a current and valid bond with the Water Wells Standards Advisory Council for the state of Georgia at the time of drilling and piezometer installation. A copy of Cascade's bond is included in Appendix A and the driller's name is provided on the boring/construction diagrams presented in Appendix B.

An experienced and licensed Golder geologist (Michael Boatman) was present on site to oversee and record the drilling and piezometer construction under the supervision of a professional geologist registered to practice in Georgia (Timothy I. Richards). Drilling methods employed for borehole advancement were 4"/6" sonic drilling technique. SCS – Civil Field Services (CFS) used air knife methodology to clear the first 10 feet of the subsurface for any utilities. The drilling equipment consisted of a Geoprobe 8140LC roto-sonic drill rig. Prior to use, and between boreholes, downhole equipment was steam cleaned.

The piezometers were installed in bedrock, and rock cores were collected. Boring logs and construction records for the newly installed piezometers are included in Appendix B. The construction data are summarized in Table 1 and the locations of the piezometers are provided on Figure 1.

Piezometers were constructed within the boreholes using factory-cleaned and sealed Schedule 40 poly-vinyl chloride (PVC) products with flush-threaded fittings. Piezometers B-101D through B-111D were constructed with a 10-foot section of 4-inch outer diameter (OD) and 2-inch inner diameter (ID), flush-threaded, 0.010-inch factory-slotted PVC U-Pack screens. The drillers filled the annulus of each U-Pack screen section with No. 1 filter sand. In each case, the screen was placed near the bottom of the borehole, with the remainder of the piezometer constructed from 10-foot sections of 2-inch ID, flush-threaded, PVC casing riser. A flush-threaded PVC end cap was placed on the bottom of each piezometer to provide a 0.4-foot sump/sediment trap. Piezometers were completed as “stick-ups” extending approximately 31 inches above grade, except B-110D which was completed as a flush mount. The PVC products used were American Society for Testing and Materials (ASTM) and National Sanitation Foundation (NSF)-rated.

Following placement of the screen and casing, the annular space in each borehole adjacent to the screen was filled with U.S. Standard Sieve size No. 1 filter pack sand as appropriate for the formation. The filter pack sand was placed into each borehole extending approximately 2 feet above the depth of the top of the screen. Immediately following placement of the filter pack, each piezometer was pumped using a portable submersible pump until visibly clear water was discharged. If settling occurred during pumping, additional sand was placed so that the filter sand thickness was no less than 2 feet above the screen. A filter pack seal, composed of 2 to 5 feet of hydrated time-release 3/8” coated bentonite pellets, was then placed on top of the filter pack by slowly pouring the material down the boreholes tamping it into place. The bentonite was hydrated using potable water and allowed to cure for at least two hours prior to grouting the piezometers.

Following hydration of the bentonite, the remaining annular space was grouted with an AquaGuard® bentonite grout mixture to approximately 2 feet below ground surface using a tremie method. Based on information provided by the product manufacturer, AquaGuard® is a bentonite grout consisting of bentonite and additives that allow for a mixture of 30% solids by weight to facilitate grouting via tremie pipe, with additives that slow the bentonite curing so that proper placement can be achieved. The surface completion for piezometers B-101D through B-109D and B-111D consists of a locked, aluminum protective casing and a 4-foot by 4-foot by 4-inch concrete pad with bollards. The surface completion for piezometer B-110D consists of a secure 8-inch flush mount road-box set in a 4-foot by 4-foot by 4-inch concrete pad. The annular space of the aluminum protective casings and flush mount were filled with pea gravel to approximately 2 inches from top of PVC.

Development Activities

The newly installed piezometers (B-101D through B-111D) were developed between October and December 2020 in accordance with the Monitoring Well Development Procedures, dated March 2016, prepared by SCS. Additionally, the piezometer screen intervals were surged and then pumped using a pneumatic Geotech Reclaimer® pump system. During development, water quality measurements of pH, temperature, specific conductance, and turbidity were periodically collected using field-calibrated water quality equipment after the piezometer responded to improving conditions. Due to poor recharge, B-109D and B-110D were surged by adding 15 gallons of deionized (DI) water in each well during development. The volume of DI water added was removed in addition to recharged groundwater in the piezometer, as recorded on the development logs. Similarly, B-103D did not recharge sufficiently during development. Development at B-103D was discontinued and is

incomplete due to low recovery and elevated turbidity. Prior to any sampling, this well will be further developed. Development activities were conducted utilizing a SmarTroll® multimeter and a Lamotte 2020 turbidimeter, and for monitoring water quality measurements. Equipment calibration forms and development forms are included in Appendix B with development details summarized in Table 2.

As presented in Table 2, between approximately 36 and 153 gallons were removed from each piezometer. During development, attempts were made for each piezometer to achieve a turbidity value below 10 nephelometric turbidity units (NTUs). Water level measurements were collected using a decontaminated electronic water level indicator, referenced to a notch (or permanent marking) at the top of the casing and recorded to within 0.01 foot.

Piezometer Survey

The newly installed piezometers were surveyed in November 2020 by Metro Engineering & Surveying Co., Inc. (James R. Green). Surveyed locations and elevations are presented on the boring/construction diagrams and a site map showing the locations of the newly installed piezometers is presented on Figure 1. The certified piezometer survey is attached as Appendix C.

Closing

We appreciate the opportunity to assist SCS and GPC with this project. Should you have any questions or require additional information, please contact the undersigned at (770) 496-1893.

Sincerely,

Golder Associates Inc.

Dawn L. Prell
Senior Consultant

Timothy I. Richards, PG
Associate, Senior Consultant

BAS/TIR

CC: Georgia Power Company - Plant McDonough
Ben Hodges, Geologist, Georgia Power Company
Dawn L. Prell - Golder
Rachel P. Kirkman, PG - Golder

Attachments: Figure 1 - Site Plan and Piezometer Location Map
Table 1 - Summary of Piezometer Construction Details
Table 2 - Summary of Piezometer Development Data
Appendix A – Driller's Bond
Appendix B - Boring Logs/Construction Diagrams, Development Forms, and Calibration Logs
Appendix C – Certified Survey Data

https://golderassociates.sharepoint.com/sites/11950g/Shared Documents/200_Reports_Technical Work/NES Well Installation 10.2020/Report/Plant McDonough Piezo_B-101D-B-111D_Install Report - FINAL 2.12.2021.docx

FIGURE 1

SITE PLAN AND PIEZOMETER LOCATION MAP

LEGEND

- PIEZOMETER
- PROPERTY BOUNDARY
- PERMIT BOUNDARY

NOTES

1. ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE

REFERENCE

1. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

2. COORDINATE SYSTEM: NAD 1983 STATE PLANE GEORGIA WEST (U.S. FEET).

3. MONITORING WELL/PIEZOMETER LOCATIONS PROVIDED BY METRO ENGINEERING & SURVEYING CO., INC. (JANUARY 2021).

0 800 1,600

1 IN= 600 FT

CLIENT
SOUTHERN COMPANY SERVICES, INC.
PLANT MCDONOUGH

PROJECT
PIEZOMETER INSTALLATION REPORT (B-101D THROUGH B-111D)

TITLE
SITE PLAN AND PIEZOMETER LOCATION MAP

CONSULTANT
GOLDER

YYYY-MM-DD	2020-09-22
PREPARED	BAS
DESIGN	BAS
REVIEW	DP/RK
APPROVED	TIR

PROJECT No. 166849618
Rev. 0
FIGURE 1

Path: C:\Users\tsteele\Desktop\McDonough GIS - Other\Figure 1 - Site Plan and Piezometer Location Map.mxd

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET HAS BEEN MODIFIED FROM ANSI B

TABLE 1

SUMMARY OF PIEZOMETER CONSTRUCTION DETAILS

TABLE 1
Summary of Piezometer Construction Details
Georgia Power Company - Plant McDonough
Smyrna, Georgia

Borehole ID	Latitude	Longitude	NAD83 Northing	NAD83 Easting	Elevation Top of PVC (feet NAVD88)	Elevation Ground Surface (feet NAVD88)	Rock Type at Screen Interval	Total Depth (feet bgs)	Depth to Bedrock (feet bgs)	Screened Interval (feet bgs)	Water Level (feet bTOC)	Date Installed
B-101D	33.831990	-84.470999	1394063.6	2204168.2	824.29	821.2	Schist	75.00	60.0	64.9-74.9	34.0	11/12/2020
B-102D	33.831344	-84.470891	1393828.4	2204200.4	823.42	820.6	Schist	85.00	70.0	75.4-84.4	34.0	11/10/2020
B-103D	33.825052	-84.476091	1391543.5	2202614.4	795.96	793.8	Gneiss	70.00	18.0	60-70	12.0	10/15/2020
B-104D	33.824431	-84.477129	1391318.3	2202298.5	787.90	785.3	Gneiss	60.00	35.0	50-60	12.0	10/20/2020
B-105D	33.822547	-84.478659	1390634.5	2201831.9	779.01	776.0	Gneiss	70.00	55.0	60-70	22.5	10/19/2020
B-106D	33.832712	-84.471987	1394327.1	2203869.2	826.21	823.5	Gneiss	80.00	60.0	69.4-79.4	37.0	11/13/2020
B-107D	33.827226	-84.476158	1392334.5	2202596.4	823.38	820.6	Gneiss	85.75	67.0	75.1-85.1	21.8	10/28/2020
B-108D	33.826733	-84.477091	1392156.1	2202312.5	821.13	818.4	Gneiss	80.00	57.5	69-79	17.7	10/27/2020
B-109D	33.831682	-84.477720	1393957.5	2202127.0	850.73	847.8	Gneiss	100.00	45.0	88.4-99.4	23.5	10/31/2020
B-110D	33.824352	-84.482274	1391294.4	2200736.0	764.61	764.7	Gneiss	65.00	35.0	53-63	9.4	11/17/2020
B-111D	33.832640	-84.474992	1394303.4	2202956.4	791.87	789.1	Gneiss	85.00	27.0	74.15-84.15	8.9	11/3/2020

Notes:
NAD83 - North American Datum 1983
NAVD88 - North American Vertical Datum 1988
NA - Not Available
bgs - Below ground surface
bTOC - Below Top of Casing

TABLE 2

SUMMARY OF PIEZOMETER DEVELOPMENT DATA

Table 2
Summary of Piezometer Development Data
Georgia Power Company - Plant McDonough
Smyrna, Georgia

Piezometer ID	Date Completed	Development Method	Measured Total Depth of Well (feet bTOC)	Initial Water level (feet bTOC)	Final Water Level (feet bTOC)	Volume of Casing (gal)	Total Volume Removed (gal)	pH (SU)	Specific Conductance (mS/cm)	Temp (°C)	Turbidity (NTU)	ORP (mV)	DO (mg/L)
B-101D	12/16/2020	Reclaimer Pump	77.8	26.16	35.28	8.4	51	6.02	0.558	14.06	2.19	93.51	1.20
B-102D	12/8/2020	Reclaimer Pump	87.5	32.36	38.86	9.0	45	5.48	0.629	15.91	1.46	-7.38	0.22
B-103D[1]	10/30/2020	Reclaimer Pump	74.6	28.15	35.95	7.6	36	6.63	1.790	12.92	934	123.3	2.28
B-104D	10/29/2020	Reclaimer Pump	63.5	6.25	26.60	9.3	36	6.06	1.059	19.81	0.19	272.2	1.33
B-105D	11/4/2020	Reclaimer Pump	72.9	16.20	40.40	9.2	124	6.10	0.647	20.37	0.28	1184.21	1.54
B-106D	12/8/2020	Reclaimer Pump	82.2	35.33	37.19	7.6	87	5.93	0.512	16.92	4.94	84.61	0.13
B-107D	11/2/2020	Reclaimer Pump	85.3	18.35	18.83	10.9	103	5.86	0.710	18.42	3.56	215.20	0.13
B-108D	11/5/2020	Reclaimer Pump	81.9	20.25	22.60	10.1	123	6.08	0.791	18.39	4.70	-11.69	1.06
B-109D	12/16/2020	Reclaimer Pump	100.9	37.20	95.70	10.4	94[2]	6.46	0.420	13.12	2.49	95.30	8.48
B-110D	12/10/2020	Reclaimer Pump	63.1	8.34	62.05	8.9	41[3]	7.45	0.395	16.25	1.20	-342.70	0.93
B-111D	11/9/2020	Reclaimer Pump	85.8	9.58	14.35	12.4	153	6.88	0.827	20.03	1.16	-384.27	0.12

Notes:
bTOC - feet below Top of Casing
gal - gallons
SU - Standard Units
mS/cm - millisiemens per centimeter
°C - degrees Celcius
NTU - nephelometric turbidity units
mV - millivolts
mg/L - milligrams per liter
ORP - oxygen reduction potential
DO - dissolved oxygen
[1]: Development at B-103D discontinued/incomplete due to low recovery and elevated turbidity
[2]: 94 gallons of water were removed from B-109D, which includes approximately 15 gallons of deionized water that was added to facilitate development
[3]: 41 gallons of water were removed from B-110D, which includes approximately 15 gallons of deionized water that was added to facilitate development

GOLDER

APPENDIX A

DRILLER'S BOND

COPY

CONTINUATION
CERTIFICATE

Atlantic Specialty Insurance Company , Surety upon

a certain Bond No. 800031223

dated effective June 30, 2017
(MONTH-DAY-YEAR)

on behalf of Michael C. Rice and Cascade Drilling, L.P., any and all employees, officers and partners
(PRINCIPAL)

and in favor of State of Georgia
(OBLIGEE)

does hereby continue said bond in force for the further period

beginning on June 30, 2019
(MONTH-DAY-YEAR)

and ending on June 30, 2021
(MONTH-DAY-YEAR)

Amount of bond Thirty Thousand and Zero/100 ($30,000.00)

Description of bond Water Well Contractor Performance Bond

Premium: $1,200.00

PROVIDED: That this continuation certificate does not create a new obligation and is executed upon the express condition and provision that the Surety's liability under said bond and this and all Continuation Certificates issued in connection therewith shall not be cumulative and that the said Surety's aggregate liability under said bond and this and all such Continuation Certificates on account of all defaults committed during the period (regardless of the number of years) said bond had been and shall be in force, shall not in any event exceed the amount of said bond as hereinbefore set forth.

Signed and dated on May 9, 2019
(MONTH-DAY-YEAR)
Atlantic Specialty Insurance Company

By
Attorney-in-Fact Elizabeth R. Hahn

Parker, Smith & Feek, Inc.
Agent

2233 112th Ave NE Bellevue, WA 98004
Address of Agent

(425) 709-3600
Telephone Number of Agent

S-0157/GE 8/08

XDP

OneBeacon
INSURANCE GROUP

Power of Attorney

KNOW ALL MEN BY THESE PRESENTS, that ATLANTIC SPECIALTY INSURANCE COMPANY, a New York corporation with its principal office in Plymouth, Minnesota, does hereby constitute and appoint: **Deanna M. French, Susan B. Larson, Elizabeth R. Hahn, Jana M. Roy, Scott McGilvray, Mindee L. Rankin, Ronald J. Lange, John R. Claeys, Roger Kaltenbach, Guy Armfield, Scott Fisher, Andrew P. Larsen, Nicholas Fredrickson,** each individually if there be more than one named, its true and lawful Attorney-in-Fact, to make, execute, seal and deliver, for and on its behalf as surety, any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof; provided that no bond or undertaking executed under this authority shall exceed in amount the sum of: **sixty million dollars ($60,000,000)** and the execution of such bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof in pursuance of these presents, shall be as binding upon said Company as if they had been fully signed by an authorized officer of the Company and sealed with the Company seal. This Power of Attorney is made and executed by authority of the following resolutions adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the

Resolved: That the President, any Senior Vice President or Vice-President (each an "Authorized Officer") may execute for and in behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and affix the seal of the Company thereto; and that the Authorized Officer may appoint and authorize an Attorney-in-Fact to execute on behalf of the Company any and all such instruments and to affix the Company seal thereto; and that the Authorized Officer may at any time remove any such Attorney-in-Fact and revoke all power and authority given to any such Attorney-in-Fact.

Resolved: That the Attorney-in-Fact may be given full power and authority to execute for and in the name and on behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and any such instrument executed by any such Attorney-in-Fact shall be as binding upon the Company as if signed and sealed by an Authorized Officer and, further, the Attorney-in-Fact is hereby authorized to verify any affidavit required to be attached to bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof.

This power of attorney is signed and sealed by facsimile under the authority of the following Resolution adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the signature of an Authorized Officer, the signature of the Secretary or the Assistant Secretary, and the Company seal may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing an Attorney-in-Fact for purposes only of executing and sealing any bond, undertaking, recognizance or other written obligation in the nature thereof, and any such signature and seal where so used, being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed.

IN WITNESS WHEREOF, ATLANTIC SPECIALTY INSURANCE COMPANY has caused these presents to be signed by an Authorized Officer and the seal of the Company to be affixed this twenty-sixth day of October, 2017.

ATLANTIC SPECIALTY INSURANCE COMPANY CORPORATE SEAL 1986 NEW YORK

By _____
Paul J. Brehm, Senior Vice President

STATE OF MINNESOTA
HENNEPIN COUNTY

On this twenty-sixth day of October, 2017, before me personally came Paul J. Brehm, Senior Vice President of ATLANTIC SPECIALTY INSURANCE COMPANY, to me personally known to be the individual and officer described in and who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, that he is the said officer of the Company aforesaid, and that the seal affixed to the preceding instrument is the seal of said Company and that the said seal and the signature as such officer was duly affixed and subscribed to the said instrument by the authority and at the direction of the Company.

TARA JANELLE STAFFORD
NOTARY PUBLIC - MINNESOTA
My Commission Expires
January 31, 2020

_____
Notary Public

I, the undersigned, Secretary of ATLANTIC SPECIALTY INSURANCE COMPANY, a New York Corporation, do hereby certify that the foregoing power of attorney is in full force and has not been revoked, and the resolutions set forth above are now in force.

Signed and sealed. Dated 9 day of May 2019

ATLANTIC SPECIALTY INSURANCE COMPANY CORPORATE SEAL 1986 NEW YORK

This Power of Attorney expires
October 1, 2019

_____
Christopher V. Jerry, Secretary

APPENDIX B

BORING LOGS/CONSTRUCTION DIAGRAMS, DEVELOPMENT FORMS AND CALIBRATION LOGS

RECORD OF BOREHOLE B-101D

SHEET 1 of 2

PROJECT: Plant McDonough
PROJECT NUMBER: 1668496.18
DRILLED DEPTH: 75.00 ft
LOCATION: Next to DGWC-9

DRILL RIG: Geoprobe 8140LC
DATE STARTED: 11/11/20
DATE COMPLETED: 11/12/20

NORTHING: 1394063.6
EASTING: 2204168.2
GS ELEVATION: 821.2 ft
TOC ELEVATION: 824.29 ft

DEPTH W.L.: 34.0
ELEVATION W.L.: 790.3
DATE W.L.: 11/12/20
TIME W.L.: 0954

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	TYPE	REC	MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
0		0.00 - 10.00 Air knife; FILL	FILL						Stick-up	**B-101D** Borehole Diameter: 4" **WELL CASING** Interval: 0-75' Material: Schedule 40 PVC Diameter: 2" Joint Type: Screw fit with rubber seam **WELL SCREEN** Interval: 64.9'-74.9' Material: Schedule 40 PVC Diameter: 2" Slot Size: .010" End Cap: Schedule 40 PVC **FILTER PACK** Interval: 62.5'-75.0' Type: FilterSil Quantity: 4-50 lbs bags **FILTER PACK SEAL** Interval: 59.0'-62.5' Type: 3/8" Uncoated Pel-Plug Quantity: 1-5 gallon bucket **ANNULUS SEAL** Interval: 0'-59.0' Type: AquaGuard Bentonite Grout Quantity: Approximately 80 gallons **NOTES**
10		10.00 - 15.00 (SM), SILTY SAND; tannish brown to reddish brown, low plasticity, w<pl, dry, loose to soft	SM		10.00	1	ROTO SONIC	8.00 / 10.00		
15		15.00 - 16.00 (TWR), TRANSITIONALLY WEATHERED ROCK; dark gray, deeply weathered, fine to medium, poorly jointed	TWR		15.00					
		16.00 - 20.00 (CL), CLAY; some sand, reddish brown, fine to coarse, low plasticity, w<PL, soft, moist to wet	CL		16.00					
20		20.00 - 23.00 (ML), SILT; trace to some gravels, reddish brown, low plasticity, w<PL, very soft, wet	ML		20.00	2	ROTO SONIC	4.00 / 5.00		
		23.00 - 25.00 (SM), SILTY SAND; trace gravels, tannish brown to gray, non-plastic, w<PL, loose, dry, TWR	TWR		23.00					
25		25.00 - 35.00 NO RECOVERY; material washed out of core barrel after switching to rock coring methods based on the TWR at the 23-25' interval.	NR		25.00	3	ROTO SONIC	0.00 / 10.00	AquaGuard Bentonite Grout	
30										
35		35.00 - 40.00 NO RECOVERY ; The core barrel was able to be advanced to depth, but casing was not able to advance to depth. Material was lost while extracting core barrel.	NR		35.00	4	ROTO SONIC	0.00 / 5.00		
40		40.00 - 50.00 NO RECOVERY ; The core barrel was able to be advanced to depth, but casing was not able to advance to depth. Material was lost while extracting core barrel.	NR		40.00	5	ROTO SONIC	0.00 / 10.00		
45										
50		Log continued on next page								

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Fred Dorse

GA INSPECTOR: Michael Boatman, PG
CHECKED BY: Timothy Richards, PG
DATE: 2/3/21

GOLDER

RECORD OF BOREHOLE B-101D

PROJECT: Plant McDonough
PROJECT NUMBER: 1668496.18
DRILLED DEPTH: 75.00 ft
LOCATION: Next to DGWC-9

DRILL RIG: Geoprobe 8140LC
DATE STARTED: 11/11/20
DATE COMPLETED: 11/12/20

NORTHING: 1394063.6
EASTING: 2204168.2
GS ELEVATION: 821.2 ft
TOC ELEVATION: 824.29 ft

DEPTH W.L.: 34.0
ELEVATION W.L.: 790.3
DATE W.L.: 11/12/20
TIME W.L.: 0954

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLES SAMPLE NO.	SAMPLES TYPE	SAMPLES REC	MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
50		50.00 - 51.00 (ML), SANDY SILT; grayish brown, low to medium plasticity, w~PL, soft to firm, moist	ML		50.00					
		51.00 - 52.00 (ML), SILT; trace gravels, schist fragments, grayish tan, non-plastic, non-cohesive, w<PL, loose, dry	ML		51.00					
		52.00 - 52.30 (TWR), TRANSITIONALLY WEATHERED ROCK; deeply weathered, R2, well foliated, fine to medium grain, iron staining,	TWR		52.30					
55		52.30 - 60.00 (ML), SANDY SILT; with gravel, grayish brown, low to medium plasticity, w~PL, soft to firm, moist	ML			6	ROTO SONIC	9.50 10.00		
60		60.00 - 70.00 (SCHIST), BEDROCK; well foliated, highly crenulated, poorly jointed, iron staining	BR		60.00	7	ROTO SONIC	2.50 10.00	3/8" Uncoated Pel-Plug Sand Filter Pack	**B-101D** Borehole Diameter: 4" **WELL CASING** Interval: 0-75' Material: Schedule 40 PVC Diameter: 2" Joint Type: Screw fit with rubber seam **WELL SCREEN** Interval: 64.9'-74.9' Material: Schedule 40 PVC Diameter: 2" Slot Size: .010" End Cap: Schedule 40 PVC **FILTER PACK** Interval: 62.5'-75.0' Type: FilterSil Quantity: 4-50 lbs bags **FILTER PACK SEAL** Interval: 59.0'-62.5' Type: 3/8" Uncoated Pel-Plug Quantity: 1-5 gallon bucket **ANNULUS SEAL** Interval: 0'-59.0' Type: AquaGuard Bentonite Grout Quantity: Approximately 80 gallons **NOTES**
70		70.00 - 72.00 (ML), SANDY SILT; grayish brown, low to medium plasticity, w~PL, soft to firm, moist	ML		70.00	8	ROTO SONIC	3.55 5.00	U-Pack Screen	
		72.00 - 75.00 (SCHIST), BEDROCK; well foliated, highly crenulated, poorly jointed, iron staining	BR		72.00					
75		Boring completed at 75.00 ft								

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Fred Dorse

GA INSPECTOR: Michael Boatman, PG
CHECKED BY: Timothy Richards, PG
DATE: 2/3/21

GOLDER

RECORD OF BOREHOLE B-102D

SHEET 1 of 2

PROJECT: Plant McDonough
PROJECT NUMBER: 1668496.18
DRILLED DEPTH: 85.00 ft
LOCATION: Next to DGWC-10

DRILL RIG: Geoprobe 8140LC
DATE STARTED: 11/9/20
DATE COMPLETED: 11/10/20

NORTHING: 1393828.4
EASTING: 2204200.4
GS ELEVATION: 820.6 ft
TOC ELEVATION: 823.42 ft

DEPTH W.L.: 34.0
ELEVATION W.L.: 789.4
DATE W.L.: 11/10/2020
TIME W.L.: 1444

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLES SAMPLE NO.	TYPE	REC	MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
0		0.00 - 10.00 Air knife; FILL	FILL						Stick-up	**B-102D** Borehole Diameter: 4" **WELL CASING** Interval: 0'-85' Material: Schedule 40 PVC Diameter: 2" Joint Type: Screw fit with rubber seam **WELL SCREEN** Interval: 74.4'-84.4' Material: Schedule 40 PVC Diameter: 2" Slot Size: .010" End Cap: Schedule 40 PVC **FILTER PACK** Interval: 72.0'-75.4' Type: FilterSil Quantity: 4-50 lbs bags **FILTER PACK SEAL** Interval: 67'-72' Type: 3/8" Uncoated Pel-Plug Quantity: 1-5 gallon bucket **ANNULUS SEAL** Interval: 0'-67' Type: AquaGuard Bentonite Grout Quantity: Approximately 120 gallons **NOTES**
10		10.00 - 15.50 (CL), CLAY; red brown, trace to some sand, fine grain, w~PL, low plasticity, soft, moist	CL		10.00	1	ROTO SONIC	6.50 / 10.00		
15		15.50 - 17.50 (ML), SILT; red brown, trace gravels, non-plastic to low plasticity, w<PL, soft, moist	ML		15.50					
		17.50 - 20.00 (ML), SILT; tanish-orange brown to silver, nonplastic to low plasticity, soft to loose	ML		17.50					
20		20.00 - 26.00 (SM), SILTY SAND; bronze, some coarse sand, nonplastic, dry to moist	SM		20.00	2	ROTO SONIC	10.00 / 10.00		
25		26.00 - 30.00 (SM), SILTY SAND; gray, some coarse sand, nonplastic, non-cohesive, compact, dry to moist	SM		26.00					
30		30.00 - 40.00 (SM), SILTY SAND; gray and orange-brown, non-plastic to low plasticity, firm to compact, dry to moist, soft to firm, contains muscovite	SM		30.00	3	ROTO SONIC	9.00 / 10.00	AquaGuard Bentonite Grout	
40		40.00 - 44.00 (SM), SILTY SAND; gray and orange-brown, non-plastic to low plasticity, firm to compact, dry to moist, soft to firm	SM		40.00	4	ROTO SONIC	7.00 / 10.00		
45		44.00 - 46.00 (ML), SILT; gray, non-plastic to lows plasticity, soft, moist,	ML		44.00					
		46.00 - 50.00 (SM), SILTY SAND; reddish brown, non-plastic to low plasticity, very soft, wet	SM		46.00					
50		Log continued on next page								

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Fred Dorse

GA INSPECTOR: Michael Boatman, PG
CHECKED BY: Timothy Richards, PG
DATE: 2/3/21

GOLDER

RECORD OF BOREHOLE B-102D

SHEET 2 of 2

PROJECT: Plant McDonough
PROJECT NUMBER: 1668496.18
DRILLED DEPTH: 85.00 ft
LOCATION: Next to DGWC-10

DRILL RIG: Geoprobe 8140LC
DATE STARTED: 11/9/20
DATE COMPLETED: 11/10/20

NORTHING: 1393828.4
EASTING: 2204200.4
GS ELEVATION: 820.6 ft
TOC ELEVATION: 823.42 ft

DEPTH W.L.: 34.0
ELEVATION W.L.: 789.4
DATE W.L.: 11/10/2020
TIME W.L.: 1444

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLES SAMPLE NO.	TYPE	REC	MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
50		50.00 - 51.00 (SM), SILTY SAND; reddish brown, non-plastic to low plasticity, very soft, wet	SM		50.00					
		51.00 - 55.00 (SM), SILTY SAND; gray, w<PL, fine to compact, dry to moist, contains muscovite	SM		51.00	5	ROTO SONIC	5.00 / 5.00		
55		55.00 - 60.00 (SM), SILTY SAND; gray to yellow orange, w<PL, fine to stiff, dry to moist, saprolitic	SM		55.00	6	ROTO SONIC	5.00 / 5.00		
60		60.00 - 65.00 (ML), SILT; gray to light brown, w<PL, dense, dry	ML		60.00	7	ROTO SONIC	4.00 / 5.00		
65		65.00 - 70.00 (TWR), TRANSITIONALLY WEATHERED ROCK; silty sand, gray, low plasticity, w<PL, stiff to hard, dry, saprolitic	TWR		65.00	8	ROTO SONIC	5.00 / 5.00	3/8" Uncoated – Pel-Plug	
70		70.00 - 75.00 (SCHIST), BEDROCK, dark gray to black, fine to medium grain, moderately foliated, poorly jointed, high crenulated, weak to strong rock, slightly to moderately weathered, feldspar, muscovite, schist,	BR		70.00	9	ROTO SONIC	5.00 / 5.00	Sand Filter – Pack	
75		75.00 - 85.00 (SCHIST), BEDROCK; dark gray to black, moderately foliated, poorly jointed, high crenulated, weak to strong rock, slightly to moderately weathered, feldspar, muscovite, schist	BR		75.00	10	ROTO SONIC	7.00 / 10.00	U-Pack – Screen	
80										
85		Boring completed at 85.00 ft								
90										
95										
100										

B-102D
Borehole Diameter: 4"
WELL CASING
Interval: 0'-85'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Screw fit with rubber seam
WELL SCREEN
Interval: 74.4'-84.4'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: .010"
End Cap: Schedule 40 PVC
FILTER PACK
Interval: 72.0'-75.4'
Type: FilterSil
Quantity: 4-50 lbs bags
FILTER PACK SEAL
Interval: 67'-72'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1-5 gallon bucket
ANNULUS SEAL
Interval: 0'-67'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 120 gallons

NOTES

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Fred Dorse

GA INSPECTOR: Michael Boatman, PG
CHECKED BY: Timothy Richards, PG
DATE: 2/3/21

GOLDER

BOREHOLE RECORD MCDONOUGH MASTER LIST (2) (3) (1) (2).GPJ PIEDMONT.GDT 7/19/21

RECORD OF BOREHOLE B-103D

PROJECT: Plant McDonough
PROJECT NUMBER: 1668496.18
DRILLED DEPTH: 70.00 ft
LOCATION: East of DGWC-47

DRILL RIG: Geoprobe 8140LC
DATE STARTED: 10/14/20
DATE COMPLETED: 10/15/20

NORTHING: 1391543.5
EASTING: 2202614.4
GS ELEVATION: 793.8 ft
TOC ELEVATION: 795.96 ft

DEPTH W.L.: 12.0
ELEVATION W.L.: 783.9
DATE W.L.: 10/15/2020
TIME W.L.: 0740

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	TYPE	REC
0		0.00 - 5.00 (SM), SILTY SAND; red brown; low plasticity, moist, w<PL, loose, contains muscovite, FILL	SM			1	ROTO SONIC	2.50 5.00
5		5.00 - 15.00 (ML), SILT; tan to gray-brown; low plasticity, moist, fine, w<PL, loose	ML		5.00	2	ROTO SONIC	6.50 10.00
15		15.00 - 18.00 (SM), SILTY SAND; dark brown, gravel; moist, non to low plasticity, w<PL	SM		15.00	3	ROTO SONIC	5.50 5.00
		18.00 - 20.00 (SCHIST), BEDROCK; feldspar, biotite, muscovite, moderate to well foliated, fresh, rock	BR		18.00			
20		20.00 - 23.00 (SCHIST), BEDROCK; well foliated, poorly jointed, feldspar, quartz, muscovite	BR		20.00	4	ROTO SONIC	10.00 12.00
25		23.00 - 40.00 (GNEISS), BEDROCK; light to dark gray; partially foliated, poorly jointed, biotite, feldspar, quartz, locally contains garnet	BR		23.00			
30								
35						5	ROTO SONIC	5.60 8.00
40		40.00 - 70.00 (GNEISS), BEDROCK; light gray-green to dark gray; well foliated, poorly jointed, muscovite, biotite, feldspar, quartz	BR		40.00	6	ROTO SONIC	9.00 10.00
45								
50								

Log continued on next page

MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES

WELL CONSTRUCTION DETAILS

B-103D
Borehole Diameter: 4"
WELL CASING
Interval: 0'-70'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Screw fit with rubber seam
WELL SCREEN
Interval: 60'-70'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: .010"
End Cap: Schedule 40 PVC
FILTER PACK
Interval: 57.9'-70.0'
Type: FilterSil
Quantity: 3.5-50 lbs bags
FILTER PACK SEAL
Interval: 53.5'-57.9'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1-5 gallon bucket
ANNULUS SEAL
Interval: 0'-53.5'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 40 gallons

NOTES

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Fred Dorse

GA INSPECTOR: Michael Boatman, PG
CHECKED BY: Timothy Richards, PG
DATE: 2/3/21

GOLDER

RECORD OF BOREHOLE B-103D

SHEET 2 of 2

PROJECT: Plant McDonough
PROJECT NUMBER: 1668496.18
DRILLED DEPTH: 70.00 ft
LOCATION: East of DGWC-47

DRILL RIG: Geoprobe 8140LC
DATE STARTED: 10/14/20
DATE COMPLETED: 10/15/20

NORTHING: 1391543.5
EASTING: 2202614.4
GS ELEVATION: 793.8 ft
TOC ELEVATION: 795.96 ft

DEPTH W.L.: 12.0
ELEVATION W.L.: 783.9
DATE W.L.: 10/15/2020
TIME W.L.: 0740

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLES: SAMPLE NO.	TYPE	REC	MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
50		40.00 - 70.00 (GNEISS), BEDROCK; light gray-green to dark gray; well foliated, poorly jointed, muscovite, biotite, feldspar, quartz *(Continued)*	BR			7	ROTO SONIC	7.50 10.00	3/8" Uncoated – Pel-Plug Sand Filter – Pack	**B-103D** Borehole Diameter: 4" **WELL CASING** Interval: 0'-70' Material: Schedule 40 PVC Diameter: 2" Joint Type: Screw fit with rubber seam **WELL SCREEN** Interval: 60'-70' Material: Schedule 40 PVC Diameter: 2" Slot Size: .010" End Cap: Schedule 40 PVC **FILTER PACK** Interval: 57.9'-70.0' Type: FilterSil Quantity: 3.5-50 lbs bags **FILTER PACK SEAL** Interval: 53.5'-57.9' Type: 3/8" Uncoated Pel-Plug Quantity: 1-5 gallon bucket **ANNULUS SEAL** Interval: 0'-53.5' Type: AquaGuard Bentonite Grout Quantity: Approximately 40 gallons **NOTES**
55										
60						8	ROTO SONIC	9.65 10.00	U-Pack – Screen	
65										
70		Boring completed at 70.00 ft								
75										
80										
85										
90										
95										
100										

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Fred Dorse

GA INSPECTOR: Michael Boatman, PG
CHECKED BY: Timothy Richards, PG
DATE: 2/3/21

GOLDER

BOREHOLE RECORD MCDONOUGH MASTER LIST (2).GPJ PIEDMONT.GDT 2/3/21

RECORD OF BOREHOLE B-104D

SHEET 1 of 2

PROJECT: Plant McDonough
PROJECT NUMBER: 1668496.18
DRILLED DEPTH: 60.00 ft
LOCATION: East of DGWC-48

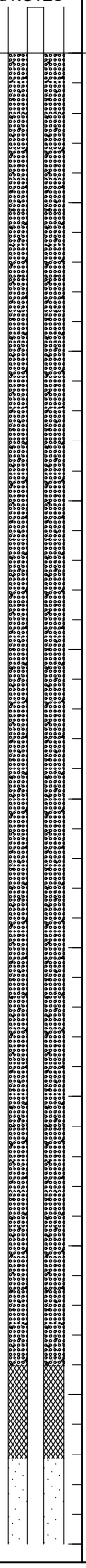
DRILL RIG: Geoprobe 8140LC
DATE STARTED: 10/20/20
DATE COMPLETED: 10/20/20

NORTHING: 1391318.3
EASTING: 2202298.5
GS ELEVATION: 785.3 ft
TOC ELEVATION: 787.90 ft

DEPTH W.L.: 12.0
ELEVATION W.L.: 775.9
DATE W.L.: 10/20/2020
TIME W.L.: 1818

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	TYPE	REC
0		0.00 - 10.00 Air knife; FILL	FILL					
10		10.00 - 12.00 (CL), CLAY; red brown; moist, soft, low plasticity, w<PL, FILL	CL		10.00			
		12.00 - 22.00 (ML), SILT; dark brown to gray; non-plasitic to low plasticity, dry to moist, w<PL, soft to firm	ML		12.00	1	ROTO SONIC	8.00 / 8.00
20						2	ROTO SONIC	4.00 / 4.00
		22.00 - 30.00 (ML), SILT; dark brown; w~PL, moist to wet, soft to firm, contains gravels of biotite gneiss (trace)	ML		22.00	3	ROTO SONIC	8.00 / 8.00
30		30.00 - 35.00 (TWR), TRANSITIONALLY WEATHERED ROCK; rust brown to gray; deeply weathered biolite gneiss, poorly foliated, poorly jointed, iron staining	TWR		30.00	4	ROTO SONIC	6.55 / 10.00
40		35.00 - 55.50 (GNEISS), BEDROCK; biotite, quartz, feldspar, light to dark gray, strong to medium strong, fresh to slightly weathered, locally contains iron staining and garnets	BR		35.00	5	ROTO SONIC	2.10 / 5.00
45						6	ROTO SONIC	4.35 / 7.50
50		Log continued on next page						

MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES



WELL CONSTRUCTION DETAILS

B-104D
Borehole Diameter: 4"
WELL CASING
Interval: 0'-60'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Screw fit with rubber seam
WELL SCREEN
Interval: 50'-60'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: .010"
End Cap: Schedule 40 PVC
FILTER PACK
Interval: 47.15'-60.0'
Type: FilterSil
Quantity: 4-50 lbs bags
FILTER PACK SEAL
Interval: 44'-47.15
Type: 3/8" Uncoated Pel-Plug
Quantity: 1-5 gallon bucket
ANNULUS SEAL
Interval: 0'-44'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 40 gallons

NOTES

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Fred Dorse

GA INSPECTOR: Michael Boatman, PG
CHECKED BY: Timothy Richards, PG
DATE: 2/3/21

GOLDER

BOREHOLE RECORD MCDONOUGH MASTER LIST (2).GPJ PIEDMONT.GDT 2/3/21

RECORD OF BOREHOLE B-104D

PROJECT: Plant McDonough
PROJECT NUMBER: 1668496.18
DRILLED DEPTH: 60.00 ft
LOCATION: East of DGWC-48

DRILL RIG: Geoprobe 8140LC
DATE STARTED: 10/20/20
DATE COMPLETED: 10/20/20

NORTHING: 1391318.3
EASTING: 2202298.5
GS ELEVATION: 785.3 ft
TOC ELEVATION: 787.90 ft

DEPTH W.L.: 12.0
ELEVATION W.L.: 775.9
DATE W.L.: 10/20/2020
TIME W.L.: 1818

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLES: SAMPLE NO.	TYPE	REC	MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES
50		35.00 - 55.50 (GNEISS), BEDROCK; biotite, quartz, feldspar, light to dark gray, strong to medium strong, fresh to slightly weathered, locally contains iron staining and garnets *(Continued)*	BR			6		4.35 7.50	Pack
55		55.50 - 60.00 (SCHIST), BEDROCK; quartz, muscovite, gray to silver, medium grain, medium strong, fresh to moderately weathered	BR		55.50	7	ROTO SONIC	6.15 7.50	U-Pack _ Screen
60		Boring completed at 60.00 ft							
65									
70									
75									
80									
85									
90									
95									
100									

WELL CONSTRUCTION DETAILS

B-104D
Borehole Diameter: 4"
WELL CASING
Interval: 0'-60'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Screw fit with rubber seam
WELL SCREEN
Interval: 50'-60'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: .010"
End Cap: Schedule 40 PVC
FILTER PACK
Interval: 47.15'-60.0'
Type: FilterSil
Quantity: 4-50 lbs bags
FILTER PACK SEAL
Interval: 44'-47.15
Type: 3/8" Uncoated Pel-Plug
Quantity: 1-5 gallon bucket
ANNULUS SEAL
Interval: 0'-44'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 40 gallons

NOTES

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Fred Dorse

GA INSPECTOR: Michael Boatman, PG
CHECKED BY: Timothy Richards, PG
DATE: 2/3/21

GOLDER

BOREHOLE RECORD MCDONOUGH MASTER LIST (2).GPJ PIEDMONT.GDT 2/3/21

RECORD OF BOREHOLE B-105D

PROJECT: Plant McDonough
PROJECT NUMBER: 1668496.18
DRILLED DEPTH: 70.00 ft
LOCATION: East of DGWC-40

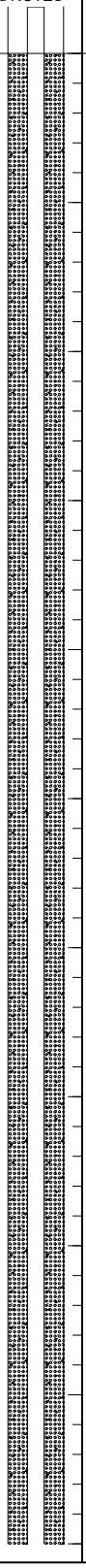
DRILL RIG: Geoprobe 8140LC
DATE STARTED: 10/18/20
DATE COMPLETED: 10/19/20

NORTHING: 1390634.5
EASTING: 2201831.9
GS ELEVATION: 776.0 ft
TOC ELEVATION: 779.01 ft

DEPTH W.L.: 22.50
ELEVATION W.L.: 756.5
DATE W.L.: 10/19/2020
TIME W.L.: 0950

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	TYPE	REC
0		0.00 - 10.00 Air knife; FILL	FILL					
10		10.00 - 15.00 (ML), SILT; red to orange brown, some clay, low plasticity, dry to moist, w<PL, soft to firm, FILL	CL-ML		10.00	1	ROTO SONIC	9.25 10.00
15		15.00 - 27.00 (ML), SILT; olive brown to silvery brown, low plasticity, moist, firm, w<PL, contains muscovite	ML		15.00	2	ROTO SONIC	6.00 7.50
25		27.00 - 27.50 (CL), CLAY; white, medium plasticity, firm, moist, w<PL, possible WT	CL		27.50	3	ROTO SONIC	8.50 10.00
30		27.50 - 32.50 (ML), SILT; gray/brown, fine grain, low to medium plasticity, moist, w~PL, soft to firm	ML					
35		32.50 - 33.80 (SM), SILTY SAND; non-plastic to low plasticity, dry to moist, fine to coarse, w<PL, loose, sand is mica (biotite/muscovite)	SM		32.50 33.80			
		33.80 - 37.50 (ML), SILT; gray/brown, fine grain, low to moderate plasticity, moist, w~PL, soft to firm	ML					
		37.50 - 40.00 (ML), SILT; whitish gray, trace fine sand, low plasticity, moist to dry, w~PL, firm/compact, high feldspar	ML		37.50	4	ROTO SONIC	2.50 2.50
40		40.00 - 45.00 (SM), SILTY SAND; brown to black, non-plastic to low plasticity, moist, w<PL, fine to coarse, compact to loose. Sand particles size is mica, not quartz.	SM		40.00	5	ROTO SONIC	5.00 5.00
45		45.00 - 50.00 (SM), SILTY SAND; rock flour, trace gravels, tan brown, non-plastic, dry, fine to coarse, w<PL, loose, sand is micaceous, transitions to TWR from 48.8'-50.0'	SM		45.00	6	ROTO SONIC	5.00 5.00
50		Log continued on next page						

MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES



WELL CONSTRUCTION DETAILS

B-105D
Borehole Diameter: 4"
WELL CASING
Interval: 0'-70'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Screw fit with rubber seam
WELL SCREEN
Interval: 60'-70'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: .010"
End Cap: Schedule 40 PVC
FILTER PACK
Interval: 57.5'-60.0'
Type: FilterSil
Quantity: 4-50 lbs bags
FILTER PACK SEAL
Interval: 53.75'-57.5
Type: 3/8" Uncoated Pel-Plug
Quantity: 1-5 gallon bucket
ANNULUS SEAL
Interval: 0'-53.75
Type: AquaGuard Bentonite Grout
Quantity: Approximately 80 gallons

NOTES

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Fred Dorse

GA INSPECTOR: Michael Boatman, PG
CHECKED BY: Timothy Richards, PG
DATE: 2/3/21

GOLDER

RECORD OF BOREHOLE B-105D

PROJECT: Plant McDonough
PROJECT NUMBER: 1668496.18
DRILLED DEPTH: 70.00 ft
LOCATION: East of DGWC-40

DRILL RIG: Geoprobe 8140LC
DATE STARTED: 10/18/20
DATE COMPLETED: 10/19/20

NORTHING: 1390634.5
EASTING: 2201831.9
GS ELEVATION: 776.0 ft
TOC ELEVATION: 779.01 ft

DEPTH W.L.: 22.50
ELEVATION W.L.: 756.5
DATE W.L.: 10/19/2020
TIME W.L.: 0950

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLES SAMPLE NO.	TYPE	REC	MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
50		50.00 - 55.00 (SM), SILTY SAND; brown to black, low to medium plasticity, moist to dry, w<PL, loose/soft, materials is from gneiss (relief structure), TWR	SM		50.00	7	ROTO SONIC	5.00 / 5.00	3/8" Uncoated Pel-Plug	**B-105D** Borehole Diameter: 4" **WELL CASING** Interval: 0'-70' Material: Schedule 40 PVC Diameter: 2" Joint Type: Screw fit with rubber seam **WELL SCREEN** Interval: 60'-70' Material: Schedule 40 PVC Diameter: 2" Slot Size: .010" End Cap: Schedule 40 PVC **FILTER PACK** Interval: 57.5'-60.0' Type: FilterSil Quantity: 4-50 lbs bags **FILTER PACK SEAL** Interval: 53.75'-57.5 Type: 3/8" Uncoated Pel-Plug Quantity: 1-5 gallon bucket **ANNULUS SEAL** Interval: 0'-53.75 Type: AquaGuard Bentonite Grout Quantity: Approximately 80 gallons **NOTES**
55		55.00 - 70.00 (GNEISS), BEDROCK; light to dark gray, fine to medium grain, well foliated, poorly jointed, fresh to slightly weathered, strong to medium strong	BR		55.00	8	ROTO SONIC	2.75 / 3.50	Sand Filter Pack	
60						9	ROTO SONIC	4.80 / 6.50		
65						10	ROTO SONIC	4.25 / 5.00	U-Pack Screen	
70		Boring completed at 70.00 ft								
75										
80										
85										
90										
95										
100										

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Fred Dorse

GA INSPECTOR: Michael Boatman, PG
CHECKED BY: Timothy Richards, PG
DATE: 2/3/21

GOLDER

RECORD OF BOREHOLE B-106D

SHEET 1 of 2

PROJECT: Plant McDonough
PROJECT NUMBER: 1668496.18
DRILLED DEPTH: 80.00 ft
LOCATION: North of DGWC-8

DRILL RIG: Geoprobe 8140LC
DATE STARTED: 11/12/20
DATE COMPLETED: 11/13/20

NORTHING: 1394327.1
EASTING: 2203869.2
GS ELEVATION: 823.5 ft
TOC ELEVATION: 826.21 ft

DEPTH W.L.: 37.0
ELEVATION W.L.: 789.2
DATE W.L.: 11/13/2020
TIME W.L.: 1652

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	TYPE	REC	MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES
0		0.00 - 10.00 Air knife; FILL	FILL						Stick-up
10		10.00 - 16.75 (ML), SILT; some fine to medium sand, some gravel, moist, firm, w<PL, low to medium plasticity	ML		10.00	1	ROTO SONIC	8.20 / 10.00	
		16.75 - 18.10 (ML), SILT; some coarse sand, moist, stiff, w<PL	ML		16.75				
		18.10 - 20.00 (CL), CLAY; red to red-brown, some coarse sand, dry to moist, w<PL, soft, some muscovite, Fill	CL		18.10				
20		20.00 - 28.00 (ML), SILT; brown, some fines, very fine to coarse sand, wet, soft to very soft, w<PL, medium plasticity,	ML		20.00	2	ROTO SONIC	10.00 / 10.00	
		28.00 - 30.00 (SP), SAND; uniformly graded, some silt, non-cohesive, loose, moist, non-plastic	SP		28.00				AquaGuard Bentonite Grout
30		30.00 - 32.00 (SM), SILTY SAND; brown, trace gravel, dry to moist, cohesive, firm to stiff, w<PL, low plasticity, some crenulations, saprolitc	SM		30.00	3	ROTO SONIC	5.00 / 5.00	
		32.00 - 35.00 (SM), SILTY SAND; dry to moist, cohesive, firm to stiff, w~PL, low to medium plasticity	SM		32.00				
35		35.00 - 40.00 (ML), SANDY SILT; brown, fine to coarse sand, micas, firm to stiff, w>PL, dry to wet	ML		35.00	4	ROTO SONIC	5.00 / 5.00	
40		40.00 - 45.00 (SM), SILTY SAND, brown, fine to coarse sand, some gravel, schist, quartz vein fragments, micas, firm to stiff, w<PL, moist, medium plasticity	SM		40.00	5	ROTO SONIC	5.00 / 5.00	
45		45.00 - 47.00 (SM), SILTY SAND, brown, fine to coarse sand, some gravel, schist, quartz vein fragments, micas, stiff to very stiff, w>PL, moist, medium plasticity, saprolitic	SM		45.00	6	ROTO SONIC	2.00	
		47.00 - 60.00 NO RECOVERY; material too loose and continues to fall out of core barrel	NR		47.00	7	ROTO SONIC	0.00 / 13.00	
50		Log continued on next page							

WELL CONSTRUCTION DETAILS

B-106D
Borehole Diameter: 4"
WELL CASING
Interval: 0'-80'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Screw fit with rubber seam
WELL SCREEN
Interval: 69.4'-79.4'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: .010"
End Cap: Schedule 40 PVC
FILTER PACK
Interval: 66.61'-80'
Type: FilterSil
Quantity: 4-50 lbs bags
FILTER PACK SEAL
Interval: 62.85'-66.61'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1-5 gallon bucket
ANNULUS SEAL
Interval: 0'-62.85'
Type: AquaGuard Bentonite Grout
Quantity:

NOTES

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Fred Dorse

GA INSPECTOR: Michael Boatman, PG
CHECKED BY: Timothy Richards, PG
DATE: 2/3/21

GOLDER

RECORD OF BOREHOLE B-106D

PROJECT: Plant McDonough
PROJECT NUMBER: 1668496.18
DRILLED DEPTH: 80.00 ft
LOCATION: North of DGWC-8

DRILL RIG: Geoprobe 8140LC
DATE STARTED: 11/12/20
DATE COMPLETED: 11/13/20

NORTHING: 1394327.1
EASTING: 2203869.2
GS ELEVATION: 823.5 ft
TOC ELEVATION: 826.21 ft

DEPTH W.L.: 37.0
ELEVATION W.L.: 789.2
DATE W.L.: 11/13/2020
TIME W.L.: 1652

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLES SAMPLE NO.	SAMPLES TYPE	SAMPLES REC	MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES
50		47.00 - 60.00 NO RECOVERY; material too loose and continues to fall out of core barrel *(Continued)*	NR			7	ROTO SONIC	0.00 13.00	
60		60.00 - 65.00 (SCHIST), BEDROCK; silvery blue, well foliated, poorly jointed, moderate to deeply weathered, weak to medium strong rock, iron staining	BR		60.00	8	ROTO SONIC	1.60 5.00	3/8" Uncoated Pel-Plug
65		65.00 - 75.00 (BIOTITE GNEISS), BEDROCK; light gray to dark gray, zones of muscovite schistocity, very fine grain, moderate to poor foliation, poorly jointed, fresh to moderately weathered, medium strong, iron staining, feldspar, quartz, muscovite	BR		65.00	9	ROTO SONIC	5.20 10.00	Sand Filter Pack
75		75.00 - 80.00 (BIOTITE GNEISS), BEDROCK; light gray to dark gray, zones of muscovite schistocity, very fine grain, moderate to poor foliation, poorly jointed, fresh to moderately weathered, medium strong, iron staining, feldspar, quartz	BR		75.00	10	ROTO SONIC	3.40 5.00	U-Pack Screen
80		Boring completed at 80.00 ft							
85									
90									
95									
100									

B-106D
Borehole Diameter: 4"
WELL CASING
Interval: 0'-80'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Screw fit with rubber seam
WELL SCREEN
Interval: 69.4'-79.4'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: .010"
End Cap: Schedule 40 PVC
FILTER PACK
Interval: 66.61'-80'
Type: FilterSil
Quantity: 4-50 lbs bags
FILTER PACK SEAL
Interval: 62.85'-66.61'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1-5 gallon bucket
ANNULUS SEAL
Interval: 0'-62.85'
Type: AquaGuard Bentonite Grout
Quantity:

NOTES

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Fred Dorse

GA INSPECTOR: Michael Boatman, PG
CHECKED BY: Timothy Richards, PG
DATE: 2/3/21

GOLDER

RECORD OF BOREHOLE B-107D

PROJECT: Plant McDonough
PROJECT NUMBER: 1668496.18
DRILLED DEPTH: 85.75 ft
LOCATION: Southwest of DGWC-19

DRILL RIG: Geoprobe 8140LC
DATE STARTED: 10/28/20
DATE COMPLETED: 10/28/20

NORTHING: 1392334.5
EASTING: 2202596.4
GS ELEVATION: 820.6 ft
TOC ELEVATION: 823.38 ft

DEPTH W.L.: 21.8
ELEVATION W.L.: 801.6
DATE W.L.: 10/28/2020
TIME W.L.: 1440

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLES SAMPLE NO.	TYPE	REC	MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
0		0.00 - 10.00 Air knife; FILL	FILL						Stick-up	**B-107D** Borehole Diameter: 4" **WELL CASING** Interval: 0'-85.1' Material: Schedule 40 PVC Diameter: 2" Joint Type: Screw fit with rubber seam **WELL SCREEN** Interval: 75.1'-85.1' Material: Schedule 40 PVC Diameter: 2" Slot Size: .010" End Cap: Schedule 40 PVC **FILTER PACK** Interval: 72.25'-85.5' Type: FilterSil Quantity: 4.5-50 lbs bags **FILTER PACK SEAL** Interval: 68.8'-72.25' Type: 3/8" Uncoated Pel-Plug Quantity: 1-5 gallon **ANNULUS SEAL** Interval: 0'-68.8' Type: AquaGuard Bentonite Grout Quantity: Approximately 80 gallons **NOTES**
10		10.00 - 20.00 (CL-ML), SILT and CLAY; red brown to brown, trace sand, low to medium plasticity, soft to firm, moist, contains muscovite	CL-ML		10.00	1	ROTO SONIC	7.00 / 10.00		
20		20.00 - 38.00 (SM), SILTY SAND; brown to tannish brown, trace sand, w<PL, low plasticity, loose to compact, large grains of muscovite	SM		20.00	2	ROTO SONIC	4.30 / 10.00		
30						3	ROTO SONIC	10.00 / 10.00	AquaGuard Bentonite Grout	
40		38.00 - 40.00 (SM), SILTY SAND; black and silverish gray, fine to medium, non-plastic, w<PL, loose sand, moist, 40.00 - 50.00 (SM-ML), SILTY SAND to SILT; brown to silverish brown, moist to wet, w<PL, soft to stiff	SM		38.00 40.00	4	ROTO SONIC	9.00 / 10.00		
50		Log continued on next page								

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Fred Dorse

GA INSPECTOR: Michael Boatman, PG
CHECKED BY: Timothy Richards, PG
DATE: 2/3/21

GOLDER

RECORD OF BOREHOLE B-107D

PROJECT: Plant McDonough
PROJECT NUMBER: 1668496.18
DRILLED DEPTH: 85.75 ft
LOCATION: Southwest of DGWC-19

DRILL RIG: Geoprobe 8140LC
DATE STARTED: 10/28/20
DATE COMPLETED: 10/28/20

NORTHING: 1392334.5
EASTING: 2202596.4
GS ELEVATION: 820.6 ft
TOC ELEVATION: 823.38 ft

DEPTH W.L.: 21.8
ELEVATION W.L.: 801.6
DATE W.L.: 10/28/2020
TIME W.L.: 1440

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLES SAMPLE NO.	SAMPLES TYPE	SAMPLES REC	MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES
50		50.00 - 60.00 (SM-ML), SILTY SAND to SILT; brown to silverish brown, moist to wet, w<PL, soft to stiff	SM		50.00	5	ROTO SONIC	6.00 / 10.00	
60		60.00 - 67.00 NO RECOVERY; material was washed away by coring methods. Material form 63' to 67' is inferred as TWR.	NR		60.00	6	ROTO SONIC	0.00 / 7.00	
70		67.00 - 75.00 (GNEISS), BEDROCK; dark gray to black, well foliated, poorly jointed, slightly to deeply weathered, weak to medium strong, feldspar, quartz, muscovite,	BR		67.00	7	ROTO SONIC	6.70 / 8.00	3/8" Uncoated Pel-Plug Sand Filter Pack
80		75.00 - 85.75 (GNEISS), BEDROCK; dark gray to black, well foliated, poorly jointed, slightly to deeply weathered, weak to medium strong, feldspar, quartz, muscovite,	BR		75.00	8	ROTO SONIC	6.80 / 10.75	U-Pack Screen
85		Boring completed at 85.75 ft			85.75				
90									
95									
100									

WELL CONSTRUCTION DETAILS

B-107D
Borehole Diameter: 4"
WELL CASING
Interval: 0'-85.1'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Screw fit with rubber seam
WELL SCREEN
Interval: 75.1'-85.1'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: .010"
End Cap: Schedule 40 PVC
FILTER PACK
Interval: 72.25'-85.5'
Type: FilterSil
Quantity: 4.5-50 lbs bags
FILTER PACK SEAL
Interval: 68.8'-72.25'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1-5 gallon
ANNULUS SEAL
Interval: 0'-68.8'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 80 gallons

NOTES

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Fred Dorse

GA INSPECTOR: Michael Boatman, PG
CHECKED BY: Timothy Richards, PG
DATE: 2/3/21

GOLDER

RECORD OF BOREHOLE B-108D

PROJECT: Plant McDonough
PROJECT NUMBER: 1668496.18
DRILLED DEPTH: 80.00 ft
LOCATION: Next to DGWC-20

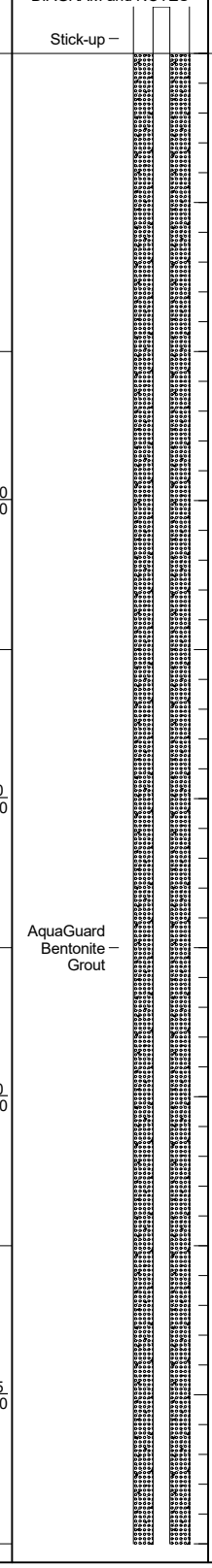
DRILL RIG: Geoprobe 8140LC
DATE STARTED: 10/26/20
DATE COMPLETED: 10/27/20

NORTHING: 1392156.1
EASTING: 2202312.5
GS ELEVATION: 818.4 ft
TOC ELEVATION: 821.13 ft

DEPTH W.L.: 17.7
ELEVATION W.L.: 803.43
DATE W.L.: 10/27/2020
TIME W.L.: 0915

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	TYPE	REC
0		0.00 - 10.00 Air knife; FILL	FILL					
10		10.00 - 12.00 (CL), CLAY;w<PL, low plasticity, moist to wet, Fill	CL		10.00			
		12.00 - 20.00 (ML), SILT; tannish brown with black spots, trace fine sand, w<PL, non-plastic to low plasticity, compact to firm, moist	ML		12.00	1	ROTO SONIC	10.00 / 10.00
20		20.00 - 30.00 (ML), SILT; tannish brown with black/silver spots, trace to some fine sand, w<PL, low plasticity, dry to moist, firm, saprolite, deeply weather biotite gneiss	ML		20.00	2	ROTO SONIC	9.50 / 10.00
30		30.00 - 40.00 (ML-SM), SILT and SILTY SAND; silverish brown, trace clay, w<PL, nonplastic to low plasticity, moist, firm to stiff, contains muscovite, saprolite	SM		30.00	3	ROTO SONIC	8.00 / 10.00
40		40.00 - 50.00 (ML-SM), SILT and SILTY SAND; silverish brown, trace clay, w<PL, nonplastic to low plasticity, moist, soft to firm, contains muscovite, saprolite	SM		40.00	4	ROTO SONIC	6.75 / 10.00
50		Log continued on next page						

MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES



WELL CONSTRUCTION DETAILS

B-108D
Borehole Diameter: 4"
WELL CASING
Interval: 0'-80.0'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Screw fit with rubber seam
WELL SCREEN
Interval: 69'-79'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: .010"
End Cap: Schedule 40 PVC
FILTER PACK
Interval: 65.85'-79'
Type: FilterSil
Quantity: 4-50 lbs bags
FILTER PACK SEAL
Interval: 62.5'-65.85'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1- 5 gallon bucket
ANNULUS SEAL
Interval: 0'-62.5'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 80 gallons

NOTES

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Fred Dorse

GA INSPECTOR: Michael Boatman, PG
CHECKED BY: Timothy Richards, PG
DATE: 2/3/21

GOLDER

RECORD OF BOREHOLE B-108D

PROJECT: Plant McDonough
PROJECT NUMBER: 1668496.18
DRILLED DEPTH: 80.00 ft
LOCATION: Next to DGWC-20

DRILL RIG: Geoprobe 8140LC
DATE STARTED: 10/26/20
DATE COMPLETED: 10/27/20

NORTHING: 1392156.1
EASTING: 2202312.5
GS ELEVATION: 818.4 ft
TOC ELEVATION: 821.13 ft

DEPTH W.L.: 17.7
ELEVATION W.L.: 803.43
DATE W.L.: 10/27/2020
TIME W.L.: 0915

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLES SAMPLE NO.	SAMPLES TYPE	SAMPLES REC	MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
50		50.00 - 51.00 (SP), SAND; black to dark gray, w<PL, non-plastic, firm, loose, wet	SP		50.00					
		51.00 - 57.50 (ML), SILT; gray to brown, w<PL, low plasticity, firm to stiff, moist, saprolite	ML		51.00	5	ROTO SONIC	7.50 / 7.50		
55										
60		57.50 - 65.00 (GNEISS), BEDROCK; dark brown to gray, well foliated, poorly jointed, deeply weathered, weak rock, iron staining	BR		57.50	6	ROTO SONIC	1.25 / 7.50	3/8" Uncoated Pel-Plug	
65		65.00 - 75.00 (GNEISS), BEDROCK; dark brown to gray, well foliated, poorly jointed, fresh to slightly weathered, medium strong rock, iron staining	BR		65.00	7	ROTO SONIC	6.55 / 10.00	Sand Filter Pack	
70										
75		75.00 - 80.00 (GNEISS), BEDROCK; dark brown to gray, well foliated, poorly jointed, fresh to slightly weathered, medium strong rock, iron staining	BR		75.00	8	ROTO SONIC	4.80 / 5.00	U-Pack Screen	
80		Boring completed at 80.00 ft								
85										
90										
95										
100										

B-108D
Borehole Diameter: 4"
WELL CASING
Interval: 0'-80.0'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Screw fit with rubber seam
WELL SCREEN
Interval: 69'-79'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: .010"
End Cap: Schedule 40 PVC
FILTER PACK
Interval: 65.85'-79'
Type: FilterSil
Quantity: 4-50 lbs bags
FILTER PACK SEAL
Interval: 62.5'-65.85'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1- 5 gallon bucket
ANNULUS SEAL
Interval: 0'-62.5'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 80 gallons

NOTES

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Fred Dorse

GA INSPECTOR: Michael Boatman, PG
CHECKED BY: Timothy Richards, PG
DATE: 2/3/21

GOLDER

RECORD OF BOREHOLE B-109D

PROJECT: Plant McDonough
PROJECT NUMBER: 1668496.18
DRILLED DEPTH: 100.00 ft
LOCATION: Next to DGWC-2

DRILL RIG: Geoprobe 8140LS
DATE STARTED: 10/30/20
DATE COMPLETED: 10/31/20

NORTHING: 1393957.5
EASTING: 2202127
GS ELEVATION: 847.8 ft
TOC ELEVATION: 850.73 ft

DEPTH W.L.: 23.50
ELEVATION W.L.: 827.2
DATE W.L.: 10/31/2020
TIME W.L.: 1157

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	TYPE	REC
0		0.00 - 10.00 Air knife; FILL	FILL					
10		10.00 - 13.50 (ML). SILT; brown, soft,	ML		10.00			
15		13.50 - 20.00 (CL), CLAY; red to red brown, trace sand, medium plasticity, w<PL, firm, moist to dry,	CL		13.50	1	ROTO SONIC	10.00 / 10.00
20		20.00 - 30.00 (SM), SILTY SAND; gray to reddish gray, fine to medium, loose to soft, dry to moist, w<PL, low plasticity, quartz, biotite, feldspar	SM		20.00	2	ROTO SONIC	3.70 / 10.00
30		30.00 - 36.00 (SM), SILTY SAND; gray to reddish gray, some clay, fine to medium, loose to soft, dry to moist, w<PL, low plasticity, quartz, biotite, feldspar	SM		30.00	3	ROTO SONIC	6.00 / 6.00
35		36.00 - 40.00 (CL), CLAY; black to dark gray, low plasticity, w<PL, very soft to hard, dry to moist, saprolite, biotite gneiss, saprolite,	CL		36.00	4	ROTO SONIC	4.00 / 4.00
40		40.00 - 45.00 (TWR), TRANSITIONALLY WEATHERED ROCK; black to dark gray, silt with some fine sand, trace gravels, low plasticity, w<PL, soft, moist to wet, biotite gneiss fragments	TWR		40.00	5	ROTO SONIC	2.20 / 5.00
45		45.00 - 46.00 (GRANITE), BEDROCK; biotite, feldspar, quartz, white to light gray, fine grain, quartz veins, weakly foliated, poorly jointed, fresh to slightly weathered, medium strong	BR		45.00	6	ROTO SONIC	4.20 / 10.00
		46.00 - 55.00 (GNEISS), BEDROCK; feldspar, quartz, biotite, black to dark gray, well foliated, poorly jointed fresh to slightly weathered, medium strong to weak, iron staining	BR		46.00			
50		Log continued on next page						

MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES

WELL CONSTRUCTION DETAILS

B-109D
Borehole Diameter: 4"
WELL CASING
Interval: 0'-100'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Screw fit with rubber seam
WELL SCREEN
Interval: 89.4'-99.4'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: .010"
End Cap: Schedule 40 PVC
FILTER PACK
Interval: 86.5'-99.4'
Type: FilterSil
Quantity: 4-50 lbs bags
FILTER PACK SEAL
Interval: 83.9'-86.5'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1-5 gallon bucket
ANNULUS SEAL
Interval: 0'-83.9'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 80 gallons

NOTES

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Fred Dorse

GA INSPECTOR: Michael Boatman, PG
CHECKED BY: Timothy Richards, PG
DATE: 2/3/21

GOLDER

RECORD OF BOREHOLE B-109D

SHEET 2 of 2

PROJECT: Plant McDonough
PROJECT NUMBER: 1668496.18
DRILLED DEPTH: 100.00 ft
LOCATION: Next to DGWC-2

DRILL RIG: Geoprobe 8140LS
DATE STARTED: 10/30/20
DATE COMPLETED: 10/31/20

NORTHING: 1393957.5
EASTING: 2202127
GS ELEVATION: 847.8 ft
TOC ELEVATION: 850.73 ft

DEPTH W.L.: 23.50
ELEVATION W.L.: 827.2
DATE W.L.: 10/31/2020
TIME W.L.: 1157

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLES SAMPLE NO.	TYPE	REC	MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
50		46.00 - 55.00 (GNEISS), BEDROCK; feldspar, quartz, biotite, black to dark gray, well foliated, poorly jointed fresh to slightly weathered, medium strong to weak, iron staining *(Continued)*	BR			6	ROTO SONIC	4.20 10.00		
55		55.00 - 65.00 (GNEISS), BEDROCK; feldspar, quartz, biotite, black to dark gray, well foliated, poorly jointed, fresh to slightly weathered, medium strong to weak, iron staining. Pegmatitic zone 57.75' - 58.75' bgs (biotite, quartz, feldspar).	BR		55.00	7	ROTO SONIC	8.25 10.00		
60										
65		65.00 - 80.00 (GNEISS), BEDROCK; quatz, feldspar, biotite, black to dark gray, well foliated, poorly jointed fresh to slightly weathered, medium strong to weak, iron staining.	BR		65.00	8	ROTO SONIC	10.00 10.00		
70										
75						9	ROTO SONIC	5.00 5.00		
80		80.00 - 85.00 (GNEISS), BEDROCK; feldspar, quartz, biotite, black to dark gray, well foliated, poorly jointed, fresh, fine to medium grain, medium strong, iron staining, locally contains chlorite	BR		80.00	10	ROTO SONIC	4.25 5.00	3/8" Uncoated Pel-Plug	
85		85.00 - 100.00 (GNEISS), BEDROCK; feldspar, quartz, biotite, green when dry and dark gray to black when wet, well foliated, poorly jointed fresh, fine to medium grain, medium strong, iron staining, locally contains chlorite and epidote	BR		85.00	11	ROTO SONIC	5.00 5.00	Sand Filter Pack	
90										
95						12	ROTO SONIC	8.40 10.00	U-Pack Screen	
100		Boring completed at 100.00 ft								

B-109D
Borehole Diameter: 4"

WELL CASING
Interval: 0'-100'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Screw fit with rubber seam

WELL SCREEN
Interval: 89.4'-99.4'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: .010"
End Cap: Schedule 40 PVC

FILTER PACK
Interval: 86.5'-99.4'
Type: FilterSil
Quantity: 4-50 lbs bags

FILTER PACK SEAL
Interval: 83.9'-86.5'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1-5 gallon bucket

ANNULUS SEAL
Interval: 0'-83.9'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 80 gallons

NOTES

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Fred Dorse

GA INSPECTOR: Michael Boatman, PG
CHECKED BY: Timothy Richards, PG
DATE: 2/3/21

GOLDER

RECORD OF BOREHOLE B-110D

PROJECT: Plant McDonough
PROJECT NUMBER: 1668496.18
DRILLED DEPTH: 65.00 ft
LOCATION: Next to DGWC-68A

DRILL RIG: Geoprobe 8140LC
DATE STARTED: 11/14/20
DATE COMPLETED: 11/17/20

NORTHING: 1391294.4
EASTING: 2200736
GS ELEVATION: 764.7 ft
TOC ELEVATION: 764.61 ft

DEPTH W.L.: 9.35
ELEVATION W.L.: 755.3
DATE W.L.: 11/17/2020
TIME W.L.: 1110

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLES SAMPLE NO.	SAMPLES TYPE	SAMPLES REC	MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES
0		0.00 - 5.00 Hand Auger 0'-10'; core loss from 0'-5',	NR						Flush mount
5		5.00 - 8.50 (CL), CLAY; reddish brown to yellowish orange, trace to some fine to medium sand, moist, low plasticity, w<PL, soft to firm, Fill	CL		5.00	1	ROTO SONIC	7.00 12.00	
10		8.50 - 12.00 (ML), SILT; brown to dark brown, trace fine sand, moist, non-plastic, w<PL, soft	ML		8.50				
15		12.00 - 20.00 (ML), SILT; brown to dark brown, some fine sand, moist, non-plastic, w<PL, soft	ML		12.00	2	ROTO SONIC	3.00 8.00	
20		20.00 - 25.00 (ML), SILT; brown to dark brown, some fine sand, moist, non-plastic, w<PL, firm to stiff	ML		20.00	3	ROTO SONIC	3.00 5.00	AquaGuard Bentonite Grout
25		25.00 - 35.00 NO RECOVERY; material too loose and soft to stay in core barrel	NR		25.00	4	ROTO SONIC	0.00 10.00	
30									
35		35.00 - 45.00 (GNEISS), BEDROCK; biotite, feldspar, quartz, light gray to white, well foliated, poorly jointed, fine-to medium-grained, fresh to slightly weathered, strong rock, locally contains vein quartz and garnets	BR		35.00	5	ROTO SONIC	6.40 10.00	
40									
45		45.00 - 55.00 (GNEISS), BEDROCK; biotite, feldspar, quartz, light gray to white, well foliated, poorly jointed, veing quartz, fine to medium-grained, fresh to slightly weathered, strong rock, zones of fine-grained biotite	BR		45.00	6	ROTO SONIC	8.70 10.00	3/8" Uncoated Pel-Plug
50		Log continued on next page							

B-110D
Borehole Diameter: 4"
WELL CASING
Interval: 0'-65'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Screw fit with rubber seam
WELL SCREEN
Interval: 53'-63'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: .010"
End Cap: Schedule 40 PVC
FILTER PACK
Interval: 50.5'-63'
Type: FilterSil
Quantity: 3.5-50 lbs bags
FILTER PACK SEAL
Interval: 46'-50.5'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1-5 gallon bucket
ANNULUS SEAL
Interval: 0'-46'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 85 gallons

NOTES

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Fred Dorse

GA INSPECTOR: Michael Boatman, PG
CHECKED BY: Timothy Richards, PG
DATE: 2/3/21

GOLDER

RECORD OF BOREHOLE B-110D

PROJECT: Plant McDonough
PROJECT NUMBER: 1668496.18
DRILLED DEPTH: 65.00 ft
LOCATION: Next to DGWC-68A

DRILL RIG: Geoprobe 8140LC
DATE STARTED: 11/14/20
DATE COMPLETED: 11/17/20

NORTHING: 1391294.4
EASTING: 2200736
GS ELEVATION: 764.7 ft
TOC ELEVATION: 764.61 ft

DEPTH W.L.: 9.35
ELEVATION W.L.: 755.3
DATE W.L.: 11/17/2020
TIME W.L.: 1110

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLES: SAMPLE NO.	TYPE	REC	MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
50		45.00 - 55.00 (GNEISS), BEDROCK; biotite, feldspar, quartz, light gray to white, well foliated, poorly jointed, veing quartz, fine to medium-grained, fresh to slightly weathered, strong rock, zones of fine-grained biotite *(Continued)*	BR			6	ROTO SONIC	8.70 / 10.00	Sand Filter Pack	
55		55.00 - 60.00 (GNEISS), BEDROCK; biotite, feldspar, quartz, light gray to white, well foliated, poorly jointed, veing quartz, fine to medium grain, fresh to slightly weathered, strong rock, local zones of fine-grained biotite	BR		55.00	7	ROTO SONIC	5.00 / 5.00		
60		60.00 - 65.00 (GNEISS), BEDROCK; biotite, feldspar, quartz, light gray to white, well foliated, poorly jointed, veing quartz, fine-to medium-grained, fresh to slightly weathered, strong rock, local zones of fine grained biotite	BR		60.00	8	ROTO SONIC	4.00 / 5.00	U-Pack Screen	
65		Boring completed at 65.00 ft								
70										
75										
80										
85										
90										
95										
100										

B-110D
Borehole Diameter: 4"
WELL CASING
Interval: 0'-65'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Screw fit with rubber seam
WELL SCREEN
Interval: 53'-63'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: .010"
End Cap: Schedule 40 PVC
FILTER PACK
Interval: 50.5'-63'
Type: FilterSil
Quantity: 3.5-50 lbs bags
FILTER PACK SEAL
Interval: 46'-50.5'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1-5 gallon bucket
ANNULUS SEAL
Interval: 0'-46'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 85 gallons

NOTES

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Fred Dorse

GA INSPECTOR: Michael Boatman, PG
CHECKED BY: Timothy Richards, PG
DATE: 2/3/21

GOLDER

RECORD OF BOREHOLE B-111D

PROJECT: Plant McDonough
PROJECT NUMBER: 1668496.18
DRILLED DEPTH: 85.00 ft
LOCATION: West of DGWC-5

DRILL RIG: Geoprobe 8140LC
DATE STARTED: 11/1/20
DATE COMPLETED: 11/3/20

NORTHING: 1394303.4
EASTING: 2202956.4
GS ELEVATION: 789.1 ft
TOC ELEVATION: 791.87 ft

DEPTH W.L.: 8.9
ELEVATION W.L.: 755.30
DATE W.L.: 11/3/2020
TIME W.L.: 0815

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	TYPE	REC
0		0.00 - 10.00 Air Knife; Fill	FILL					
10		10.00 - 15.00 (ML), SILT; tan to brown, trace fine to coarse sand, moist to wet, soft, low plasticity, w<Pl, saprolite	ML		10.00			
15		15.00 - 20.00 (ML), SILT; gray and green to brown, low plasticity, w<PL, moist, soft to firm	ML		15.00	1	ROTO SONIC	10.00 / 10.00
20		20.00 - 26.00 (ML), SILT; gray and green to brown, low plasticity, w<PL, moist, soft to firm, more saprolitic	ML		20.00	2	ROTO SONIC	8.00 / 8.00
25		26.00 - 27.00 (TWR), TRANSITIONALLY WEATHERED ROCK; silt, gray and green to brown, low plasticity, w<PL, moist, soft to firm, saprolitic, locally contains gravels of augen biotite gneiss	TWR		26.00 27.00	3	ROTO SONIC	1.00 / 2.00
30		27.00 - 34.00 (GNEISS), BEDROCK; quartz, feldspar, biotite, white to dark gray, moderately weathered, medium strong, iron staining, locally contains augened feldspars	BR			4	ROTO SONIC	2.20 / 4.00
35		34.00 - 51.50 (GNEISS), BEDROCK; biotite, quartz, feldspar,white to light gray, well foliated, poorly jointed, fresh to slightly weathered, medium strong, iron staining, locally contains K-spar augens	BR		34.00	5	ROTO SONIC	1.70 / 6.00
45			BR			6	ROTO SONIC	10.00 / 10.00
50		Log continued on next page						

MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES

WELL CONSTRUCTION DETAILS

B-111D
Borehole Diameter: 6"
WELL CASING
Interval: 0'-85'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Screw fit with rubber seam
WELL SCREEN
Interval: 74.15'-84.15'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: .010"
End Cap: Schedule 40 PVC
FILTER PACK
Interval: 72.1'-84.15'
Type: FilterSil
Quantity: 3-50 lbs bags
FILTER PACK SEAL
Interval: 68.7'-72.1'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1-5 gallon bucket
ANNULUS SEAL
Interval: 0'-68.7'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 80 gallons

NOTES

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Fred Dorse

GA INSPECTOR: Michael Boatman, PG
CHECKED BY: Timothy Richards, PG
DATE: 2/3/21

GOLDER

RECORD OF BOREHOLE B-111D

SHEET 2 of 2

PROJECT: Plant McDonough
PROJECT NUMBER: 1668496.18
DRILLED DEPTH: 85.00 ft
LOCATION: West of DGWC-5

DRILL RIG: Geoprobe 8140LC
DATE STARTED: 11/1/20
DATE COMPLETED: 11/3/20

NORTHING: 1394303.4
EASTING: 2202956.4
GS ELEVATION: 789.1 ft
TOC ELEVATION: 791.87 ft

DEPTH W.L.: 8.9
ELEVATION W.L.: 755.30
DATE W.L.: 11/3/2020
TIME W.L.: 0815

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLES: SAMPLE NO.	TYPE	REC	MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
50			BR							
		51.50 - 58.00 (GNEISS), BEDROCK; feldspar, quartz, biotite, white to light gray, well foliated, poorly jointed, fresh to slightly weathered, medium strong, locally contains epidote			51.50					
55			BR			7	ROTO SONIC	7.00 / 10.00		
		58.00 - 85.00 (GNEISS), BEDROCK; biotite, feldspar, quartz, white to light gray, well foliated, poorly jointed, fresh to slightly weathered, medium to strong,			58.00					
60						8	ROTO SONIC	5.00 / 5.00		
65						9	ROTO SONIC	5.00 / 5.00		
70			BR			10	ROTO SONIC	5.00 / 5.00	3/8" Uncoated Pel-Plug	
75									Sand Filter Pack	
80						11	ROTO SONIC	10.00 / 10.00	U-Pack Screen	
85		Boring completed at 85.00 ft								
90										
95										
100										

B-111D
Borehole Diameter: 6"

WELL CASING
Interval: 0'-85'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Screw fit with rubber seam

WELL SCREEN
Interval: 74.15'-84.15'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: .010"
End Cap: Schedule 40 PVC

FILTER PACK
Interval: 72.1'-84.15'
Type: FilterSil
Quantity: 3-50 lbs bags

FILTER PACK SEAL
Interval: 68.7'-72.1'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1-5 gallon bucket

ANNULUS SEAL
Interval: 0'-68.7'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 80 gallons

NOTES

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Fred Dorse

GA INSPECTOR: Michael Boatman, PG
CHECKED BY: Timothy Richards, PG
DATE: 2/3/21

GOLDER

BOREHOLE RECORD MCDONOUGH MASTER LIST (2) (3) (1).GPJ PIEDMONT.GDT 2/10/21

GOLDER

WELL DEVELOPMENT FIELD RECORD

1 of 5

Page 1 of 5

PROJECT NAME / NUMBER: Plant McDonough
WELL ID: B-101D
WELL DIA (in): 2
DEVELOPED BY: Yong Cheng Soo
DATE OF INSTALL:
STARTED DEVEL: 12/7/20 (DATE) / 3:30 pm (TIME)
COMPLETED DEVEL: / (DATE) (TIME)
W.L. BEFORE DEVEL: 26.16 (WL) / 12/7 (DATE) / 2:51pm (TIME)
W.L AFTER DEVEL: / (WL) / (DATE) (TIME)
WELL DEPTH: BEFORE DEVEL: 77.8
WELL DEPTH: AFTER DEVEL:
STANDING WATER COLUMN (FT.): 51.64
STANDING WELL VOLUME: gal.
SCREEN LENGTH: 10
DRILLING WATER LOSS: gal.

DATE/TIME	VOLUME REMOVED (gal)	PUMPING RATE (gpm)	DTW (ft bgs)	FIELD PARAMETERS pH (s.u.)	Sp. Cond. (mS/cm)	TEMP. (°C)	Turbidity (NTU)	Color	RDO (mg/L)	ORP (mV)	REMARKS
12/7/20 3:~~40~~pm	-	0.5	54.48								pump@ 75'
3:~~4~~0pm	5	0									stop pump for 24 mins
3:~~44~~pm		0.5	64.02	7.44	0.38	9.63	14.3		11.24	98.2	
3:55pm		0.38	71.5								getting dry, air trapped in tube
4:11pm		"	72								
4:~~1~~9pm		0	69.51								
4:~~2~~7pm		0	67.6								
4:38pm		0.5	57.7								
4:~~4~~5pm		"	71.8								
4:48	10	0	72								stop pumping.

= TOTAL VOLUME REMOVED (gal.)

DEVELOPMENT METHOD: surging and reclaimer pump

NOTES: Stop development to allow recharge.

GOLDER

WELL DEVELOPMENT FIELD RECORD

Page ~~1 of 2~~

PROJECT NAME / NUMBER: Plant McDonough
WELL DIA (in): 2
DEVELOPED BY: Yong Cheng Soo
STARTED DEVEL: 12/8/2020 (DATE) 8:50 (TIME)
W.L. BEFORE DEVEL: 26.22 (WL) 12/9 (DATE) 8:46 (TIME)
WELL DEPTH: BEFORE DEVEL:
STANDING WATER COLUMN (FT.):
SCREEN LENGTH: 10

WELL ID: B-101D
DATE OF INSTALL:
COMPLETED DEVEL: / (DATE) (TIME)
W.L. AFTER DEVEL: / (WL) / (DATE) (TIME)
WELL DEPTH: AFTER DEVEL:
STANDING WELL VOLUME: gal
DRILLING WATER LOSS: gal

DATE/TIME	VOLUME REMOVED (gal)	PUMPING RATE (gpm)	DTW (ft bgs)	FIELD PARAMETERS pH (s.u.)	Sp. Cond. (mS/cm)	TEMP. (°C)	Turbidity (NTU)	Color	RDO (mg/L)	ORP (mV)	REMARKS
12/8/2020 850	0	0.5	26.22		Relogin Development						pump @ 75
857		"	40.82	8.50	0.61	9.23	1005		6.72	159.9	
9:01		"	50.02	8.37	0.38	5.66	98		11.13	92.2	
911		"	68.02	8.15	0.55	9.49	51		6.88	84.4	
916		"	70.71	7.98	0.38	8.96	11.5		7.62	84.3	
9:19		"	71.33	7.67	0.52	13.49	5.29		6.42	83.5	pump @ 73
9:22		—									pause pumping after top
932		—	69.06								"
942		—	65.00								
947		—	63.77								
952		—	60.72								
957		—	58.05								
1005	~~0.25~~	0.25	55.20		RESUME	DEVELOPMENT					
~~1015~~ 1015		0.25	64.35	6.84	0.53	~~10.30~~	35.9		10.05	79.9	Temp=10.30
1025 ~~1030~~		"	70.99	6.69	0.56	11.30	85		8.11	80.8	
1035			71.48	6.49	0.51	13.32	69.2		7.8	5.26	
									RE		
1045			71.45	6.50	0.52	12.58	40		6.51	77.8	
1048											pump @ 71
1049		—									pause pumping
1121		—	69.40								
1142		—	51.34								
1149	0.	0.25	49.0								
1200		0.25	58.71	6.71	0.54	13.45	96.8		6.44	77.4	pump @ 71
1210	~15	"	68.15	6.42	0.52	15.48	75.1		3.66	78.2	
1220				6.42	0.55	15.39	41.6		7.89	78	
1225		0.25	STOP								pause pumping
1325		~~0.25~~	48.94		RESUME	DEVELOPMENT					
1335	~20	0.25	64.65	6.82	0.55	8.18	~~11.1~~		5.22	~~79.9~~	turbidity = 11 NTU
1345		0.25	68.5	6.48	0.53	10.30	38.3		3.93	76.9	
1355		0.25	68.9	6.48	0.52	14.85	87.4		11.31	79.2	
1405	~25	0.25	69.20	6.51	0.52	14.51	43.7		9.13	78.3	
1415		0.25	69.60	6.47	0.52	14.97	21.4		8.68	77.7	stop
1430		0	>TOP		pause pumping						pump @ 68' (after 1415)
		= TOTAL VOLUME REMOVED (gal.)									

DEVELOPMENT METHOD: surging and reclaimer pump
NOTES: TOP = Top of Pump.

GOLDER

WELL DEVELOPMENT FIELD RECORD

Page __ of __

PROJECT NAME / NUMBER	Plant McDonough	WELL ID:	B-101D
WELL DIA (in)	2		
DEVELOPED BY	Yongcheng Soo	DATE OF INSTALL.	
STARTED DEVEL. (DATE / TIME)	12/8/2020 / 850	COMPLETED DEVEL. (DATE / TIME)	/
W.L. BEFORE DEVEL. (WL / DATE / TIME)	26.22 / 12/8 / 846	WL AFTER DEVEL. (WL / DATE / TIME)	/ /
WELL DEPTH: BEFORE DEVEL.		WELL DEPTH: AFTER DEVEL.	
STANDING WATER COLUMN (FT.)	~~[illegible]~~	STANDING WELL VOLUME	gal.
SCREEN LENGTH	10	DRILLING WATER LOSS	gal.

DATE/TIME	VOLUME REMOVED (gal)	PUMPING RATE (gpm)	DTW (ft bgs)	FIELD PARAMETERS pH (s.u.)	Sp. Cond. (mS/cm)	TEMP. (°C)	Turbidity (NTU)	Color	RDO (mg/L)	ORP (mV)	REMARKS
12/8/20 1510		—	49.20								
1515		0.25	48.48		RESUME DEVELOPMENT						pump @ 68'
1520		0.25	55.50	6.23	0.52	14.62	19.9		3.34	80.8	
1525		0.25	63.36	6.36	0.52	14.28	14.5		2.85	80.5	
1530		0.25	65.30	6.29	0.52	14.52	5		4.06	80.5	
1535	~30			PAUSE PUMPING							
1550		0.25		RESUME							drop pump to 75' & purge dry
1605		Dry									
1630	~25									400 mL/min	
1645					purge dry.						
		= TOTAL VOLUME REMOVED (gal.)									

DEVELOPMENT METHOD: surging and reclaimer pump

NOTES:

GOLDER

WELL DEVELOPMENT FIELD RECORD

PROJECT NAME / NUMBER: Plant McDonough / 1
WELL DIA (in): 2
DEVELOPED BY: Yong Cheng Soo
STARTED DEVEL: 12/15/2020 (DATE) (TIME)
W.L. BEFORE DEVEL: 26.12 (WL) / 12/15 (DATE) / 1226 (TIME)
WELL DEPTH: BEFORE DEVEL:
STANDING WATER COLUMN (FT.):
SCREEN LENGTH: 10

WELL ID: B-101D
DATE OF INSTALL.:
COMPLETED DEVEL.: / (DATE) (TIME)
WL AFTER DEVEL.: / / (WL) (DATE) (TIME)
WELL DEPTH: AFTER DEVEL.:
STANDING WELL VOLUME: gal.
DRILLING WATER LOSS: gal.

DATE/TIME	VOLUME REMOVED ~~(gal)~~ L	PUMPING RATE ~~(gpm)~~ mL/min	DTW (ft bgs)	FIELD PARAMETERS pH (s.u.)	Sp. Cond. (mS/cm)	TEMP. (°C)	Turbidity (NTU)	Color	RDO (mg/L)	ORP (mV)	REMARKS
12/15/20 1230	0	400mL/min	26.12	REBEGIN		DEVELOPMENT					@2' above well bottom
1240		"	~~24.12~~	6.51	0.26	15.42	71.2		7.68	212.4	
1300			35.86	6.39	0.60	16.81	48.2		4.12	141.0	
1315			38.14	6.50	0.62	14.60	45.2		9.49	162.3	
1330			40.10	6.36	0.60	15.92	53.5		4.04	144.90	
1340			41.81	6.50	0.60	1582	48.9		9.30	164.0	
1350			42.65	6.41	0.57	18.76	62.3		3.52	158.9	25 gal
1400			42.60	6.33	0.58	17.01	~~56.7~~		4.09	134.5	turbidity = 41.8
1410			42.40	6.33	0.58	16.01	49.9		3.85	149.9	
1420			42.80	6.34	0.57	19.34	49.6		3.72	133.3	@ 5' from bottom
1430			45.18	6.40	0.57	16.36	67.8		3.70	151.6	
1440	28 L		47.12	6.19	0.55	17.16	73.6		3.69	133.2	
1450	32 L	250	49.48	6.14	0.55	17.49	71.0		3.75	120.1	
1500		250	49.71	6.19	0.55	16.96	~~71.2~~		4.24	126.4	turbidity = 54.10
1510		250	49.92	6.25	0.54	17.40	~~71.7~~		4.00	123.6	turbidity = 63.2
1520			51.18	6.25	0.56	19.37	74.6		3.66	109.2	
1530			50.46	6.18	0.55	14.97	63.5		3.97	109.7	
1540			50.68	6.21	0.56	13.95	63.4		3.66	117.7	
1550	47L		50.92	6.17	0.57	13.58	71.9		4.04	104.6	
1600			50.60	6.12	0.55	14.20	62.2		3.19	99.9	
1610			50.15	6.13	0.55	13.88	36.5		3.11	101.0	
1620			49.70	6.14	0.56	12.81	19.1		3.97	107.6	
1630			49.88	6.06	0.56	14.11	9.65		3.92	113.6	@ 8' from bottom
1640			49.10	6.10	0.55	12.99	28.2		3.67	117.4	
1650			49.42	6.05	0.55	14.10	39.8		3.11	123.9	
1655	50L	1000	49.50	6.14	0.56	12.93	61.1		4.04	137.7	
											@ 5' purge dry
		= TOTAL VOLUME REMOVED (gal.)									

DEVELOPMENT METHOD: surging and reclaimer pump

NOTES:

GOLDER

WELL DEVELOPMENT FIELD RECORD

5 of 5

Page 1 of __

PROJECT NAME / NUMBER: Plant McDonough
WELL ID: B-101D
WELL DIA (in): 2
DEVELOPED BY: Yong Chung Soo
DATE OF INSTALL:
STARTED DEVEL: 12/16/20 (DATE) / (TIME)
COMPLETED DEVEL: 12/16 (DATE) / 1035 (TIME)
W.L. BEFORE DEVEL: 26.12 (WL) 12/16 (DATE) 916 (TIME)
WL AFTER DEVEL: 39.13 ~~35.35~~ ~~1040~~ (WL) 12/16/20 (DATE) 1040 (TIME)
WELL DEPTH: BEFORE DEVEL:
WELL DEPTH: AFTER DEVEL: 78.8
STANDING WATER COLUMN (FT.):
STANDING WELL VOLUME: _____ gal.
SCREEN LENGTH: 10
DRILLING WATER LOSS: _____ gal.

DATE/TIME	VOLUME REMOVED ~~(gal)~~ L	PUMPING RATE ~~(gpm)~~ mL/min	DTW (ft bgs)	FIELD PARAMETERS pH (s.u.)	Sp. Cond. (mS/cm)	TEMP. (°C)	Turbidity (NTU)	Color	RDO (mg/L)	ORP (mV)	REMARKS
12/16 920	~	200	26.12		REBEGIN DEVELOPMENT						
930		200	28.83	6.78	0.63	11.46	10.63		4.94	168.4	pump @ 5' from bottom
940		200	30.25	6.63	0.61	9.63	5.42		4.94	143.4	
950			31.98	6.46	0.60	10.66	2.06		4.66	137.7	
1000			33.42	6.40	0.59	9.78	1.84		10.49	132.1	
1015	11L		34.92	6.06	0.559	14.02	2.11		1.43	109.90	start purging launch low flow
1020			35.06	6.04	0.554	14.39	1.41		1.34	103.50	
1025			35.20	6.04	0.556	14.19	1.43		1.30	99.30	
1030	14L		35.28	6.03	0.555	14.11	1.19		1.25	96.40	
1035	15L	200	35.35	6.02	0.558	14.06	1.32		1.20	93.50	
	51	= TOTAL VOLUME REMOVED (gal.)									

DEVELOPMENT METHOD: surging and reclaimer pump

NOTES:

Golder Associates

Product Name: Low-Flow System

Date: 2020-12-16 10:47:29

Project Information:		Pump Information:	
Operator Name	Yong Cheng SoCo	Pump Model/Type	Reclaimer
Company Name	Golder Associates Inc	Tubing Type	polyethylene
Project Name	166849618	Tubing Diameter	.5 in
Site Name	Plant McDonough	Tubing Length	72 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	647057		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	72 ft

Well Information:		Pumping Information:	
Well ID	B-101D	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	2.869987 L
Well Total Depth	77.8 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	110.8 in
Depth to Water	34.56 ft	Total Volume Pumped	15 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		+/- 0.3	+/- 10
Last 5	10:25:58	300.11	14.02	6.06	558.69	2.11	34.92	1.43	109.94
Last 5	10:30:58	600.02	14.29	6.04	559.33	1.41	35.06	1.34	103.54
Last 5	10:35:58	900.02	14.19	6.04	556.50	1.43	35.20	1.30	99.33
Last 5	10:41:02	1204.02	14.11	6.03	555.47	2.19	35.28	1.25	96.40
Last 5	10:46:02	1504.02	14.06	6.02	558.00	--	--	1.20	93.51
Variance 0			-0.10	-0.00	-2.83			-0.05	-4.21
Variance 1			-0.08	-0.01	-1.03			-0.05	-2.93
Variance 2			-0.05	-0.01	2.54			-0.05	-2.89

Notes

Grab Samples

GOLDER

WELL DEVELOPMENT FIELD RECORD

Page 1 of 1

PROJECT NAME / NUMBER: 1684618 / McDonough
WELL ID: B-102D
WELL DIA (in): 2
DEVELOPED BY: K Mallory
DATE OF INSTALL:
STARTED DEVEL: 12-8-20 (DATE) 946 (TIME)
COMPLETED DEVEL: 12-8-20 (DATE) 1138 (TIME)
W.L. BEFORE DEVEL: 32.36 (WL) 12-8 (DATE) 907 (TIME)
W.L. AFTER DEVEL: 32.31 (WL) 12-8 (DATE) 1207 (TIME)
WELL DEPTH: BEFORE DEVEL: 87.45
WELL DEPTH: AFTER DEVEL: 87.40
STANDING WATER COLUMN (FT.): 55.09
STANDING WELL VOLUME: gal.
SCREEN LENGTH: 77-87
DRILLING WATER LOSS: gal.

DATE/TIME	VOLUME REMOVED (gal)	PUMPING RATE (gpm)	DTW ~~(ft bgs)~~ BTOC	FIELD PARAMETERS pH (s.u.)	Sp. Cond. (mS/cm)	TEMP. (°C)	Turbidity (NTU)	Color	RDO (mg/L)	ORP (mV)	REMARKS
12-8-20 945	2.5	0.5	37.12	6.05	0.61	12.48	710.0	Brown	1.57	-63.7	Pump @ 85'
955	7.5	"	40.70	5.65	0.61	14.39	174	cloudy	2.01	-36.2	"
1015	17.5	"	42.38	5.70	0.59	12.74	32.0	v. clear	1.87	-112.5	"
~~1025~~											Pump @ 81'
1045	32.5	0.5	42.60	5.56	0.65	12.74	4.65	Clear	2.67	119.4	"
1055	37.5	0.5	44.74	5.61	0.60	15.13	35.9	v. clear	1.71	10.1	Pump @ 78'
1105	~~37.5~~	0.5	44.24	5.58	0.61	15.97	8.66	Clear	1.67	53.7	
1107	42.5	— Settling				for	low	- flow		—	
											Pump @ 82'
1119			40.24								
1122		BEGIN Low-Flow. @ 500 mL/min									
		REFER TO electronic log for parameters									
1138 —		COMPLETE DEVELOPMENT —									

42.5 gal + 7.5 C

44.5 = TOTAL VOLUME REMOVED (gal.)

DEVELOPMENT METHOD: Reclaimer surging and reclaimer pump

NOTES:

Product Name: Low-Flow System

Date: 2020-12-08 11:39:07

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	Reclaimer
Company Name	Golder	Tubing Type	polyethylene
Project Name	166849618	Tubing Diameter	0.50 in
Site Name	Plant McDonough	Tubing Length	82 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	647057		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	82 ft

Well Information:		Pumping Information:	
Well ID	B-102D	Final Pumping Rate	500 mL/min
Well diameter	2 in	Total System Volume	3.256096 L
Well Total Depth	87.45 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	40.24 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	11:27:32	300.10	15.72	5.48	627.75	1.75	39.11	0.20	-102.06
Last 5	11:32:32	600.02	15.64	5.47	628.60	1.39	38.95	0.22	-25.16
Last 5	11:37:32	900.02	15.91	5.48	628.92	1.46	38.86	0.22	-7.38
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.08	-0.01	0.84			0.02	76.89
Variance 2			0.27	0.01	0.33			-0.00	17.78

Notes

Development low flow began after 32.5gal purged
Completed development at 1138

Grab Samples

GOLDER

WELL DEVELOPMENT FIELD RECORD

JOB NAME McDonough
DEVELOPED BY S. Brodie
STARTED DEVEL. 10/30/20 / 1030 (DATE / TIME)
W.L. BEFORE DEVEL. 28.15 / 10/30 / 9:52 (DEPTH / DATE / TIME)
WELL DEPTH: BEFORE DEVEL. 74.6
STANDING WATER COLUMN (FT.)
SCREEN LENGTH 10

JOB NO.
WELL NO. B-103D
DATE OF INSTALL.
SHEET 1 OF 3
COMPLETED DEVEL. / (DATE / TIME)
AFTER DEVEL. / / (DEPTH / DATE / TIME)
AFTER DEVEL. WELL DIA. (In) 2
STANDING WELL VOLUME gal.
DRILLING WATER LOSS gal.

DATE/TIME	VOLUME REMOVED (GALS)	FIELD PARAMETERS SPEC. COND. (mS/cm)	TEMP. (°C)	pH (s.u.)	Turbidity (NTU)	REMARKS Pump rate	DTW
10/30 1030	0	883.5	17.99	8.42	13.2	0.25 gal/min	46.1 pump @
10/30 1040	2.5	855.1	15.20	8.88	10.13	600 mL/min	51.7 pump @
10/30 1045	3.25	854.1	16.82	8.91	8.65	600 mL/min	56.3 pump @
10/30 1100	5.5	822.4	17.61	8.84	87	600 mL/min	63.5 pump @
10/30 1115	7.75	903.1	18.06	8.70	61.5	400 mL/min	66.7 pump @
10/30 1130	9.25	1099.1	16.78	8.53	30.8	400mL/min	67.8 pump @
10/30 1145	10.75	1256.2	16.70	8.14	18.7	400mL/min	68.5 pump @
1145		paused to test recharge					
		= TOTAL VOLUME REMOVED (gal.)					

DEVELOPMENT METHOD: surging and reclaimer pump
1045 - pump surged, 3' from bottom

NOTES: stopped development to allow recharge

GOLDER

WELL DEVELOPMENT FIELD RECORD

JOB NAME: NES DEVELOPMENT
JOB NO. 166849618
WELL NO. B-103D
DEVELOPED BY: J. WAGUESPACK
DATE OF INSTALL. ____
SHEET 2 OF 7
STARTED DEVEL. ____ / ____ (DATE / TIME)
COMPLETED DEVEL. ____ / ____ (DATE / TIME)
W.L. BEFORE DEVEL. 45.60 / 11.04.20 / 16:38 (DEPTH / DATE / TIME)
AFTER DEVEL. ____ / ____ / ____ (DEPTH / DATE / TIME)
WELL DEPTH: BEFORE DEVEL. 74.6
AFTER DEVEL. ____ WELL DIA. (In) ____
STANDING WATER COLUMN (FT.) 29
STANDING WELL VOLUME 4.72 gal.
SCREEN LENGTH 10' : 64.6 - 74.6
DRILLING WATER LOSS ____ gal.

DATE/TIME	VOLUME REMOVED (GALS)	FIELD PARAMETERS: SPEC. COND. (mS/cm)	TEMP. (°C)	pH (s.u.)	Turbidity (NTU)	DO	ORP	REMARKS DTW	PUMP DEPTH FROM BOTTOM / NOTES
11.04.20 / 16:45	0	REBEGIN	DEVELOPMENT					45.60	3' SURGING
16:51	5	1649.1	19.73	7.27	47.8	6.79	162.4	▽71	RECHARGING
11/05 / 09:05	6	RESUME DEV						64.28	1', SURGE SCREEN
09:10	7.5	1963.7	17.18	7.69	>1000	9.34	163.8	70.3	RECHARGING
11/09 / 13:40	7.5	RESUME	DEV @	14:05				55.18	6'
14:05	7.5							55.18	SURGE WHOLE SCREEN
14:10	12.5	2123.5	20.56	8.02	84.0	8.83	38.2	69.0	RECHARGING
16:30	15	2171.5	22.83	8.12	>1000	8.6	248.8	66.6	SURGE
11-10 / 16:05	15	RESUME DEV						66.9	SURGE SCREEN
16:13	17.5	1905.1	19.85	7.96	914	8.29	-18.3	▽71	RECHARGING
11-11 / 0854	17.5							68.30	
1325	17.5	1808.9	24.78	8.02	27.0	8.26	-139.0	67.90	Surged Screen
1337	19.0	1800.1	24.70	8.07	500	8.19	-120	▽68.50	Well went dry/Recharg
11-17 / 1007			17.		696			48.50	Surged whole screen
1050		1936.3	17.89	6.99	696	10.34	+151.44	48.50	
1100	24.0	2097.2	17.61	7.42	75	9.97	+155.13	BTOP	Surged
1105	25.0	Well Went dry. Will let well recharge & return							
		= TOTAL VOLUME REMOVED (gal.)							

DEVELOPMENT METHOD: surging and reclaimer pump

NOTES:

GOLDER

WELL DEVELOPMENT FIELD RECORD

PROJECT NAME / NUMBER: 16684918 | WELL ID: B-103D

WELL DIA (in): 2

DEVELOPED BY: Yong Cheng Soo

STARTED DEVEL.: 12/7 (DATE) ~1 pm (TIME) | DATE OF INSTALL.:

W.L. BEFORE DEVEL.: 19.60 (WL) 12/7 (DATE) 1054 (TIME) | COMPLETED DEVEL.: / (DATE) (TIME)

WELL DEPTH: BEFORE DEVEL.: 74.19 | WL AFTER DEVEL.: / (WL) / (DATE) (TIME)

STANDING WATER COLUMN (FT.): 54.59 | WELL DEPTH: AFTER DEVEL.:

SCREEN LENGTH: 10 | STANDING WELL VOLUME: gal.

DRILLING WATER LOSS: gal.

DATE/TIME	VOLUME REMOVED (gal)	PUMPING RATE (gpm)	DTW (ft bgs)	FIELD PARAMETERS: pH (s.u.)	Sp. Cond. (mS/cm)	TEMP. (°C)	Turbidity (NTU)	Color	RDO (mg/L)	ORP (mV)	REMARKS
12/7/22 1pm		0.5		6.53	1.55	15.37	15.5		2.38	128	pump @ 7'
1.30pm	10	"									
12/8	by Jade.										
1405			64.55		SURGE WHOLE SCREEN (~4')						
1410					BEGIN PUMPING						
1411	~500mL purged		69		END PUMPING - DRY						
12/9		—	.								
0856		—	62.52								
1440		—	60.90								
12-10/1600			54.88								
12-11/1040			37.23								
12-15/1530			34.41								
12-16/1030			32.19								
12/16 1145			32.32								
1213			36.95	6.63	1.79	10.92	934 NTU	Black	2.28	123.3	

36 = TOTAL VOLUME REMOVED (gal.)

DEVELOPMENT METHOD: surging and reclaimer pump

NOTES: pump to dry (12/7) (12/8)

GOLDER

WELL DEVELOPMENT FIELD RECORD

JOB NAME McDonough
DEVELOPED BY S. Bndrt
STARTED DEVEL. 10/29/20 / 1406 (DATE / TIME)
W.L. BEFORE DEVEL. 6.25 / 10/29 / 14:11 (DEPTH / DATE / TIME)
WELL DEPTH: BEFORE DEVEL. 63.45
STANDING WATER COLUMN (FT.) 57.2
SCREEN LENGTH 10 feet

JOB NO.
WELL NO. B-104D
DATE OF INSTALL. 10/29/20
SHEET 1 OF 1
COMPLETED DEVEL. 10/29/20 / 18:36 (DATE / TIME)
AFTER DEVEL. 63.45 / 10/29 / 18:36 (DEPTH / DATE / TIME)
AFTER DEVEL. ____ WELL DIA. (in) 2
STANDING WELL VOLUME 9.32 gal.
DRILLING WATER LOSS ____ gal.

DATE/TIME	VOLUME REMOVED (GALS)	FIELD PARAMETERS: SPEC. COND. (mS/cm)	TEMP. (°C)	pH (s.u.)	Turbidity (NTU)	Pump Rate	REMARKS: DTW
1445	0	819.8	22.81	6.22	30.0	1/2 gal/min	28.9
1500	7.5	paused to re					recovery measurement
1505	7.5	began pump	pump a	gain		0 ft recharge	8 min
1515	12.5	970.1	20.44	6.35	19.0	0.5 gal/min	41.8 feet
1520	13.75	Flow re	duced to		0.25 gal/min		SWL
1530	15.25	1009.3	20.27	6.18	3.76	600 ml/min	54.21
1545	17.5	998.1	22.03	6.90	72.5	600 ml/min	50.3
1600	19.75	1047.0	21.04	6.11	15.9	600 ml/min	47.35
1615	22	1050.8	20.91	6.11	3.40	600 ml/min	45.76
1630	24.25	1048.3	20.57	6.11	4.61	600 ml/min	46.0
1645	26.5	1090.6	20.42	6.11	2.12	600 ml/min	46.1
1700	28.75	1045.6	20.36	6.11	16.7	600 ml/min	47.2
1715	31	1051.0	20.30	6.12	3.62	600 ml/min	47.7
1730	33.25	1037.8	20.26	6.17	20.4	600 ml/min	47.2
1735		1054.5	20.09	6.11	4.10	60 ml/min	47.2
	36	= TOTAL VOLUME REMOVED (gal.)					

DEVELOPMENT METHOD: Pump surged @ 1530, moved 3 feet up in screen
Pump surged @ 1615, moved to 6 feet up in screen
Pump surged @ 1645, moved to 8 feet up in screen
surged @ 1715, moved to 1 foot above bottom

NOTES:

PURGING AND SAMPLING FORM

Project #: 166849618	Project Name/Site Name: Plant McDonough ~~Annual~~ October 2020		Page: 1 of 1
Well ID #: B-104D	Date: 10/29/20	Water Level (ft): 37.89	Time (WL): 1754
Physical Condition of Well: good		Weather: 25.56	
Well Diameter (in): 2	Well Depth (ft): 63.45	Water Column (ft): ~~34.0801~~	Well Volume (gal): 4.2
Start Purge: 1754	End Purge: 1836	Top of Pump (ft): 68.45	
Evacuation Method: Low-Flow		Volume Removed (L): 9.6 L	
Evacuation Equipment: Reclaimer		Purging Personnel: S. Brodie	
SmarTroll serial #: 512733		Lamotte serial #: 1386 - 3811	

Purge Data/Field Parameters

Time	Color & Appearance	Odor	pH (S.U.)	Cond. (uS/cm)	DO (mg/L)	Temp (C)	ORP (mV)	Turbidity (NTU)	DTW (ft BTOC)	Pumping Rate
1836	clear		6.06	1059.5	1.33	19.81	272.2	0.19	26.6	240 mL/

Stabilization Criteria: pH ± 0.1 S.U, Conductivity ± 5%, Dissolved Oxygen ± 10% or 0.2Mg/L (whichever is greater; for DO < 0.5mg/L, record only, no stabilization criteria), Turbidity ≤5 NTU; Purge volume ≥3L purge water, water level ≤ 0.3 ft; Temp and ORP record only

Sample Description

Sample ID: _____ Sample Date/Time: _____ Metals Date/Time: _____

Duplicate: _____ Dup Date/Time: _____ Final Turbidity NTU: _____

Field Blank: _____ Blank Date/Time: _____ Turbidity Date/Time: _____

# Sample Bottles	Container	Preservative	Analyte(s)
1	250 mL plastic	HNO_3	B, Be, Co, Al, Mg, Mn, K, Na, Si, Ca
1	250 mL plastic	--	Alkalinity
1	250 mL plastic	--	Chloride + Sulfate
1	250 mL plastic	--	Ferrous + Ferric Iron

Signature: _____

Product Name: Low-Flow System

Date: 2020-10-29 18:38:20

Project Information:		Pump Information:	
Operator Name	S. Brodie	Pump Model/Type	reclaimer
Company Name	Golder	Tubing Type	LPDE
Project Name	B-104D	Tubing Diameter	.5 in
Site Name	Plant McDonough	Tubing Length	63.45 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte	Pump placement from TOC	68.45 ft

Well Information:		Pumping Information:	
Well ID	B-104D	Final Pumping Rate	240 mL/min
Well diameter	2 in	Total System Volume	2.539863 L
Well Total Depth	63.45 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	36.89 ft	Total Volume Pumped	10.08 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	+/- 3%	+/- 10		+/- 0.3	+/- 10
Last 5	18:14:26	1200.02	20.61	6.06	1059.22	0.33	28.65	1.08	431.96
Last 5	18:19:26	1500.02	20.42	6.06	1058.94	0.39	28.90	1.83	381.05
Last 5	18:24:27	1801.02	20.30	6.06	1058.49	0.32	27.30	0.72	342.24
Last 5	18:29:28	2102.02	19.93	6.06	1058.80	0.25	26.90	1.14	304.71
Last 5	18:34:28	2402.02	19.81	6.06	1059.46	0.19	26.60	1.33	272.23
Variance 0			-0.12	0.00	-0.45			-1.11	-38.81
Variance 1			-0.37	0.00	0.31			0.41	-37.53
Variance 2			-0.12	-0.00	0.66			0.19	-32.48

Notes

Grab Samples

GOLDER

WELL DEVELOPMENT FIELD RECORD

JOB NAME McDonough JOB NO. WELL NO. B-105D

DEVELOPED BY S. Brodie DATE OF INSTALL. SHEET OF

STARTED DEVEL. 10/30/20 / 1510 COMPLETED DEVEL. /

DATE TIME DATE TIME

W.L. BEFORE DEVEL. 16.2 10/30/1350 AFTER DEVEL. / /

DEPTH DATE TIME DEPTH DATE TIME

WELL DEPTH: BEFORE DEVEL. 74.35 AFTER DEVEL. WELL DIA. (In)

STANDING WATER COLUMN (FT.) 58.15 9.5gal STANDING WELL VOLUME 9. gal.

SCREEN LENGTH 10 DRILLING WATER LOSS gal.

DATE/TIME	VOLUME REMOVED (GALS)	FIELD PARAMETERS SPEC. COND. (mS/cm)	TEMP. (°C)	pH (s.u.)	Turbidity (NTU)	REMARKS Flow rate	DTW	pump Feet from bottom
10/30 1510	0	576.0	19.91	7.01	52.8	0.25gal/min	24.49	1'
1525 10/30 [illegible]		592.0	19.55	6.70	31.6	0.25gal/min	28.7	1'
10/30 1530		604.2	19.47	6.51	11.9	0.25gal/min	33.45	1'
10/30 1545		602.5	19.33	6.36	54.6	0.25gal/min	37.4	3'
10/30 1600		606.9	19.41	6.26	46.3	0.25gal/min	39.2	3'
10/30 1615		611.4	19.28	6.18	17.1	0.25gal/min	40.29	3'
10/30 1630		613.6	19.41	6.13	12.1	0.25gal/min	40.79	3'
10/30 1645		601.5	19.03	6.24	81	0.25gal/min	42.1	6'
10/30 1700		615.4	18.97	6.07	33.6	0.25gal/min	42.1	6'
10/30 1715	31.25	617.9	19.04	6.04	17.9	0.25gal/min	40.2	6'
	generator ran out of fuel							
10/30 1730	31.25	650.1	18.61	6.06	18.5	0.5gal/min	42.5	6'
10/30 1745	38.75	578.9	18.83	6.53		0.5gal/min	62	
10/30 1800	46.25	642.3	18.39	6.22	22.1	0.25gal/min	60.9	9'
10/30 1815		635.8	18.47	6.10	26.8	0.25gal/min	63.4	9'
10/30 1825		628.2	18.15	6.18	14.5	0.25gal/min	64.0	9'
10/30 1830	53.75	635.7	18.10	6.12	9.84	0.25gal/min	64.1	9'
		= TOTAL VOLUME REMOVED (gal.)						

DEVELOPMENT METHOD: surging and reclaimer pump

1530 - pump surged, moved to 3' from bottom
1630 - pump surged, moved to 6' from bottom
1730 - pump surged, moved to 9' from bottom

NOTES:
Development complete, no time for Low flow due to late hour of day and loss of light

GOLDER

WELL DEVELOPMENT FIELD RECORD

JOB NAME: NES DEVELOPMENT
JOB NO.: 166849618
WELL NO.: B-1050
DEVELOPED BY: J. WAGNESPACK
DATE OF INSTALL.:
SHEET 1 OF 2
STARTED DEVEL.: 11.02.20 / 16:35 (DATE / TIME)
COMPLETED DEVEL.: 11.04.20 / 15:20 (DATE / TIME)
W.L. BEFORE DEVEL.: 16.40 / 11.02.20 / 16:31 (DEPTH / DATE / TIME)
AFTER DEVEL.: 40.4 / 11.04 / 15:20 (DEPTH / DATE / TIME)
WELL DEPTH: BEFORE DEVEL.: 72.90
AFTER DEVEL.: 72.90
WELL DIA. (In): 2
STANDING WATER COLUMN (FT.): 56.5
STANDING WELL VOLUME: 9.21 gal.
SCREEN LENGTH: 10' : 62.90 - 72.90
DRILLING WATER LOSS: gal.

DATE/TIME	VOLUME REMOVED (GALS)	FIELD PARAMETERS: SPEC. COND. (mS/cm)	TEMP. (°C)	pH (s.u.)	Turbidity (NTU)	Do	ORP	REMARKS DTW	PUMP FROM BOTTOM
11.02.20/16:40	0	641.0	19.11	6.33	>1000	0.77	37.2	22.8	3", SURGING
16:52	5	639.2	18.86	6.78	>10000	9.37	83.2	61.0	
17:00	10	260.5	18.50	7.32	88.7	8.45	-67.5	68.5	RECHARGING
17:10	—							59.5	RECHARGING
17:19	—							49.5	RECHARGING
11.04.20 / 09:05	—	RESUME DEVELOPMENT						16.42	3", SURGE WHOLE
09:15	15	668.6	17.72	6.53	>1000	3.34	26.1	45.88	0.5 gpm
09:25	20	662.6	17.99	6.19	42.0	2.79	83.5	59.10	SURGING
09:30	22.5	661.9	18.32	6.19	30.6	4.53	113.5	66.5	RECHARGING
09:50	22.5	661.0	18.20	6.34	92.9	6.21	235.9	46.5	SURGE SCREEN
10:00	27.5	658.4	18.48	6.44	41.4	7.84	316.5	62.7	3"
10:05	30	661.6	18.52	6.45	84.2	7.91	267.3	67.0	RECHARGING
10:30	30	655.8	19.83	6.56	47.6	7.93	268.2	45.0	SURGE SCREEN
10:40	34	661.3	18.80	6.37	25.5	5.15	274.3	62.7	
10:45	36	658.7	18.88	6.26	27.5	4.04	316.4	66.9	RECHARGING
11:10	36	656.1	19.48	6.23	54.2	3.11	414.7	43.40	SURGE SCREEN
11:20	38.5	656.4	19.32	6.21	87.5	3.12	438.5	52.95	
11:30	41	652.9	19.33	6.15	22.3	2.54	452.9	57.65	
		= TOTAL VOLUME REMOVED (gal.)							

DEVELOPMENT METHOD: RECLAIMER + SURGING
10:30: FLOW RATE DECREASED FROM 0.5 gpm — 0.4 gpm
11:10: FLOW RATE FROM 0.4 - 0.25 gpm

NOTES:

GOLDER

WELL DEVELOPMENT FIELD RECORD

JOB NAME: NES DEVELOPMENT
JOB NO. 1668496'8
WELL NO. B-105D
DEVELOPED BY: J. WAGUESPACK
DATE OF INSTALL.
SHEET 2 OF 2
STARTED DEVEL. 11.02.20 / 16:35 (DATE / TIME)
COMPLETED DEVEL. 11.04.20 / 15:20 (DATE / TIME)
W.L. BEFORE DEVEL. 16.40 / 11/02 / 16:31 (DEPTH / DATE / TIME)
AFTER DEVEL. 40.4 / 11.04 / 15:20 (DEPTH / DATE / TIME)
WELL DEPTH: BEFORE DEVEL. 72.90
AFTER DEVEL. 72.90
WELL DIA. (In) 2
STANDING WATER COLUMN (FT.) 56.5
STANDING WELL VOLUME 9.21 gal.
SCREEN LENGTH 10
DRILLING WATER LOSS gal.

DATE/TIME	VOLUME REMOVED (GALS)	FIELD PARAMETERS: SPEC. COND. (mS/cm)	TEMP. (°C)	pH (s.u.)	Turbidity (NTU)	DO	ORP	REMARKS DTW	PUMP FROM BOTTOM / NOTES
11.04.20/11:40	43.5	650.4	19.41	6.12	5.79	2.15	490.4	62.20	3"
11:50	46	648.9	19.50	6.11	6.01	1.96	528.5	64.3	RECHARGING
12':10	46	649.4	20.04	6.14	50.2	2.04	596.2	43.2	SURGE SCREEN
12':20	48.5	647.7	20.04	6.13	51	2.00	607.8	50.49	
12:30	51	646.9	19.77	6.11	28.5	1.67	633.3	57.3	SURGING
12':40	53.5	650.4	19.72	6.10	14.3	1.59	650.7	62.45	SURGING
12:50	56	644.2	19.73	6.12	10.61	1.61	681.2	64.4	->5', RECHARGE
13':15	56	654.4	20.44	6.14	7.14	2.05	442.1	43.4	SURGE SCREEN
13':25	58.5	650.2	19.93	6.09	11.7	1.71	611.2	56.0	SURGING
13':35	61	650.0	19.68	6.08	9.29	1.56	753.3	63.8	
13':45	63.5	649.4	19.81	6.09	4.03	1.80	871.4	63.9	->3", RECHARGE
14':05	63.5	649.0	20.5	6.11	5.21	1.94	1063.5	44.20	
14':15	66	649.2	20.02	6.09	2.11	1.75	1111.8	53.8	->5'
14':25	68.5	648.9	19.72	6.08	0.89	1.59	1135.5	63.25	RECHARGING
14':50	68.5	BEGIN LOW FLOW DEVELOPMENT						40.0	
15:05		FLOW RATE FROM 400 mL/min -> 200 mL/min							
15':20	+2.4	647.20	20.37	6.10	0.28	1.54	1184.20	40.4	
	70.5	DEVELOPMENT COMPLETE							
	124.25	= TOTAL VOLUME REMOVED (gal.)							

DEVELOPMENT METHOD: RECLAIMER + SURGING

NOTES:

Product Name: Low-Flow System

Date: 2020-11-04 15:27:00

Project Information:		Pump Information:	
Operator Name	Jude Waguespack	Pump Model/Type	Reclaimer
Company Name	Golder	Tubing Type	LDPE
Project Name	166849618	Tubing Diameter	.250 in
Site Name	Plant McDonough	Tubing Length	68 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	68 ft

Well Information:		Pumping Information:	
Well ID	B-105D	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	2.186386 L
Well Total Depth	72.90 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	4.8 in
Depth to Water	40 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			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	15:01:21	600.02	20.22	6.09	647.87	0.52	43.65	1.64	1175.88
Last 5	15:06:21	900.02	20.21	6.08	647.04	0.43	45.40	1.49	1180.15
Last 5	15:11:21	1200.02	20.18	6.10	647.69	0.40	43.60	1.52	1181.51
Last 5	15:16:21	1500.02	20.26	6.09	647.84	0.37	41.80	1.56	1183.04
Last 5	15:21:21	1800.02	20.37	6.10	647.21	0.28	40.40	1.54	1184.21
Variance 0			-0.02	0.01	0.64			0.03	1.36
Variance 1			0.08	-0.00	0.16			0.04	1.53
Variance 2			0.11	0.00	-0.64			-0.01	1.17

Notes

@15:05 purge rate decreased from 400 to 200 mL/min

Grab Samples

GOLDER

WELL DEVELOPMENT FIELD RECORD

PROJECT NAME / NUMBER: 166
WELL DIA (in): 2
DEVELOPED BY: J. WAGUESPACK
STARTED DEVEL.: 12.08 / 09:25 (DATE / TIME)
W.L. BEFORE DEVEL.: 35.33 / 12.08 / 09:20 (WL / DATE / TIME)
WELL DEPTH: BEFORE DEVEL.: 82.22
STANDING WATER COLUMN (FT.): 46.89
SCREEN LENGTH: 10'

WELL ID: B-106D
DATE OF INSTALL.: 11/2020
COMPLETED DEVEL.: 12/08/26 / 12:55 (DATE / TIME)
WL AFTER DEVEL.: 37.19 / 12/08 / 12:55 (WL / DATE / TIME)
WELL DEPTH: AFTER DEVEL.: 82.22
STANDING WELL VOLUME: 7.64 gal.
DRILLING WATER LOSS: _____ gal.

DATE/TIME	VOLUME REMOVED (gal)	PUMPING RATE (gpm)	DTW (ft bgs)	FIELD PARAMETERS pH (s.u.)	Sp. Cond. (mS/cm)	TEMP. (°C)	Turbidity (NTU)	Color	RDO (mg/L)	ORP (mV)	PUMP FROM BOTTOM REMARKS
12/08/20 0925	0	-	35.33	BEGIN		DEV					6", SURGE SCREEN
09:35	5	0.5	43.90	6.56	449.9	16.23	>1000	BRO	0.84	112.3	SURGING
09:45	10	|	44.35	6.22	460.6	16.56	31	murky	0.92	98.9	SURGING
09:55	15	|	44.00	6.08	481.7	16.69	81.6	"	1.16	~~492.0~~	" 97.5 ORP
10:05	20	|	44.22	6.03	486.5	16.77	34.6	flaky	1.17	96.7	"
10:15	25	|	44.32	6.03	490.0	16.83	32.3	flaky	1.18	96.2	-> 3', SURGING
10:25	30	|	44.65	6.01	487.9	16.87	27.8	CLR	1.25	94.4	SURGING
10:35	35	|	44.35	6.00	492.7	17.05	6.19	CLR	1.35	93.5	SURGING, ->6'
10:45	40	|	45.40	6.00	493.9	17.07	102.3	murky	1.35	93.2	SURGING
10:55	45	|	45.10	6.02	496.1	17.10	8.84	CLR	1.29	91.9	"
11:05	50	|	45.80	6.02	494.9	17.27	42.1	"	1.28	90.3	"
11:15	55	|	45.85	6.07	504.1	17.10	28.8	"	2.23	93.4	"
11:25	60	|	45.85	6.04	502.4	17.28	29.9	"	1.41	91.2	
11:35	66	|	45.80	6.04	506.3	17.11	4.31	CLR	1.47	90.6	-> 9', SURGE
11:45	70	|	46.10	6.05	500.7	17.14	13.9	"	2.05	88.6	
11:55	75	|	46.75	6.04	509.9	17.24	3.36	"	1.80	87.7	->6", SURGE
12:05	80	|	44.44	6.08	515.5	17.16	13.4	"	1.33	88.4	
12:15	85	|	44.44	6.06	515.9	17.19	1.81	CLR	1.29	87.7	
				LOW FLOW SETUP							
12:35	85	300 mL/min	37.00	-	-	-	-	BEGIN	LOW FLOW DEV; 5', 300 mL/min		
12:55	+6L		37.19	5.93	512.15	16.92	4.94	CLR	0.13		
			DEVELOPMENT COMPLETE								
	86.6	= TOTAL VOLUME REMOVED (gal.)									

DEVELOPMENT METHOD: RECLAIMER + SURGING

NOTES:

Product Name: Low-Flow System

Date: 2020-12-08 12:58:13

Project Information:		Pump Information:	
Operator Name	Jude Waguespack	Pump Model/Type	Reclaimer
Company Name	Golder	Tubing Type	polyethylene
Project Name	NES Development	Tubing Diameter	.5 in
Site Name	Plant McDonough	Tubing Length	77 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	646777		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	77 ft

Well Information:		Pumping Information:	
Well ID	B-106D	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	3.063041 L
Well Total Depth	82.22 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	2.28 in
Depth to Water	37.0 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	12:40:19	300.05	17.67	6.05	511.79	1.35	37.60	0.93	87.75
Last 5	12:45:19	600.02	16.87	5.99	502.22	8.78	37.35	0.22	85.86
Last 5	12:50:19	900.02	16.65	5.94	508.84	6.04	37.20	0.14	85.57
Last 5	12:55:19	1200.02	16.92	5.93	512.15	4.94	37.19	0.13	84.61
Last 5									
Variance 0			-0.81	-0.06	-9.57			-0.71	-1.89
Variance 1			-0.22	-0.04	6.62			-0.08	-0.29
Variance 2			0.27	-0.01	3.31			-0.01	-0.96

Notes

Grab Samples

GOLDER

WELL DEVELOPMENT FIELD RECORD

JOB NAME 166849618 NES DEVELOPMENT JOB NO. WELL NO. B-107D

DEVELOPED BY JUDE WAGUESPACK DATE OF INSTALL. SHEET 1 OF 2

STARTED DEVEL. 11.02.20 / 10:05 (DATE / TIME) COMPLETED DEVEL. 11.02.20 / 15:11 (DATE / TIME)

W.L. BEFORE DEVEL. 18.35 / 11.02 / 09:30 (DEPTH / DATE / TIME) BTOC AFTER DEVEL. 18.83 / 11.02 / 15:11 (DEPTH / DATE / TIME)

WELL DEPTH: BEFORE DEVEL. 85.25 AFTER DEVEL. 85.25 WELL DIA. (In) 2

STANDING WATER COLUMN (FT.) 66.9 STANDING WELL VOLUME 10.9 gal.

SCREEN LENGTH 10' 75.25 - 85.25 DRILLING WATER LOSS gal.

DATE/TIME	VOLUME REMOVED (GALS)	FIELD PARAMETERS SPEC. COND. (mS/cm)	TEMP. (°C)	pH (s.u.)	Turbidity (NTU)	DO	ORP	REMARKS DTW	PUMP FROM BOTTOM
11.02.20 / 10:15	5	643.8	15.13	6.13	>1000	10.10	-78.4	19.55	3" SURGING SCREE
10:27	10	714.6	15.93	6.01	>1000	8.06	-36.7	19.75	3", SURGING
10:38	15	707.9	16.73	5.95	58.7	8.50	-27.5	19.60	3", SURG
10:50	20	705.5	16.41	6.02	70.0	7.53	5.5	19.80	"
11:02	25	716.6	16.38	5.99	53.3	7.59	6.9	19.75	-> 4', SURGE
11:16	30	421.7	16.02	5.98	47.1	8.53	15.5	19.95	4', SURGING
11:28	35	724.0	16.49	6.00	48.7	10.10	42.8	19.95	"
11:40	40	718.1	16.65	5.97	50.4	9.13	43.5	19.95	
11:52	45	722.1	16.33	5.95	34.6	8.29	35.9	19.90	
12:04	50	666.6	16.82	5.95	14.9	10.04	32.2	19.95	-> 8', SURGING
12:16	55	726.1	16.74	5.94	23.3	8.41	43.8	20.0	SURGING
12:28	60	398.4	16.37	5.96	13.8	7.32	61.9	19.95	SURGING
12:40	65	711.1	17.05	5.97	6.5	7.71	75.0	19.95	-> 3", SURG
12:52	70	708.1	16.69	6.00	34.6	8.87	105.4	19.90	
13:04	75	640.0	16.38	5.96	16.7	8.05	84.1	19.95	3" SURGING
13:16	80	716.1	16.77	5.99	17.8	6.59	82.4	19.90	
13:28	85	719.1	17.20	5.97	5.7	8.13	86.1	19.90	-> 5' SURG
13:40	90	721.3	17.17	5.95	20.3	9.57	88.8	19.90	
11.02.20 15:11	102.6	= TOTAL VOLUME REMOVED (gal.)							

DEVELOPMENT METHOD: RECLAIMER + SURGING

FLOW RATE = 1600 ml/min = 0.42 gal/min

NO WELL PAD INSTALLED; DTW FROM TOC

NOTES:

GOLDER

WELL DEVELOPMENT FIELD RECORD

JOB NAME: NES DEVELOPMENT
JOB NO. 166849618
WELL NO. B-107D
DEVELOPED BY: J. WAGUESPACK
DATE OF INSTALL.:
SHEET 2 OF 2
STARTED DEVEL.: 11.02.20 / 10:05 (DATE / TIME)
COMPLETED DEVEL.: 11.02.20 / 15:11 (DATE / TIME)
W.L. BEFORE DEVEL.: 18.85 / 11.02 / 09:30 (DEPTH / DATE / TIME)
AFTER DEVEL.: 18.83 / 11.02 / 15:11 (DEPTH / DATE / TIME)
WELL DEPTH: BEFORE DEVEL.: 85.25
AFTER DEVEL.: 85.25
WELL DIA. (In): 2
STANDING WATER COLUMN (FT.): 66.9
STANDING WELL VOLUME: 10.9 gal.
SCREEN LENGTH: 10' : 75.25 - 85.25
DRILLING WATER LOSS: gal.

DATE/TIME	VOLUME REMOVED (GALS)	FIELD PARAMETERS				DO	ORP	REMARKS DTW	PUMP FROM BOTTOM
		SPEC. COND. (mS/cm)	TEMP. (°C)	pH (s.u.)	Turbidity (NTU)				
11.02.20 / 13:52	95	724.0	17.23	5.95	9.04	6.88	85.8	19.90	5'
14:04	100	735.0	17.59	5.97	4.5	7.38	105.2	19.90	
	BEGIN	LOW FLOW DEV @ 14:44							
15:11	102.6	710.20	18.42	5.86	3.56	0.13	215.20	18.83	
		DEV COMPLETE @ 15:11							
	102.6	= TOTAL VOLUME REMOVED (gal.)							

DEVELOPMENT METHOD: RECLAIMER + SURGING
FLOW RATE = 1600 ML/MIN ≈ 0.42 gal/min

14:04: STOPPED FLOW TO GET GAS FOR GENERATOR

NOTES:

Product Name: Low-Flow System

Date: 2020-11-02 15:13:51

Project Information:		Pump Information:	
Operator Name	Jude Waguespack	Pump Model/Type	Reclaimer
Company Name	Golder	Tubing Type	LDPE
Project Name	166849618	Tubing Diameter	.250 in
Site Name	Plant McDonough	Tubing Length	80 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	80 ft

Well Information:		Pumping Information:	
Well ID	B-107D	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	2.302218 L
Well Total Depth	85.25 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	2.76 in
Depth to Water	18.60 ft	Total Volume Pumped	10 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	14:49:37	300.15	18.88	5.86	708.59	1.74	18.80	1.15	228.78
Last 5	14:54:37	600.09	18.39	5.86	716.44	6.02	18.83	0.26	233.19
Last 5	14:59:37	900.09	18.43	5.86	714.89	7.21	18.83	0.14	222.19
Last 5	15:04:37	1200.07	18.51	5.86	712.79	4.72	18.83	0.12	217.21
Last 5	15:09:38	1501.07	18.42	5.86	710.17	3.56	18.83	0.13	215.20
Variance 0			0.04	-0.00	-1.56			-0.11	-11.00
Variance 1			0.08	0.00	-2.10			-0.02	-4.98
Variance 2			-0.09	0.01	-2.61			0.00	-2.01

Notes

Grab Samples

GOLDER

WELL DEVELOPMENT FIELD RECORD

JOB NAME: NES DEVELOPMENT
JOB NO. 166849618
WELL NO. B-108D
DEVELOPED BY: J. WAGUESPACK
DATE OF INSTALL.:
SHEET 1 OF 2
STARTED DEVEL.: 11/05/20 (DATE) / 12:00 (TIME)
COMPLETED DEVEL.: 11.05.20 (DATE) / 16:58 (TIME)
W.L. BEFORE DEVEL.: 20.25 (DEPTH) / 11/05 (DATE) / 10:45 (TIME)
AFTER DEVEL.: 22.16 (DEPTH) / 11.05 (DATE) / 16:58 (TIME)
WELL DEPTH: BEFORE DEVEL.: 81.91
AFTER DEVEL.: 81.91
WELL DIA. (In): 2
STANDING WATER COLUMN (FT.): 61.66
STANDING WELL VOLUME: 10.05 gal.
SCREEN LENGTH: 10': 71.91 - 81.91
DRILLING WATER LOSS: gal.

DATE/TIME	VOLUME REMOVED (GALS)	FIELD PARAMETERS: SPEC. COND. (mS/cm)	TEMP. (°C)	pH (s.u.)	Turbidity (NTU)	DO	ORP	REMARKS DTW	PUMP FROM BOT. + NOTES
11/05/20/12:00	0	BEGIN	DEVELOPMENT					20.25	6', SURGING
12:09	5	901.5	19.50	6.87	>1000	1.16	-461.2	26.7	SURGE SCREEN
12:17	10	838.2	19.41	6.35	>1000	1.46	-153.9	27.2	"
12:26	15	818.7	19.25	6.24	>1000	1.51	-50.4	27.5	"
12:36	20	804.4	19.09	6.16	>1000	1.29	-40.9	27.6	"
12:46	25	801.8	19.03	6.14	98	1.11	-75.2	27.6	
12:56	30	797.4	18.97	6.11	42.3	1.08	-58.7	27.6	SURGING
13:06	35	794.9	19.01	6.10	46.1	1.05	-81.0	27.5	
13:16	40	793.0	19.02	6.08	20.9	1.05	-63.6	27.5	→ 3', SURGE SCREEN
13:26	45	805.6	18.98	6.15	886	1.41	-93.6	29.5	SURGING
13:36	50	794.3	18.95	6.09	117	1.36	-68.1	29.7	
13:46	55	789.5	18.88	6.06	18.0	1.36	-58.8	29.8	SURGING
13:56	60	788.1	18.82	6.05	18.7	1.37	-74.9	29.6	→ 6', SURGE SCREEN
14:06	65	788.2	18.76	6.05	21.4	1.44	-56.3	30.9	
14:16	70	787.6	18.76	6.04	15.3	1.47	-61.6	30.5	SURGE
14:26	75	787.0	18.74	6.04	14.0	1.46	-62.0	31.2	
14:36	80	786.4	18.72	6.03	8.93	1.47	-43.7	31.3	→ 9', SURGE
14:46	85	789.6	18.74	6.06	7.87	1.46	-52.8	32.3	SURGING
		= TOTAL VOLUME REMOVED (gal.)							

DEVELOPMENT METHOD: BECLAIMER + SURGING

NOTES:

GOLDER

WELL DEVELOPMENT FIELD RECORD

JOB NAME: NES DEVELOPMENT
JOB NO. 166849618
WELL NO. B-108D
DEVELOPED BY: J. WAGUESPACK
DATE OF INSTALL.
SHEET 2 OF 2
STARTED DEVEL.: 11/05/20 (DATE) / 12:00 (TIME)
COMPLETED DEVEL.: 11.05.20 (DATE) / 16:58 (TIME)
W.L. BEFORE DEVEL.: 20.25 (DEPTH) / 11/05 (DATE) / 10:45 (TIME)
AFTER DEVEL.: 22.16 (DEPTH) / 11.05 (DATE) / 16:58 (TIME)
WELL DEPTH: BEFORE DEVEL.: 81.91
AFTER DEVEL.: 81.91
WELL DIA. (In): 2
STANDING WATER COLUMN (FT.): 61.66
STANDING WELL VOLUME: 10.05 gal.
SCREEN LENGTH: 10' · 71.91 – 81.91
DRILLING WATER LOSS: gal.

DATE/TIME	VOLUME REMOVED (GALS)	FIELD PARAMETERS: SPEC. COND. (mS/cm)	TEMP. (°C)	pH (s.u.)	Turbidity (NTU)	DO	ORP	REMARKS DTW	PUMP FROM BOTTOM + NOTES
11/05/20 / 14:56	90	787.0	18.71	6.04	8.37	1.47	-59.7	32.2	→ 6" SURGE SCREEN
15:06	95	788.8	18.70	6.06	31.0	1.29	-155.3	29.7	SURGING
15:16	100	785.8	18.66	6.03	9.07	1.22	-110.9	29.4	
15:26	105	784.8	18.63	6.02	4.38	1.22	-66.2	29.1	→ 3', SURGE
15:36	110	783.4	18.61	6.03	5.49	1.28	-62.7	30.1	→ 6', SURGE
15:46	115	783.2	18.61	6.02	8.25	1.35	-7.5	31.0	→ 5'
15:56	120	783.3	18.61	6.02	3.89	1.38	-18.1	30.4	RECHARGE
16:23	BEGIN LOW FLOW DEV							21.15	
16:58		791.30	18.39	6.08	4.7	1.06	-11.70	22.6	300 mL/min
	END LOW FLOW DEV - COMPLETE								
	120	= TOTAL VOLUME REMOVED (gal.)							

DEVELOPMENT METHOD: RECLAIMER + SURGING

2.77 gallons purged during low flow

NOTES:

Product Name: Low-Flow System

Date: 2020-11-05 17:01:11

Project Information:		Pump Information:	
Operator Name	Jude Waguespack	Pump Model/Type	Reclaimer
Company Name	Golder	Tubing Type	LDPE
Project Name	166849618	Tubing Diameter	.250 in
Site Name	Plant McDonough	Tubing Length	66 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	66 ft

Well Information:		Pumping Information:	
Well ID	B-108D	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	2.16708 L
Well Total Depth	81.91 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	17.4 in
Depth to Water	21.15 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			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	16:38:28	899.90	18.44	6.07	787.55	9.44	22.55	1.67	68.33
Last 5	16:43:28	1199.90	18.43	6.06	788.94	8.71	22.60	1.43	-3.16
Last 5	16:48:35	1506.90	18.43	6.07	789.63	8.20	22.60	1.32	-16.70
Last 5	16:53:35	1806.89	18.40	6.07	790.32	7.20	22.60	1.16	-20.00
Last 5	16:58:35	2106.90	18.39	6.08	791.28	4.70	22.60	1.06	-11.69
Variance 0			0.00	0.00	0.70			-0.11	-13.54
Variance 1			-0.03	0.00	0.69			-0.16	-3.30
Variance 2			-0.01	0.01	0.96			-0.09	8.31

Notes

Grab Samples

GOLDER

WELL DEVELOPMENT FIELD RECORD

JOB NAME: Plant McDonough
JOB NO. 166849618
WELL NO. B-107D
DEVELOPED BY: D. Thomas
DATE OF INSTALL. ____
SHEET 1 OF 5
STARTED DEVEL. 11-9-20 / 1235 (DATE / TIME)
COMPLETED DEVEL. ____ / ____ (DATE / TIME)
W.L. BEFORE DEVEL. 37.20 / 11-9-20 / 1202 (DEPTH / DATE / TIME)
AFTER DEVEL. ____ / ____ / ____ (DEPTH / DATE / TIME)
WELL DEPTH: BEFORE DEVEL. 100.85
AFTER DEVEL. ____ WELL DIA. (In) ____
STANDING WATER COLUMN (FT.) 63.65
STANDING WELL VOLUME ____ gal.
SCREEN LENGTH 10
DRILLING WATER LOSS ____ gal.

DATE/TIME	VOLUME REMOVED (GALS)	FIELD PARAMETERS: SPEC. COND. (µS/cm)	TEMP. (°C)	pH (s.u.)	Turbidity (NTU)	REMARKS
11-9-20/1235	0	444.85	22.38	6.62	71000	1' foot from bottom, surge screen
1245	5	339.95	20.52	6.72	12.2	3' after surging / DTW 61.40
1255	10	321.16	20.77	7.04	59.6	DTW - 91.70
	Well Went dry waiting for well to recharge					
	Dollars grouting hole, will resume development after					
1337						DTW = 91.37
1400		~~305.08~~				DTW = 90.80
1405	15.70	365.08	25.15	7.35	44.9	DTW = BTOP
	Well went dry wait for recharge.					
1430						DTW = 92.80
1509						DTW = 91.30
1530						DTW = 90.40
1610	0	349.44	24.38	9.66	38.10	DTW = 87.10
1620	18.20	388.50	21.91	6.88	32.20	surged, 5' DTW = BTOP
	Well Went dry, return tomorrow					
		= TOTAL VOLUME REMOVED (gal.)				

DEVELOPMENT METHOD: 0.5gal/min surging and reclaimer pump

NOTES:

GOLDER

WELL DEVELOPMENT FIELD RECORD

JOB NAME: NES DEVELOPMENT
JOB NO. 166849618
WELL NO. B-109D
DEVELOPED BY: J. WAGUESPACK
DATE OF INSTALL. ____
SHEET 2 OF 5
STARTED DEVEL. 11-9-20 / 12:35 (DATE / TIME)
COMPLETED DEVEL. ____ / ____ (DATE / TIME)
W.L. BEFORE DEVEL. 37.20 / 11-9 / 12:02 (DEPTH / DATE / TIME)
AFTER DEVEL. ____ / ____ / ____ (DEPTH / DATE / TIME)
WELL DEPTH: BEFORE DEVEL. 100.85
AFTER DEVEL. ____ WELL DIA. (In) ____
STANDING WATER COLUMN (FT.) 63.65
STANDING WELL VOLUME ____ gal.
SCREEN LENGTH 10' : 90.85 - 100.85
DRILLING WATER LOSS ____ gal.

DATE/TIME	VOLUME REMOVED (GALS)	FIELD PARAMETERS: SPEC. COND. (mS/cm)	TEMP. (°C)	pH (s.u.)	Turbidity (NTU)	DO	ORP	REMARKS DTW	PUMP FROM BOTTOM + NOTES
11-10-20/ 10:35	18.2	RESUME	DEVELOPMENT					45.70	5', SURGE
10:40	20	451.7	18.72	6.29	11.7	2.54	-209.5	65.9	SURGE
10:47	25	457.4	18.16	6.50	39.3	8.61	-5.6	88.5	
10:54	27	445.4	18.58	6.82	52.7	8.59	-49.2	BTOP	RECHARGING
12:00	27							87.7	
12:10	29	442.4	19.05	6.92	36.5	8.35	-44.2	BTOP	RECHARGING
13:30	29	4						87.8	
13:40	31	444.1	18.81	6.98	22.9	8.73	-63.4	BTOP	RECHARGING
14:45	31							88.9	
14:50	33	443.8	19.06	6.99	17.9	8.66	-64.8	BTOP	RECHARGING
		= TOTAL VOLUME REMOVED (gal.)							

DEVELOPMENT METHOD: RECLAIMER + SURGING

NOTES: BTOP : BELOW TOP OF PUMP

GOLDER

WELL DEVELOPMENT FIELD RECORD

PROJECT NAME / NUMBER:

WELL ID: B-109P

WELL DIA (in): 2

DEVELOPED BY: K. Mi[illegible]

DATE OF INSTALL.:

STARTED DEVEL.: 12-14-20 / 1545 (DATE / TIME)

COMPLETED DEVEL.: / (DATE / TIME)

W.L. BEFORE DEVEL.: 38.58, 12-14, 1520 (WL / DATE / TIME)

WL AFTER DEVEL.: / / (WL / DATE / TIME)

WELL DEPTH: BEFORE DEVEL.: 102.12

WELL DEPTH: AFTER DEVEL.:

STANDING WATER COLUMN (FT.): 10.36 gal (well vol)

STANDING WELL VOLUME: gal.

SCREEN LENGTH: 92-102

DRILLING WATER LOSS: gal.

DATE/TIME	VOLUME REMOVED (gal)	PUMPING RATE (gpm)	DTW (ft bgs)	FIELD PARAMETERS pH (s.u.)	Sp. Cond. (mS/cm)	TEMP. (°C)	Turbidity (NTU)	Color	RDO (mg/L)	ORP (mV)	REMARKS
12-14 / 1545	—	—	38.58								Pump @ 100'
1550	2.5	0.5	53.80	5.82	0.49	16.68	>1000	Gray	1.39	65.6	
1555	5	0.5	73.85	6.09	0.49	15.84	25.1	cloudy	10.04	49.2	
1600	7.5	0.5	89.05	6.28	0.48	16.74	81.7	cloudy	10.22	49.9	
	~~10~~										
1610	~~~10~~		>TOP								WL below pump
	10										DONE FOR THE DAY
1625			97.81								
1630			97.50								0.31 / 5 min =
12/15 - 919			51.26				?				
945	—	—	—	6.31	0.46	15.48	75.5	Cloudy	7.49	110.2	Begin pumping
0950	2.5	0.5	69.59	6.32	0.45	16.31	33.8	milk	9.40	61.6	air lift
1000			94.41								pause dev
1005											ADD 5gal DI #
1025							193				surge for 20min, resume pumping
1027			95.26								air lift
1035			91.21								"
1040	~10		95.10	6.92	0.08	13.30	105.0	[illegible]	11.17	-21	DI flush cont.
1044			>TOP								DRY / PAUSE DEV
1102			96.44								
1545			82.16								
1600			81.81	6.56	0.37	14.96	192	gray	9.26	229	Resume DEV
1613	~4		>TOP								DRY
1620			>TOP								ADD 5gal DI #
1632			89.31								
1633			88.93								Resume DEV
1640			92.70	6.98	0.05	14.30	90.4	cloudy	15.54	-25.7	Flushing DI
1650	9		98.72								
1700	11		>TOP								DRY / END DAY
12/16/Mon			56.92								surge at
935	0.3		58.96								
1000					MP-50 solenoid		broken		will stop		due ok to equipment
	~31	= TOTAL VOLUME REMOVED (gal.)									

Margin notes: 12-14-20 10gal added; 0.062' per min; ~10gal purged; ~24gal purged; 3 equipment troubleshoot; W-16

DEVELOPMENT METHOD: surging and reclaimer pump

NOTES: 12/14/20-12/15/20:
10gal Type I DI water added to assist with surging (slow recharge).
31gal purge total - 10gal DI addition = 21gal removed

GOLDER

WELL DEVELOPMENT FIELD RECORD

4 of 5

Page 2 of 2

PROJECT NAME / NUMBER: _____ WELL ID: 109-D

WELL DIA (in): ____

DEVELOPED BY: _____ DATE OF INSTALL: _____

STARTED DEVEL: _____ / _____ (DATE / TIME) COMPLETED DEVEL: _____ / _____ (DATE / TIME)

W.L. BEFORE DEVEL: 51.76 (WL) 12/6 (DATE) 1375 (TIME) WL AFTER DEVEL: _____ / _____ / _____ (WL / DATE / TIME)

WELL DEPTH: BEFORE DEVEL: _____ WELL DEPTH: AFTER DEVEL: _____

STANDING WATER COLUMN (FT.): _____ STANDING WELL VOLUME: _____ gal.

SCREEN LENGTH: _____ DRILLING WATER LOSS: _____ gal.

DATE/TIME	VOLUME REMOVED (gal)	PUMPING RATE (gpm) mL/min	DTW (ft bgs)	FIELD PARAMETERS pH (s.u.)	Sp. Cond. (mS/cm)	TEMP. (°C)	Turbidity (NTU)	Color	RDO (mg/L)	ORP (mV)	REMARKS
12/6/20 1335	–	500		REBEGIN		DEVELOPMENT					
1350		500	57.00	6.82	0.50	12.54	35.1		5.43	98.8	
1400			64.10	6.43	0.44	13.66	14.7		4.15	[illegible]	75
1410						[illegible]					
1420		350	70.52			11.5[illegible]					
	~3	= TOTAL VOLUME REMOVED (gal.)									

DEVELOPMENT METHOD: surging and reclaimer pump

NOTES: _____

GOLDER

5 of 5

WELL DEVELOPMENT FIELD RECORD

Page 3 of 3

PROJECT NAME / NUMBER	Plant McDonough	WELL ID:	B-109D
WELL DIA (in)	2		
DEVELOPED BY		DATE OF INSTALL	
STARTED DEVEL.	12/16/20 (DATE) / (TIME)	COMPLETED DEVEL.	/ (DATE) (TIME)
W.L. BEFORE DEVEL.	/ / (WL) (DATE) (TIME)	WL AFTER DEVEL.	/ / (WL) (DATE) (TIME)
WELL DEPTH BEFORE DEVEL.		WELL DEPTH AFTER DEVEL.	
STANDING WATER COLUMN (FT.)		STANDING WELL VOLUME	gal
SCREEN LENGTH		DRILLING WATER LOSS	gal

DATE/TIME	VOLUME REMOVED (gal)	PUMPING RATE (gpm)	DTW (ft bgs)	FIELD PARAMETERS pH (s.u.)	Sp. Cond. (mS/cm)	TEMP. (°C)	Turbidity (NTU)	Color	RDO (mg/L)	ORP (mV)	REMARKS
12/16 1420		350	70.52	6.38	0.43	12.63	24.80		4.98	105.6	
1430			76.0	6.41	0.44	12.74	22.1		9.71	106.6	
1440		200	79.9	6.41	0.44	12.23	17		4.99	109.8	move pump to 98'
1450			84.32	6.40	0.43	13.47	17.6		5.68	113.3	
1500			86.78	6.43	0.42	13.11	13.6		6.08	117.5	
1510			89.68	[illegible]	0.42	12.65	11.3		6.10	123.0	
1520		200	92.40	6.44	0.41	12.97	15.4		6.56	124.3	
1530			94.30	6.49	0.41	13.56	17.4		7.96	110.0	
1540			95.02	6.48	0.41	12.79	8.45		6.86	120.1	
1550	~4.5		STOP								move pump to 98' 5gal D.I. water
1610			start	pumping							
1620			stop								running out gas.
1642		150	95.1	6.49	0.31	10.75	6.36		8.93	123.2	
1645				6.53	0.42	11.66	3.36		9.56	109.3	
1650	5	150		6.46	0.42	13.12	2.49		8.48	95.3	

~9.5 = TOTAL VOLUME REMOVED (gal.)

RDP 62.76

move pump to 95' +5gal DI water

DEVELOPMENT METHOD: surging and reclaimer pump

NOTES: 12/16: 9.5gal total gal removed - 5gal Type I DI water addition = 4.5gal removed for 12/16/20.

TOTAL: 15gal Type I DI water added, ~94.5gal removed.
= 79.5gal removed

GOLDER

WELL DEVELOPMENT FIELD RECORD

PROJECT NAME / NUMBER: 168844618 / McDonough
WELL ID: B-110D
WELL DIA (in): 2
DEVELOPED BY: K. MacKay
DATE OF INSTALL:
STARTED DEVEL: 12-8-10 / 1302 (DATE / TIME)
COMPLETED DEVEL: 12-10-10 / 1524 (DATE / TIME)
W.L. BEFORE DEVEL: 8.34 / 12-8-10 / 1303 (WL / DATE / TIME)
W.L. AFTER DEVEL: 62.65 / 12-10-10 / 1524 (WL / DATE / TIME)
WELL DEPTH: BEFORE DEVEL: 63.06
WELL DEPTH: AFTER DEVEL: 63.05
STANDING WATER COLUMN (FT.): 54.72
STANDING WELL VOLUME: _____ gal.
SCREEN LENGTH: 57-63
DRILLING WATER LOSS: _____ gal.

DATE/TIME	VOLUME REMOVED (gal)	PUMPING RATE (gpm)	DTW (ft bgs)	FIELD PARAMETERS pH (s.u.)	Sp. Cond. (mS/cm)	TEMP. (°C)	Turbidity (NTU)	Color	RDO (mg/L)	ORP (mV)	REMARKS
12-8 /1325	0	-	-	6.48	0.28	17.70	70.6	cloudy	1.75	-304	Pump @ 61'
1336	5	0.5	52.95	7.25	0.17	15.42	83	cloudy	12.09	52.3	
1345	10	0.5	57.26	7.49	0.39	14.26	31.6	cloudy	11.23	133.8	
1345	-	Decreased		yield, air lift operated.							PAUSE DEV
1445	-	-	53.23								
1545	-	-	47.16								
1600	10	0.3	45.84								Resume DEV
1605	11.6	0.3	54.78	7.78	0.43	13.91	34.5	milky	9.37	-96.1	
1610	10 13.3	0.3	58.60	7.91	0.53	17.19	51.5	cloudy	12.31	100.5	
	-	-	Air	lift, well	dry						END for today, WL STOP
12-9/911	-		11.56								WL STOP
915 955	-										Begin pumping
920	11.6	0.3	33.19	7.15	0.41	14.06	20.1	milky	3.36	-304.6	
930	5	0.7	44.07	7.50	0.39	14.74	33.8		10.26	37.7	
940	7.5	0.25	56.96	7.79	0.41	14.71	31.1		11.71	-21	PAUSE DEV, WL in screen
											ADD Sgal DI
955-1000	- surge		wo	pumping	while	WL	stabilizes				
1015			29.85								RESUME DEV
1030	9.47		57.30				clear				DRY, WL in screen (PAUSE)
1035											ADD Sgal DI
1053			45.05								ADD Sgal DI
1115			52.90								Surging, no pumping
1117											RESUME DEV
1120											pump @ 56'
1130											pump @ 61'
1140			TOP								DRY
1155		PULL	INC	pump will		DEVELOP	TOMORROW		w/ Bladder pump		
1200			61.71								
12/10											
1337			9.56								pump @ 58' (bladder)
1355		100mL		~~6.67~~	~~36.24~~	~~15.87~~					
1420		400mL									
1440											pump pulled, cont w/ bailer
		= TOTAL VOLUME REMOVED (gal.)									

DEVELOPMENT METHOD: surging and reclaimer pump

NOTES:
Evacuated well 4X (3X w/ Type I DI water).
12/10 - Used bladder pump for low-flow to avoid excessive drawdown
- Partial purge w/ bladder pump, then bailed

GOLDER

WELL DEVELOPMENT FIELD RECORD

PROJECT NAME / NUMBER: _____ WELL ID: B-110D

WELL DIA (in): ____

DEVELOPED BY: _____ DATE OF INSTALL: _____

STARTED DEVEL: _____ / _____ (DATE / TIME) COMPLETED DEVEL: _____ / _____ (DATE / TIME)

W.L. BEFORE DEVEL: _____ / _____ / _____ (WL / DATE / TIME) WL AFTER DEVEL: 62.05 / 12/10 / 1524 (WL / DATE / TIME)

WELL DEPTH: BEFORE DEVEL: _____ WELL DEPTH: AFTER DEVEL: 63.05

STANDING WATER COLUMN (FT.): _____ STANDING WELL VOLUME: 0.163 gal.

SCREEN LENGTH: _____ DRILLING WATER LOSS: _____ gal.

DATE/TIME	VOLUME REMOVED (gal)	PUMPING RATE (gpm)	DTW (ft bgs)	FIELD PARAMETERS pH (s.u.)	Sp. Cond. (mS/cm)	TEMP. (°C)	Turbidity (NTU)	Color	RDO (mg/L)	ORP (mV)	REMARKS
12/10/20 14:48			21.25								BAILING
15:04	5		49.40	8.21	0.39	15.68	14.1	CLR	3.60	-260.1	
15:13	6.7		59.99	7.91	0.37	15.55	5.69	CLR	4.86	-70.7	
15:24			62.05	7.89	0.35	15.06	7.90	CLR	3.11	-303.4	
		—	Development complete after 5 well recovery tests.								
	46.01	= TOTAL VOLUME REMOVED (gal.)									

8.90
8.39
15.00 (DI)
+ 8.72
41.01 gal removed

DEVELOPMENT METHOD: surging, bailer, and reclaimer pump

NOTES: 12/8 - Well evacuated initial column. [8.9 gal]

12/9 - Well evacuated initial column (8.39 gal) and surged dry w/ 15 gal additional of Type I DI water. → 15 + 8.39 = [23.39 gal]

12/10 - Purged dry w/ bladder pump and bailer. Low NTU, pure recharge.

Golder Associates

- partial dev data available before bailing (low-flow)

Product Name: Low-Flow System

Date: 2020-12-10 14:43:29

Project Information:		Pump Information:	
Operator Name	K. Minkara	Pump Model/Type	SamplePro
Company Name	Golder	Tubing Type	polyethylene
Project Name	166849618	Tubing Diameter	.170 in
Site Name	Plant McDonough	Tubing Length	58 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	647057		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	58 ft

Well Information:		Pumping Information:	
Well ID	B-110D	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.4738785 L
Well Total Depth	63.06 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	9.56 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	14:20:23	1502.02	16.83	7.42	396.91	--	--	1.23	-274.34
Last 5	14:25:23	1802.02	16.99	7.44	397.72	1.36	12.73	1.19	-273.39
Last 5	14:30:24	2102.87	16.58	7.44	396.49	--	--	1.70	-259.67
Last 5	14:35:24	2402.87	16.27	7.45	395.95	1.30	16.42	1.07	-329.97
Last 5	14:40:24	2702.87	16.25	7.45	395.18	1.20	18.89	0.93	-342.70
Variance 0			-0.40	0.00	-1.23			0.52	13.72
Variance 1			-0.31	0.00	-0.54			-0.63	-70.30
Variance 2			-0.02	0.01	-0.77			-0.14	-12.73

Notes

Well in process of development. Previously evacuated 4x 12/8 and 12/9. Will resume evacuation 12/10 with bailer.

Grab Samples

GOLDER

WELL DEVELOPMENT FIELD RECORD

JOB NAME: NES DEVELOPMENT
JOB NO. 166849618
WELL NO. 13-111D
DEVELOPED BY: J. WAGUESPACK
DATE OF INSTALL. ____
SHEET 1 OF 2
STARTED DEVEL. 11/06/20 / 11:40 (DATE / TIME)
COMPLETED DEVEL. 11.09.20 / 11:41 (DATE / TIME)
W.L. BEFORE DEVEL. 9.58 / 11/06 / 11:00 (DEPTH / DATE / TIME)
AFTER DEVEL. 14.35 / 11.09 / 11:41 (DEPTH / DATE / TIME)
WELL DEPTH: BEFORE DEVEL. 85.80' BTOC
AFTER DEVEL. 85.80
WELL DIA. (In) 2
STANDING WATER COLUMN (FT.) 76.22'
STANDING WELL VOLUME 12.4 gal.
SCREEN LENGTH 10': 75.80 - 85.80'
DRILLING WATER LOSS ____ gal.

DATE/TIME	VOLUME REMOVED (GALS)	FIELD PARAMETERS: SPEC. COND. (mS/cm)	TEMP. (°C)	pH (s.u.)	Turbidity (NTU)	DO	ORP	REMARKS DTW	PUMP FROM BOTTOM + NOTES
11/06 / 11:40	0	BEGIN	DEVELOPMENT					9.58	SURGE SCREEN
11:50	5	693.3	18.41	7.08	34.7	1.28	-418.2	22.8	6", SURGE SCREEN
12:00	10	710.5	18.43	7.07	970	1.39	-385.7	26.4	SURGE
12:10	15	706.9	18.35	7.04	32.0	1.17	-374.6	29.9	SURGE
12:20	20	736.4	18.26	6.99	17.3	1.16	-352.6	32.1	SURGE SCREEN
12:30	25	786.7	17.90	6.91	31.0	1.14	-283.8	34.45	SURGE
12:40	30	794.0	17.89	6.87	27.8	1.12	-255.1	35.9	
12:50	35	798.2	17.88	6.86	17.4	1.09	-225.5	35.7	SURGE
13:00	40	801.2	17.92	6.85	16.2	1.13	-194.6	36.9	
13:10	45	805.7	17.85	6.84	14.7	1.13	-195.3	37.1	SURGE SCREEN
13:20	50	811.8	17.85	6.83	23.2	1.17	-186.0	38.0	
13:30	55	815.3	17.85	6.82	22.6	1.16	-126.8	38.2	
13:40	60	815.8	18.01	6.82	12.4	1.25	-80.2	38.7	→ 3', SURGE
13:50	65	814.2	18.03	6.82	21.3	1.33	-92.4	40.35	SURGE
14:00	70	818.5	18.03	6.81	19.9	1.39	-77.8	40.8	
14:10	75	822.5	17.99	6.80	7.15	1.46	-85.5	41.2	→ 6', SURGE
14:20	80	814.1	17.81	6.82	12.0	1.40	-116.2	43.1	SURGE
14:30	85	820.5	17.74	6.80	8.6	1.43	-72.9	44.4	→ 9', SURGE
		= TOTAL VOLUME REMOVED (gal.)							

DEVELOPMENT METHOD: RECLAIMER + SURGING
FLOW RATE = 0.5 gpm

NOTES: WELL PAD TO BE INSTALLED, DEPTHS MEASURED FROM TOC

GOLDER

WELL DEVELOPMENT FIELD RECORD

JOB NAME: NES DEVELOPMENT
JOB NO. 166849618
WELL NO. B-111D
DEVELOPED BY: J. WAGUESPACK
DATE OF INSTALL.: ____
SHEET 2 OF 2
STARTED DEVEL.: 11/06/20 (DATE) / 11:40 (TIME)
COMPLETED DEVEL.: 11.09.20 (DATE) / 11:41 (TIME)
W.L. BEFORE DEVEL.: 9.58 (DEPTH) / 11/06 (DATE) / 11:00 (TIME)
AFTER DEVEL.: 14.35 (DEPTH) / 11.09 (DATE) / 11:41 (TIME)
WELL DEPTH: BEFORE DEVEL.: 85.80' BTOC
AFTER DEVEL.: 85.80
WELL DIA. (In): 2
STANDING WATER COLUMN (FT.): 76.22'
STANDING WELL VOLUME: 12.4 gal.
SCREEN LENGTH: 10' : 75.80 - 85.80'
DRILLING WATER LOSS: ____ gal.

DATE/TIME	VOLUME REMOVED (GALS)	FIELD PARAMETERS: SPEC. COND. (mS/cm)	TEMP. (°C)	pH (s.u.)	Turbidity (NTU)	DO	ORP	REMARKS DTW	PUMP FROM BOTTOM + NOTES
11/06/14:40	90	820.3	17.72	6.81	9.86	1.61	-95.5	47.1	9', SURGE
14:50	95	825.8	17.72	6.79	9.1	1.58	-77.2	48.8	-> 6", SURGE
15:00	100	842.2	17.71	6.74	59.0	1.20	-43.2	44.9	
15:10	105	839.0	17.65	6.73	90.5	1.10	-132.8	43.1	
15:20	110	809.3	17.63	6.67	104.7	1.03	-123.6	42.7	
15:30	115	808.4	17.61	6.68	50.8	1.07	-103.3	42.8	SURGE
15:40	120	809.9	17.59	6.68	37.1	1.10	-106.1	42.8	
15:50	125	811.3	17.59	6.67	37.9	1.14	-55.6	42.6	
16:00	130	813.5	17.56	6.68	31.1	1.18	-63.1	42.7	
16:10	135	813.6	17.57	6.68	10.27	1.20	-60.1	42.3	
16:20	140	817.9	17.54	6.67	5.08	1.20	-48.4	41.8	-> 5', RECHARGE
11/09/10:25	140	RESUME	DEV					8.65	6", SURGE
10:35	145	871.6	19.26	6.77	7.74	2.62	-265.3	19.50	-> 5'
10:45	150	806.7	18.65	6.89	7.40	1.26	-293.4	24.7	
	RECHARGING FOR	LOW	FLOW	DEV -	BEGIN	@	11:06		
11:06		792.7	21.78	7.06	7.2	1.48	-26	13.00	5', 300 mL/min
11:41	+2.7 gal	826.8	20.03	6.88	1.16	0.12	-384.30	14.35	
		LOW FLOW DEV COMPLETE							
	152.7	= TOTAL VOLUME REMOVED (gal.)							

DEVELOPMENT METHOD: RECLAIMER + SURGING
FLOW RATE = 0.5 gpm

NOTES:

Product Name: Low-Flow System

Date: 2020-11-09 11:44:45

Project Information:		Pump Information:	
Operator Name	Jude Waguespack	Pump Model/Type	Reclaimer
Company Name	Golder	Tubing Type	LDPE
Project Name	166849618	Tubing Diameter	.250 in
Site Name	Plant McDonough	Tubing Length	80 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	80 ft

Well Information:		Pumping Information:	
Well ID	B-111D	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	2.302218 L
Well Total Depth	85.80 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	16.2 in
Depth to Water	13.00 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			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	11:21:36	900.58	20.17	6.88	815.91	2.19	14.45	0.18	-426.21
Last 5	11:26:36	1200.58	19.72	6.89	817.90	1.26	14.35	0.15	-415.17
Last 5	11:31:36	1500.58	19.68	6.89	820.50	1.33	14.35	0.14	-374.46
Last 5	11:36:36	1800.58	19.89	6.88	822.11	0.89	14.35	0.13	-374.89
Last 5	11:41:36	2100.59	20.03	6.88	826.81	1.16	14.35	0.12	-384.27
Variance 0			-0.04	0.00	2.60			-0.02	40.71
Variance 1			0.21	-0.00	1.61			-0.01	-0.43
Variance 2			0.14	-0.00	4.70			-0.01	-9.38

Notes

Skipped reading at 600s

Grab Samples

Oct 2020
~~October 2019~~

Daily Calibration Log

166849618

Project Plant McDonough
Field Staff Stephanie Brodie

Instrument Calibration

Date: 10/29/20 **Time:** 10:22

Parameter	Units	Standard	SmarTROLL SN 512733	SmarTROLL SN 512733	SmarTROLL SN_____	SmarTROLL SN_____
DO	% saturation	100	93.1 %	93.1		
Conductivity	ms/cm	~~1413~~	4615	4484		
pH	S.U.	4.00	4.11	4.31		
pH	S.U.	7.00	7.06	7.10		
pH	S.U.	10.00	9.95	9.90		
ORP	mV	228	223.6	196.8		

1386-3811

Turbidity Standard	Units	LaMotte SN 1386-3811	LaMotte SN_____	LaMotte SN_____	LaMotte SN_____
0.0	NTU	0.02	0.00		
1.0	NTU	1.00	1.01		
10.0	NTU	9.94	10.00		

Date: **Time:**

Parameter	Units	Standard	SmarTROLL SN_____	SmarTROLL SN_____	SmarTROLL SN_____	SmarTROLL SN_____
DO	% saturation	100				
Conductivity	ms/cm	1.413				
pH	S.U.	4.00				
pH	S.U.	7.00				
pH	S.U.	10.00				
ORP	mV					

Turbidity Standard	Units	LaMotte SN_____	LaMotte SN_____	LaMotte SN_____	LaMotte SN_____
0.0	NTU				
1.0	NTU				
10.0	NTU				

Notes: DO - Dissolved Oxygen; ms/cm - millisiemens/second; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units

Golder Associates

~~October 2019~~ Nov 2020

Daily Calibration Log

166849618

Project Plant McDonough
Field Staff Jude Waguespack

Instrument Calibration

Date: 11/02/20 Time: 08:30

Parameter	Units	Standard	SmarTROLL SN512733	SmarTROLL SN512733 (11/03/20 08:00)	SmarTROLL SN512733 (11/04/20 07:02)	SmarTROLL SN512733 (11/05/20 08:19)
DO	% saturation	100	94.4	94.9	95.3	93.3
Conductivity	ms/cm	~~1.413449~~	4549	4461	4440	4419
pH	S.U.	4.00	4.46	4.49	4.46	4.43
pH	S.U.	7.00	7.10	7.06	7.03	6.97
pH	S.U.	10.00	9.76	9.72	9.74	9.71
ORP	mV	228.0	246.8	244.0	243.2	217.6

Turbidity Standard	Units	LaMotte SN1386-3811	LaMotte SN1386-3811 (11/04)	LaMotte SN1386-3811 (11/05)	LaMotte SN_____
0.0	NTU	0.01	0.06	0.00	
1.0	NTU	0.82	0.93	1.08	
10.0	NTU	12.1	10.65	9.71	

Date: 11/06/20 Time: 08:45

Parameter	Units	Standard	SmarTROLL SN512733	SmarTROLL SN512733 (09:12 11/09/20)	SmarTROLL SN512733 (08:57 11/10/20)	SmarTROLL SN512733 (07:59 11/11/20)
DO	% saturation	100	94.9	93.2	94.2	92.5
Conductivity	ms/cm	~~1.413449~~	4363	4292	4406	4367
pH	S.U.	4.00	4.36	4.33	4.34	~~4.28~~ 4.35
pH	S.U.	7.00	6.91	6.88	7.14	7.12
pH	S.U.	10.00	9.70	9.72	9.95	9.97
ORP	mV	228.0	233.9	225.9	227.2	221.7

Turbidity Standard	Units	LaMotte SN1386-3811 (11/06)	LaMotte SN1386-3811 (11/09)	LaMotte SN1386-3811 (11/10)	LaMotte SN1386-3811
0.0	NTU	0.0	0.01	0.0	-0.01
1.0	NTU	0.83	0.82	0.86	1.05
10.0	NTU	11.46	12.08	11.73	9.23

Notes: DO - Dissolved Oxygen; ms/cm - millisiemens/second; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units

Golder Associates

Daily Calibration Log

Project Plant McDonough
Field Staff C. Tidwell/D. Thomas/J. Waguespack

Instrument Calibration

Date: 11-9-20 **Time:** 0750

Parameter	Units	Standard	SmarTROLL SN 728623	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100	100			
Conductivity	us/cm	4490	4327			
pH	S.U.	4.00	3.82			
pH	S.U.	7.00	7.09			
pH	S.U.	10.00	9.97			
ORP	mV	228.00	223.0			

	Units	Standard	LaMotte SN 6405-1416	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
Turbidity	NTU	0.0	0.0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

Date: 11-11-20 **Time:** 0735

Parameter	Units	Standard	SmarTROLL SN 728623	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100	100			
Conductivity	us/cm	4490	4087			
pH	S.U.	4.00	4.01			
pH	S.U.	7.00	6.66			
pH	S.U.	10.00	9.67			
ORP	mV	228.00	226.8			

	Units	Standard	LaMotte SN 6405-1416	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
Turbidity	NTU	0.0	0.0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

Daily Calibration Log

Project Plant McDonough
Field Staff C. Tidwell/D. Thomas/J. Waguespack

Instrument Calibration

Date: 11-12-20 **Time:** 0814

Parameter	Units	Standard	SmarTROLL SN 728623	SmarTROLL SN	SmarTROLL SN	SmarTROLL SN
DO	% saturation	100	98.91			
Conductivity	us/cm	4490	4330			
pH	S.U.	4.00	3.99			
pH	S.U.	7.00	7.34			
pH	S.U.	10.00	10.35			
ORP	mV	228.00	231.3			

	Units	Standard	LaMotte SN 6405-1416	LaMotte SN	LaMotte SN	LaMotte SN
Turbidity	NTU	0.0	0.0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

Date: 11-13-20 **Time:** 0739 11-17-20/0915

Parameter	Units	Standard	SmarTROLL SN 728623	SmarTROLL SN	SmarTROLL SN	SmarTROLL SN 728623
DO	% saturation	100	99.41			100
Conductivity	us/cm	4490	4355			4495
pH	S.U.	4.00	3.97			4.05
pH	S.U.	7.00	7.04			7.11
pH	S.U.	10.00	9.96			10.31
ORP	mV	228.00	238.3			237

	Units	Standard	LaMotte SN 6405-1416	LaMotte SN	LaMotte SN	LaMotte SN 6405-1416
Turbidity	NTU	0.0	0.0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

November 2019 **Daily Calibration Log** 19132523

Project Plant McDonough
Field Staff K. Minkara / J. Waguespack / Y.C. Soo

Instrument Calibration

		Date	12/8/20	12/9/20		
		Time	06:38	06:30		
Parameter	**Units**	**Standard**	**SmarTROLL SN** 646777 **iPad #** 074	**SmarTROLL SN** 646777 **iPad #** 074	**SmarTROLL SN** _____ **iPad #** _____	**SmarTROLL SN** _____ **iPad #** _____
DO	% saturation	100	93.2	96.0		
Conductivity	us/cm	4490	4448	4401		
pH	S.U.	4.00	4.31	4.32		
pH	S.U.	7.00	7.10	7.09		
pH	S.U.	10.00	9.87	9.88		
ORP	mV	228.00	235.3	234.1		

Turbidity	**Units**	**Standard**	**LaMotte SN** 1438-3911	**LaMotte SN** 1438-3911	**LaMotte SN** _____	**LaMotte SN** _____
	NTU	0.0	0.01	-0.02		
	NTU	1.0	1.24	1.13		
	NTU	10.0	9.12	8.17		

		Date				
		Time				
Parameter	**Units**	**Standard**	**SmarTROLL SN** _____ **iPad #** _____	**SmarTROLL SN** _____ **iPad #** _____	**SmarTROLL SN** _____ **iPad #** _____	**SmarTROLL SN** _____ **iPad #** _____
DO	% saturation	100				
Conductivity	us/cm	4490				
pH	S.U.	4.00				
pH	S.U.	7.00				
pH	S.U.	10.00				
ORP	mV	228.00				

Turbidity	**Units**	**Standard**	**LaMotte SN** _____	**LaMotte SN** _____	**LaMotte SN** _____	**LaMotte SN** _____
	NTU	0.0				
	NTU	1.0				
	NTU	10.0				

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

Dec 2020

1668496188

~~November 2019~~

Daily Calibration Log

~~19132523~~

Project Plant McDonough
Field Staff K. Minkara / J. Waguespack / Y.C. Soo

Instrument Calibration

		Date	12/8/20	12/9/20	12/10/20	12/11/20	
		Time	0630	0615	1300	1030	
Parameter	**Units**	**Standard**	**SmarTROLL SN 647057 iPad # 93**	**SmarTROLL SN 647057 iPad # 93**	**SmarTROLL SN 647057 iPad # 97**	**SmarTROLL SN _____ iPad # _____**	
DO	% saturation	100	93.5	95.3	92.7		
Conductivity	us/cm	4490	4377	4341	4204		By AIR. see pdfs
pH	S.U.	4.00	4.19	4.21	4.12		
pH	S.U.	7.00	6.98	6.98	6.96		
pH	S.U.	10.00	9.84	9.83	9.88		
ORP	mV	228.00	227.4	233.3	225.8		

Turbidity	**Units**	**Standard**	**LaMotte SN 1607-4941**	**LaMotte SN 1607-4941**	**LaMotte SN 1607-4941**	**LaMotte SN 7007-1416**
	NTU	0.0	-0.01	0.01	-0.05	0.00
	NTU	1.0	~~0.81~~ 0.81	~~0.98~~ 1.00	1.03	1.11
	NTU	10.0	10.11	10.01	9.88	9.99

		Date	12-15-20	12-16-20	12-17-20	
		Time	0600	0630	0630	
Parameter	**Units**	**Standard**	**SmarTROLL SN 646777 iPad # 94**	**SmarTROLL SN 646777 iPad # 94**	**SmarTROLL SN 646777 iPad # 94**	**SmarTROLL SN _____ iPad # _____**
DO	% saturation	100	92.4	93.1	94.6	
Conductivity	us/cm	4490	4332	4288	4249	
pH	S.U.	4.00	4.22	4.25	4.23	
pH	S.U.	7.00	6.99	6.99	6.98	
pH	S.U.	10.00	9.78	9.78	9.75	
ORP	mV	228.00	238.2	239.1	258.4	

Turbidity	**Units**	**Standard**	**LaMotte SN 7007-1416**	**LaMotte SN 7007-1416**	**LaMotte SN 7007-1416**	**LaMotte SN _____**
	NTU	0.0	0.01	0.10	0.00	
	NTU	1.0	0.89	0.91	1.01	
	NTU	10.0	10.15	10.01	10.00	

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

Dec 2020

~~November 2019~~

Daily Calibration Log

786 949618
~~19132523~~

Project Plant McDonough
Field Staff K. Minkara / J. Waguespack / Y.C. Soo

Instrument Calibration

		Date	12/7/20	12/8/20.	12/9/20	
		Time	1115	0640	0630	
Parameter	**Units**	**Standard**	**SmarTROLL SN** 642531 **iPad #** 110	**SmarTROLL SN** 642531 **iPad #** 40	**SmarTROLL SN** 642531 **iPad #** 110	**SmarTROLL SN** _____ **iPad #** _____
DO	% saturation	100	~~95.7~~ 93	95.9 ~~97.6~~	100	
Conductivity	us/cm	4490	6198	4501	4414	
pH	S.U.	4.00	4.24	4.34	4.46	
pH	S.U.	7.00	~~6.88~~ 7.41	6.85	6.56	
pH	S.U.	10.00	~~10.06~~ 9.67	9.49	~~9.56~~	
ORP	mV	228.00	214	~~253~~ 254	253.3	

Turbidity	**Units**	**Standard**	**LaMotte SN** 2289-2612	**LaMotte SN** 2289-2612	**LaMotte SN** 2289-2612	**LaMotte SN** _____
	NTU	0.0	-0.05	-0.02	0.02	
	NTU	1.0	0.78	0.80	1.09	
	NTU	10.0	~~10.09~~ 9.40	10.03	10.08	

		Date	12-15-20	12-16-20	12-17-20	
		Time	0600	0645	0637	
Parameter	**Units**	**Standard**	**SmarTROLL SN** 647057 **iPad #** 90	**SmarTROLL SN** 647057 **iPad #** 90	**SmarTROLL SN** 647057 **iPad #** 90	**SmarTROLL SN** _____ **iPad #** _____
DO	% saturation	100	92.0	93.3	93.0	
Conductivity	us/cm	4490	4466	4305	4443	
pH	S.U.	4.00	4.25	4.39	4.42	
pH	S.U.	7.00	7.05	7.02	7.09	
pH	S.U.	10.00	9.88	9.78	9.66	
ORP	mV	228.00	227.2	229.2	246.1	

Turbidity	**Units**	**Standard**	**LaMotte SN** _____	**LaMotte SN** ~~12-16-20~~ 26862	**LaMotte SN** 26862	**LaMotte SN** _____
	NTU	0.0		0.0	0.05	
	NTU	1.0		1.05	1.03	
	NTU	10.0		10.09	10.02	

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

APPENDIX C

CERTIFIED SURVEY DATA

METRO ENGINEERING & SURVEYING CO., INC.
SURVEYORS - ENGINEERS - PHOTOGRAMMETRISTS
PROVIDING PROFESSIONAL SERVICE SINCE 1967

1469 HIGHWAY 20 WEST • MCDONOUGH, GA 30253
phone: 770-707-0777 fax: 770.707-0755
WWW.METRO-ENGINEERING.COM

SURVEYOR'S REPORT

SCOPE OF WORK:

Field survey of existing monitoring wells at Georgia Power Company, Plant McDonough in Smyrna, GA.

Horizontal and vertical datum was derived from RTK GPS observations with corrections from the eGPS network and conventional surveying equipment. Horizontal datum is Georgia State Plane, West Zone, NAD83(2011) and vertical datum is NAVD88.

EQUIPMENT USED TO ESTABLISH THE MONITORING WELL LOCATIONS:

Trimble R8 Dual Frequency GPS Receiver
Leica TS16 Total Station
Leica DNA10 Digital Level

CERTIFICATION:

I hereby certify that the center of well casing (PVC) has a horizontal accuracy of 0.5+/- feet or better using a Trimble R8 Dual Frequency RTK (survey-grade) global positioning system receiver referencing the Georgia State Plane, west zone, NAD83(2011) coordinate system in US survey feet. The top of well casing (PVC) elevation data was determined in feet above mean sea level based on the NAVD88 vertical datum. Vertical data was confirmed to be accurate within 0.01 foot through establishment of a closed level check loop with a Leica DNA10 digital level having a published accuracy of 0.9mm per dual-traverse kilometer.

James R. Green R.L.S. No. 2543

Date: 1/6/21

GEORGIA REGISTERED NO. LS002543 PROFESSIONAL LAND SURVEYOR JAMES RANDOLPH GREEN

Plant McDonough
Monitoring Well Locations
January 6, 2021

Well ID	LATITUDE	LONGITUDE	NAIL NORTHING	NAIL EASTING	NAIL ELEV	PVC NORTHING	PVC EASTING	TOP PVC ELEV	ELEV AT BASE
B-101D	N33.831990	W84.470999	1394063.3	2204167.1	821.24	1394063.6	2204168.2	824.29	821.2
B-102D	N33.831344	W84.470891	1393828.2	2204199.0	820.64	1393828.4	2204200.4	823.42	820.6
B-103D	N33.825052	W84.476091	1391542.8	2202615.0	793.77	1391543.5	2202614.4	795.96	793.8
B-104D	N33.824431	W84.477129	1391317.9	2202297.4	785.31	1391318.3	2202298.5	787.90	785.3
B-105D	N33.822547	W84.478659	1390633.9	2201832.7	776.03	1390634.5	2201831.9	779.01	776.0
B-106D	N33.832712	W84.471987	1394328.3	2203869.6	823.39	1394327.1	2203869.2	826.21	823.5
B-107D	N33.827226	W84.476158	1392333.6	2202597.0	820.44	1392334.5	2202596.4	823.38	820.6
B-108D	N33.826733	W84.477091	1392155.6	2202313.1	818.33	1392156.1	2202312.5	821.13	818.4
B-109D	N33.831682	W84.477720	1393956.4	2202127.0	847.78	1393957.5	2202127.0	850.73	847.8
B-110D	N33.824352	W84.482274	1391294.0	2200734.6	764.55	1391294.4	2200736.0	764.61	764.7
B-111D	N33.832640	W84.474992	1394302.6	2202956.5	789.04	1394303.4	2202956.4	791.87	789.1
B-72	N33.824206	W84.482307	1391241.2	2200724.9	758.45	1391241.4	2200725.9	758.46	758.5
B-73	N33.824509	W84.482395	1391351.5	2200698.5	759.16	1391351.8	2200699.4	759.21	759.2
B-74	N33.824311	W84.482504	1391278.9	2200666.3	759.18	1391279.9	2200666.1	759.06	759.2
DW-D1	N33.832657	W84.474840	NA	NA	NA	1394309.5	2203002.8	786.78	786.2
DW-D2	N33.832842	W84.473838	NA	NA	NA	1394375.8	2203307.1	788.53	788.3
DW-D3	N33.832812	W84.472368	NA	NA	NA	1394363.7	2203753.5	817.50	817.2
DW-D4	N33.831941	W84.470988	NA	NA	NA	1394045.5	2204171.7	820.68	820.4

STAFF GAGE	LATITUDE	LONGITUDE	T/POST NORTHING	T/POST EASTING	TOP T/POST ELEV	TOP GAGE ELEV @ 8'	ELEV AT GRD
WT-1	N33.825586	W84.482522	1391743.6	2200662.1	759.85	759.32	755.3
WT-3	N33.824028	W84.482353	1391176.9	2200711.8	757.80	756.92	752.6
WT-4	N33.822014	W84.481690	1390443.3	2200910.8	754.13	753.21	749.2
WT-5	N33.821283	W84.480144	1390175.9	2201379.5	749.01	749.07	744.9
ET-1	N33.832761	W84.474439	1394347.0	2203124.5	NA	779.94	775.9

June 4, 2021 Project No. 166849621

Mr. Joju Abraham, PG
Southern Company Services
241 Ralph McGill Blvd NE
Atlanta, GA 30308
jabraham@southernco.com

PIEZOMETER INSTALLATION REPORT (B-112D AND B-113D, B-115D THROUGH B-120D)
GEORGIA POWER COMPANY - PLANT MCDONOUGH, SMYRNA, GEORGIA

Dear Mr. Abraham

Golder Associates Inc. (Golder) is submitting this *Piezometer Installation Report* to Southern Company Services, Inc. (SCS) and Georgia Power Company (Georgia Power), which documents the construction of eight piezometers at Plant McDonough in Smyrna, Georgia (Site). Piezometer construction activities were performed in general accordance with the standards described in the Resource Conservation and Recovery Act (RCRA) Technical Enforcement Guidance Document (1986) and the Georgia Water Wells Standards Act of 1985. The installation of the piezometers was conducted under the oversight and direction of Michael Boatman, a Georgia Registered Professional Geologist (PG).

The field activities for this investigation were performed in March 2021 through April 2021. The field work consisted of the installation and development of eight (8) piezometers installed for purposes of vertical delineation of target constituents for Coal Combustion Residuals (CCR) compliance monitoring in groundwater. Metro Engineering & Surveying (Metro) conducted a survey of the installed piezometers in April 2021. A summary of the activities is presented below. Figure 1 presents the location of each of the newly installed piezometers.

Drilling and Construction Activities

Piezometers B-112D, B-113D, B-115D, B-116D, B-117D, B-118, B-119D, and B-120D were drilled and installed by Cascade at the site in March 2021. Cascade had a current and valid bond with the Water Wells Standards Advisory Council for the state of Georgia at the time of drilling and piezometer installation. A copy of Cascade's bond is included in Appendix A.

An experienced and licensed Golder geologist (Michael Boatman, PG) was present on site to oversee, direct, and record the drilling and piezometer construction. Drilling methods employed for borehole advancement were 4”/6” sonic drilling technique. SCS – Civil Field Services (CFS) used air knife methodology or a hand auger to clear the first 10 feet of the subsurface for any utilities.

The drilling equipment consisted of a Terra Sonic TSi 150CC roto-sonic drill rig. Prior to use, and between boreholes, the downhole equipment (drill bits, stems) were steam cleaned.

The piezometers were installed in bedrock and rock cores were collected. Boring logs and construction records for the newly installed piezometers are included in Appendix B. The boring and piezometer construction data are summarized in Table 1 and the locations of the piezometers are provided on Figure 1.

Piezometers were constructed within the boreholes using factory-cleaned and sealed Schedule 40 poly-vinyl chloride (PVC) products with flush-threaded fittings. Piezometers were constructed with a 10-foot section of 3-inch outer diameter (OD) and 2-inch inner diameter (ID), flush-threaded, 0.010-inch factory-slotted PVC U-Pack screens. The drillers filled the annulus of each U-Pack screen section with No. 1 filter sand. In each case, the screen was placed near the bottom of the borehole, with the remainder of the piezometer constructed from 10-foot sections of 2-inch ID, flush-threaded, PVC casing riser. A flush-threaded PVC end cap was placed on the bottom of each piezometer to provide a 0.3-foot sump/sediment trap. Piezometers were completed with stick-ups extending approximately 31 inches above grade, except B-112D and B-113D, which were completed as a flush-mounted piezometers. The PVC products used were American Society for Testing and Materials (ASTM) and National Sanitation Foundation (NSF)-rated.

Following placement of the screen and casing, the annular space in each borehole adjacent to the screen was filled with US Standard Sieve size No. 1 filter pack sand as appropriate for the formation. The filter pack sand was placed into each borehole extending approximately 2 feet above the depth of the top of the screen. Immediately following placement of the filter pack, each piezometer was pumped using a portable submersible pump until visibly clear water was discharged. If settling occurred during pumping, additional sand was placed so that the filter sand thickness was no less than 2 feet above the screen. A filter pack seal, composed of 2 to 5 feet of hydrated 3/8” bentonite pellets, was then placed on top of the filter pack by slowly pouring the material down the boreholes tamping it into place. The bentonite was hydrated using potable water and allowed to cure for at least two hours prior to grouting the piezometers.

Following hydration of the bentonite, the remaining annular space was grouted with an AquaGuard® bentonite grout mixture to approximately 2 feet below ground surface using a tremie method. Based on information provided by the product manufacturer, AquaGuard® is a bentonite grout consisting of bentonite and additives that allow for a mixture of 30% solids by weight to facilitate grouting via tremie pipe, with additives that slow the bentonite curing so that proper placement can be achieved. The surface completions for piezometers B-115D through B-120D consist of a locked, aluminium protective casing and a 4-foot by 4-foot by 4-inch concrete pad with bollards. The surface completions for piezometers B-112D an B-113D consist of a secure/locked 8-inch flush mount road-box set in a 4-foot by 4-foot by 4-inch concrete pad. The annular space of the aluminium protective casings and flush mount were filled with pea gravel to approximately 3 inches from top of PVC.

Development Activities

The newly installed piezometers (B-112D through B-120D) were developed in April 2021 in general accordance with the *Monitoring Well Development Procedures* prepared by SCS, (March 2016), and the US EPA Science and Ecosystem Support Division *Design and Installation of Monitoring Wells* (February 2008). Additionally, the piezometer screen intervals were surged and then pumped using a pneumatic Geotech Reclaimer® pump system. During development, water quality measurements of pH, ORP, temperature, specific conductance, and turbidity were periodically collected using field-calibrated water quality equipment after the piezometer responded to improving conditions. Development activities were conducted utilizing a SmarTroll® multimeter and a Lamotte 2020 turbidimeter, and for monitoring water quality measurements. Equipment calibration forms and development forms are included in Appendix B with development details summarized in Table 2.

As presented in Table 2, between approximately 37 and 152 gallons were removed from each piezometer. During development, attempts were made for each piezometer to achieve a turbidity value below 10 nephelometric turbidity units (NTUs). Water level measurements were collected using a decontaminated electronic water level indicator, referenced to a permanent marking at the top of the casing and recorded to within 0.01 foot.

Piezometer Survey

The newly installed piezometers were surveyed in April 2021 by Metro Engineering & Surveying Co., Inc. (James R. Green). Surveyed locations and elevations are presented on the boring/construction diagrams and a site map showing the locations of the newly installed piezometers is presented on Figure 1. The well survey had a horizontal accuracy of 0.5 feet or better, and a vertical accuracy of 0.01 feet. The certified piezometer survey is attached as Appendix C.

Closing

We appreciate the opportunity to assist SCS and Georgia Power with this project. Should you have any questions or require additional information, please contact the undersigned at (770) 496-1893.

Sincerely,

Golder Associates Inc.

Michael Boatman, PG
Project Geologist

Dawn Prell
Senior Consultant

DLP/RPK/mlb

CC: Georgia Power Company - Plant McDonough
Ben Hodges, Geologist, Georgia Power Company
Rachel P. Kirkman, PG - Golder

Attachments: Figure 1 - Site Plan and Piezometer Location Map
Table 1 - Summary of Piezometer Construction Details
Table 2 - Summary of Piezometer Development
Appendix A – Driller's Bond
Appendix B - Boring Logs/Construction Diagrams, Development Forms, and Calibration Logs
Appendix C – Certified Well Survey

https://golderassociates.sharepoint.com/sites/11950g/shared documents/200_reports_technical work/well installation reports/b-112-b120 piezometer installation 4.2021/mcd well install_b-112-120 rpt_6.4.2021_final.docx

FIGURE 1

SITE PLAN AND PIEZOMETER LOCATION MAP

LEGEND

- PIEZOMETER
- PROPERTY BOUNDARY
- PERMIT BOUNDARY

NOTES

1. ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.

REFERENCE

1. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

2. COORDINATE SYSTEM: NAD 1983 STATE PLANE GEORGIA WEST (U.S. FEET).

3. MONITORING WELL/PIEZOMETER LOCATIONS PROVIDED BY METRO ENGINEERING & SURVEYING CO., INC. (APRIL 2021).

0 800 1,600

1 IN= 600 FT

CLIENT
GEORGIA POWER COMPANY

PROJECT
PLANT MCDONOUGH

TITLE
SITE PLAN AND PIEZOMETER LOCATION MAP

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2021-05-12
PREPARED	BAS
DESIGN	BAS
REVIEW	DP/RK
APPROVED	

PROJECT No. 166849618
Rev. 0
FIGURE 1

Piezometer Installation Report (B-112D and B-113D, B-115 through B-120D)

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET HAS BEEN MODIFIED FROM ANSI B

TABLE 1

SUMMARY OF PIEZOMETER CONSTRUCTION DETAILS

TABLE 1
SUMMARY OF PIEZOMETER CONSTRUCTION DETAILS
Georgia Power Company - Plant McDonough

Borehole ID	Latitude	Longitude	NAD83 Northing	NAD83 Easting	Elevation Top of PVC (feet NAVD88)	Elevation Ground Surface (feet NAVD88)	Rock Type at Screen Interval	Total Depth (feet bgs)	Depth to Bedrock (feet bgs)	Screened Interval (feet bgs)	Water Level (feet bTOC)	Date Installed
B-112D	33.825093	-84.482513	1391564.2	2200664.1	765.58	766.1	Gneiss	55.00	20.0	44.7-54.7	6.87	3/22/2021
B-113D	33.824270	-84.482329	1391264.6	2200719.2	758.22	758.8	Gneiss	85.00	20.0	74.4-84.4	1.46	3/30/2021
B-115D	33.824287	-84.476200	1391265.3	2202580.7	789.17	786.4	Schist	80.00	25.0	69.2-79.2	19.32	3/20/2021
B-116D	33.822123	-84.482677	1390483.7	2200611.0	807.82	805.3	Schist	90.00	54.9	79.2-89.2	40.82	3/8/2021
B-117D	33.831696	-84.479036	1393963.8	2201727.3	863.82	861.2	Gneiss	75.00	41.0	64.7-74.7	27.88	3/17/2021
B-118	33.824143	-84.483216	1391219.3	2200449.7	807.70	805.0	Gneiss	75.00	40.0	64.85-74.85	50.65	3/9/2021
B-119D	33.824190	-84.483226	1391236.4	2200446.6	807.15	804.5	Gneiss	105.00	60.0	94.7-104.7	49.94	3/16/2021
B-120D	33.831931	-84.476702	1394047.2	2202436.4	836.42	834.0	Gneiss	70.00	40.0	59-69	33.76	3/6/2021

Notes:
NAD83 - North American Datum 1983
NAVD88 - North American Vertical Datum 1988
NA - Not Available
bgs - Below ground surface
bTOC - Below Top of Casing

GOLDER
MEMBER OF WSP

TABLE 2

SUMMARY OF PIEZOMETER DEVELOPMENT DATA

TABLE 2
SUMMARY OF PIEZOMETER DEVELOPMENT
Georgia Power Company - Plant McDonough

Piezometer ID	Date Started	Development Method	Measured Total Depth of Well (ft bTOC)	Initial Water level (ft bTOC)	Final Water Level (ft bTOC)	Volume of Casing (gal)	Total Volume Removed (gal)	pH (SU)	Specific Conductance (mS/cm)	Temp (°C)	Turbidity (NTU)	ORP (mV)	DO (mg/L)
B-112D	4/12/2021	Reclaimer Pump and Surge	54.60	6.87	7.38	7.78	72	6.49	0.216	19.01	4.98	558.16	0.68
B-113D	4/12/2021	Reclaimer Pump and Surge	83.87	1.46	18.22	13.50	48	7.73	0.393	21.41	4.61	-14.96	0.27
B-115D	4/7/2021	Reclaimer Pump and Surge	82.97	19.32	47.10	10.40	37	4.83	0.628	19.64	1.33	208.98	0.11
B-116D	4/6/2021	Reclaimer Pump and Surge	92.45	40.82	47.85	8.42	70	6.14	0.147	18.45	3.03	-68.14	4.11
B-117D	4/7/2021	Reclaimer Pump and Surge	77.72	27.88	60.09	8.20	62	6.05	0.119	18.65	5.22	99.25	2.37
B-118	4/6/2021	Reclaimer Pump and Surge	78.30	50.65	51.11	4.50	152	6.02	0.100	16.76	4.79	188.11	4.26
B-119D	4/5/2021	Reclaimer Pump and Surge	108.02	46.94	89.52	9.96	44	6.51	0.161	17.54	0.73	28.42	5.19
B-120	4/9/2021	Reclaimer Pump and Surge	72.13	33.76	33.98	6.25	94	5.34	1.246	19.68	1.54	253.10	0.11

Notes:
hr:min - hours:minutes
ft bTOC - feet below Top of Casing
gal - gallons
SU - Standard Units
mS/cm - millisiemens per centimeter
°C - degrees Celcius
NTU - nephelometric turbidity units
mV - millivolts
mg/L - milligrams per liter
ORP - oxygen reduction potential
DO - dissolved oxygen

GOLDER
MEMBER OF WSP

APPENDIX A

CADCADE DRILLING BOND

COPY

CONTINUATION CERTIFICATE

Atlantic Specialty Insurance Company , Surety upon

a certain Bond No. **800031223**

dated effective June 30, 2017
(MONTH-DAY-YEAR)

on behalf of Michael C. Rice and Cascade Drilling, L.P., any and all employees, officers and partners
(PRINCIPAL)

and in favor of State of Georgia
(OBLIGEE)

does hereby continue said bond in force for the further period

beginning on June 30, 2019
(MONTH-DAY-YEAR)

and ending on June 30, 2021
(MONTH-DAY-YEAR)

Amount of bond Thirty Thousand and Zero/100 ($30,000.00)

Description of bond Water Well Contractor Performance Bond

Premium: $1,200.00

PROVIDED: That this continuation certificate does not create a new obligation and is executed upon the express condition and provision that the Surety's liability under said bond and this and all Continuation Certificates issued in connection therewith shall not be cumulative and that the said Surety's aggregate liability under said bond and this and all such Continuation Certificates on account of all defaults committed during the period (regardless of the number of years) said bond had been and shall be in force, shall not in any event exceed the amount of said bond as hereinbefore set forth.

Signed and dated on May 9, 2019
(MONTH-DAY-YEAR)
Atlantic Specialty Insurance Company

By _____
Attorney-in-Fact Elizabeth R. Hahn

Parker, Smith & Feek, Inc.
Agent

2233 112th Ave NE Bellevue, WA 98004
Address of Agent

(425) 709-3600
Telephone Number of Agent

S-0157/GE 8/08

XDP

OneBeacon
INSURANCE GROUP

Power of Attorney

KNOW ALL MEN BY THESE PRESENTS, that ATLANTIC SPECIALTY INSURANCE COMPANY, a New York corporation with its principal office in Plymouth, Minnesota, does hereby constitute and appoint: **Deanna M. French, Susan B. Larson, Elizabeth R. Hahn, Jana M. Roy, Scott McGilvray, Mindee L. Rankin, Ronald J. Lange, John R. Claeys, Roger Kaltenbach, Guy Armfield, Scott Fisher, Andrew P. Larsen, Nicholas Fredrickson,** each individually if there be more than one named, its true and lawful Attorney-in-Fact, to make, execute, seal and deliver, for and on its behalf as surety, any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof; provided that no bond or undertaking executed under this authority shall exceed in amount the sum of: **sixty million dollars ($60,000,000)** and the execution of such bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof in pursuance of these presents, shall be as binding upon said Company as if they had been fully signed by an authorized officer of the Company and sealed with the Company seal. This Power of Attorney is made and executed by authority of the following resolutions adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the

Resolved: That the President, any Senior Vice President or Vice-President (each an "Authorized Officer") may execute for and in behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and affix the seal of the Company thereto; and that the Authorized Officer may appoint and authorize an Attorney-in-Fact to execute on behalf of the Company any and all such instruments and to affix the Company seal thereto; and that the Authorized Officer may at any time remove any such Attorney-in-Fact and revoke all power and authority given to any such Attorney-in-Fact.

Resolved: That the Attorney-in-Fact may be given full power and authority to execute for and in the name and on behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and any such instrument executed by any such Attorney-in-Fact shall be as binding upon the Company as if signed and sealed by an Authorized Officer and, further, the Attorney-in-Fact is hereby authorized to verify any affidavit required to be attached to bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof.

This power of attorney is signed and sealed by facsimile under the authority of the following Resolution adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the signature of an Authorized Officer, the signature of the Secretary or the Assistant Secretary, and the Company seal may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing an Attorney-in-Fact for purposes only of executing and sealing any bond, undertaking, recognizance or other written obligation in the nature thereof, and any such signature and seal where so used, being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed.

IN WITNESS WHEREOF, ATLANTIC SPECIALTY INSURANCE COMPANY has caused these presents to be signed by an Authorized Officer and the seal of the Company to be affixed this twenty-sixth day of October, 2017.

ATLANTIC SPECIALTY INSURANCE COMPANY CORPORATE SEAL 1986 NEW YORK

By _____
Paul J. Brehm, Senior Vice President

STATE OF MINNESOTA
HENNEPIN COUNTY

On this twenty-sixth day of October, 2017, before me personally came Paul J. Brehm, Senior Vice President of ATLANTIC SPECIALTY INSURANCE COMPANY, to me personally known to be the individual and officer described in and who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, that he is the said officer of the Company aforesaid, and that the seal affixed to the preceding instrument is the seal of said Company and that the said seal and the signature as such officer was duly affixed and subscribed to the said instrument by the authority and at the direction of the Company.

TARA JANELLE STAFFORD
NOTARY PUBLIC - MINNESOTA
My Commission Expires
January 31, 2020

_____
Notary Public

I, the undersigned, Secretary of ATLANTIC SPECIALTY INSURANCE COMPANY, a New York Corporation, do hereby certify that the foregoing power of attorney is in full force and has not been revoked, and the resolutions set forth above are now in force.

Signed and sealed. Dated 9 day of May 2019

ATLANTIC SPECIALTY INSURANCE COMPANY CORPORATE SEAL 1986 NEW YORK

This Power of Attorney expires
October 1, 2019

_____
Christopher V. Jerry, Secretary

APPENDIX B

BORING LOGS/CONSTRUCTION DIAGRAMS, DEVELOPMENT FORMS AND CALIBRATION LOGS

RECORD OF BOREHOLE B-112D

PROJECT: Plant McDonough
PROJECT NUMBER: 166849621
DRILLED DEPTH: 55.00 ft
LOCATION: Offset of DGWC-69

DRILL RIG: TSi 150CC
DATE STARTED: 3/21/21
DATE COMPLETED: 3/22/21

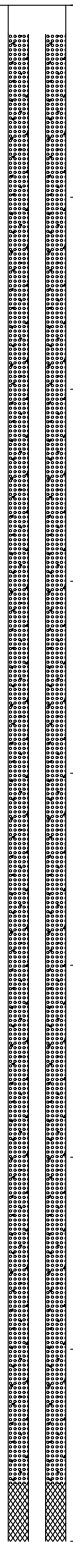
NORTHING: 1,391,564.2
EASTING: 2,200,664.1
GS ELEVATION: 766.1
TOC ELEVATION: 765.58 ft

DEPTH W.L.:6.87
ELEVATION W.L.: 758.71
DATE W.L.:4/12/2021
TIME W.L.:12:18

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	PHOTO	REC
0	765	0.00 - 7.00 CL, Silty CLAY, low plasticity; red brown; soft, dry to moist, W<PL	CL		759.1	Hand Auger		0.00 10.00
5	760							
		7.00 - 11.50 SP, SAND with trace silt and gravels, non-plasticity fine to coarse; blue-gray; soft to firm,moist, W<PL	SP		7.00			
10	755				754.6			
		11.50 - 12.50 ML, Clayey SILT, low plasticity; brown to gray-brown; soft, moist, W<PL	ML		11.50 753.6			
		12.50 - 16.00 SM, SILTY SAND, non to low plasticity; tan to brown to beige; loose to compact, dry, W<PL	SM		12.50	1		9.00 10.00
15	750				750.1			
		16.00 - 20.00 TWR, Transitionally Weathered Rock; No recovery; Wash out; Driller noted the material was hard enough to drill with water(coring), but soft enough to wash away.	TWR		16.00			
20	745	20.00 - 30.00 Slightly to moderately weathered, well foliated, well jointed, light gray to gray, fine-medium grained, medium strong, quartz-feldspar-biotite GNEISS; locally contians vein quartz and augened potassium feldspar (K-spar)	BR		746.1 20.00	2		3.80 10.00
25	740							
30	735				736.1			
		30.00 - 40.00 Fresh to slightly weathered, well foliated, poorly jointed, light gray to gray, fine-medium grained, weak to medium strong, quartz-feldspar-biotite GNEISS; locally contains epidote	BR		30.00	3		7.80 10.00
35	730							
40					726.1			

Log continued on next page

PIEZOMETER DIAGRAM and NOTES



PIEZOMETER CONSTRUCTION DETAILS

WELL CASING
Interval: 0-44.7'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Flush/Screw

WELL SCREEN
Interval: 44.7-54.7'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: 54.7-55'

FILTER PACK
Interval: 42.5-55'
Type: #1 Filter Sand
Quantity: 4-50 lbs bags

FILTER PACK SEAL
Interval: 38.5-42.5'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1 - 5 gallon bucket

ANNULUS SEAL
Interval: 0-38.5'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 80 gallons

WELL COMPLETION
Pad: 4'x4'x4" Concrete
Protective Casing: 8" Flush Mount

DRILLING METHODS
Soil Drill: Rotosonic (6 inch casing by 4 inch core barrel)
Rock Drill: Rotosonic
Sample Type: Rotosonic

LOG SCALE: 1 in = 5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tommy Ardito

INSPECTOR: Michael Boatman, PG
CHECKED BY: Rachel Kirkman, PG
DATE: 5/24/21

GOLDER
MEMBER OF WSP

RECORD OF BOREHOLE B-112D

SHEET 2 of 2

PROJECT: Plant McDonough
PROJECT NUMBER: 166849621
DRILLED DEPTH: 55.00 ft
LOCATION: Offset of DGWC-69

DRILL RIG: TSi 150CC
DATE STARTED: 3/21/21
DATE COMPLETED: 3/22/21

NORTHING: 1,391,564.2
EASTING: 2,200,664.1
GS ELEVATION: 766.1
TOC ELEVATION: 765.58 ft

DEPTH W.L.:6.87
ELEVATION W.L.: 758.71
DATE W.L.:4/12/2021
TIME W.L.:12:18

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	PHOTO	REC	PIEZOMETER DIAGRAM and NOTES
40	725	40.00 - 50.00 Fresh to moderately weathered, well foliated, poorly jointed, light gray to gray, fine-medium grained, weak to medium strong, quartz-feldspar-biotite GNEISS; locally contains vein quartz and water staining	BR		40.00	4		5.00 / 10.00	#1 Sand filter pack
45	720								
50	715	50.00 - 55.00 Slightly to moderately weathered, well foliated, poorly jointed, light gray to gray, fine-medium grained, medium strong to strong, potassium feldspar, plagioclase, quartz-biotite GNEISS; locally contains epidote, pegmatitic vein quartz, and augened k-spar	BR		716.1 50.00	5		5.00 / 5.00	0.010" Slotted Schedule 40 PVC Sump
55	710	Boring completed at 55.00 ft			711.1				
60	705								
65	700								
70	695								
75	690								
80									

PIEZOMETER CONSTRUCTION DETAILS

WELL CASING
Interval: 0-44.7'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Flush/Screw

WELL SCREEN
Interval: 44.7-54.7'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: 54.7-55'

FILTER PACK
Interval: 42.5-55'
Type: #1 Filter Sand
Quantity: 4-50 lbs bags

FILTER PACK SEAL
Interval: 38.5-42.5'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1 - 5 gallon bucket

ANNULUS SEAL
Interval: 0-38.5'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 80 gallons

WELL COMPLETION
Pad: 4'x4'x4" Concrete
Protective Casing: 8" Flush Mount

DRILLING METHODS
Soil Drill: Rotosonic (6 inch casing by 4 inch core barrel)
Rock Drill: Rotosonic
Sample Type: Rotosonic

LOG SCALE: 1 in = 5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tommy Ardito

INSPECTOR: Michael Boatman, PG
CHECKED BY: Rachel Kirkman, PG
DATE: 5/24/21

GOLDER
MEMBER OF WSP

BOREHOLE RECORD 166849621.GPJ PIEDMONT.GDT 5/24/21

RECORD OF BOREHOLE B-113D

SHEET 1 of 3

PROJECT: Plant McDonough
PROJECT NUMBER: 166849621
DRILLED DEPTH: 85.00 ft
LOCATION: Offset of B-72

DRILL RIG: TSi 150CC
DATE STARTED: 3/22/21
DATE COMPLETED: 3/30/21

NORTHING: 1,391,264.6
EASTING: 2,200,719.2
GS ELEVATION: 758.8
TOC ELEVATION: 758.22 ft

DEPTH W.L.:1.46
ELEVATION W.L.: 756.76
DATE W.L.:4/12/2021
TIME W.L.:12:00

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	PHOTO	REC
0		0.00 - 3.00 CL, Silty CLAY, low plasticity; red-brown; soft, dry to moist, W<PL	CL		755.8			
	755	3.00 - 10.00 ML, Clayey SILT, non to low plasticity; dark brown to brown; soft, moist to wet (with depth), W<PL	ML		3.00	Hand Auger		0.00 10.00
5								
	750				748.8			
10		10.00 - 15.50 ML, Clayey SILT with some sand, low plasticity; dark brown to brown; soft to firm, dry to moist, W<PL	ML		10.00	1		7.60 10.00
	745				743.3			
15		15.50 - 20.00 TWR, Transitional Weathered Rock; breaks down to a ML, Clayey SILT with some sand, low plasticity; dark brown to brown; soft to firm, dry to moist, W<PL	TWR		15.50			
	740				738.8			
20		20.00 - 30.00 Highly weathered, poorly foliated, poorly jointed, gray to black, fine-medium grained, very weak to weak, quartz-feldspar-biotite-muscovite SCHIST; locally contians vein quartz and water staining	BR		20.00	2		3.80 10.00
	735							
25								
	730				728.8			
30		30.00 - 35.15 Highly weathered, poorly foliated, poorly jointed, gray to black, fine-medium grained, very weak to weak, quartz-feldspar-biotite-muscovite SCHIST; locally contians vein quartz, water staining, and garnets	BR		30.00			
	725							
35					723.65	3		7.00 10.00
		35.15 - 50.00 Fresh to slightly weathered, poorly foliated, white to pink and green, very fine to medium grained, medium strong to very strong, muscovite-plagioclase-k-spar-quartz GNEISS; locally contains vein quartz, epidote, and garnets	BR		35.15			
	720							
40		Log continued on next page						

PIEZOMETER DIAGRAM and NOTES

8" Flush Mount

AquaGuard Grout

PIEZOMETER CONSTRUCTION DETAILS

WELL CASING
Interval: 0-74.4'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Flush/Screw

WELL SCREEN
Interval: 74.4-84.4'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: 84.4-84.7'

FILTER PACK
Interval: 72.4-84.7'
Type: #1 Filter Sand
Quantity: 3.5 - 50 lbs bags

FILTER PACK SEAL
Interval: 68.0-72.4'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1 - 5 gallon bucket

ANNULUS SEAL
Interval: 0-68.0'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 80 gallons

WELL COMPLETION
Pad: 4'x4'x4" Concrete
Protective Casing: 8" Flush Mount

DRILLING METHODS
Soil Drill: Rotosonic (6 inch casing by 4 inch core barrel)
Rock Drill: Rotosonic
Sample Type: Rotosonic

LOG SCALE: 1 in = 5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tommy Ardito

INSPECTOR: Michael Boatman, PG
CHECKED BY: Rachel Kirkman, PG
DATE: 5/24/21

GOLDER
MEMBER OF WSP

BOREHOLE RECORD 166849621.GPJ PIEDMONT.GDT 5/24/21

RECORD OF BOREHOLE B-113D

PROJECT: Plant McDonough
PROJECT NUMBER: 166849621
DRILLED DEPTH: 85.00 ft
LOCATION: Offset of B-72

DRILL RIG: TSi 150CC
DATE STARTED: 3/22/21
DATE COMPLETED: 3/30/21

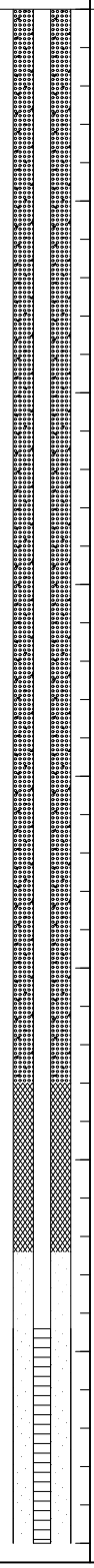
NORTHING: 1,391,264.6
EASTING: 2,200,719.2
GS ELEVATION: 758.8
TOC ELEVATION: 758.22 ft

DEPTH W.L.:1.46
ELEVATION W.L.: 756.76
DATE W.L.:4/12/2021
TIME W.L.:12:00

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	PHOTO	REC
40		35.15 - 50.00 Fresh to slightly weathered, poorly foliated, white to pink and green, very fine to medium grained, medium strong to very strong, muscovite-plagioclase-k-spar-quartz GNEISS; locally contains vein quartz, epidote, and garnets *(Continued)*						
	715		BR			4		6.50 10.00
45								
	710				708.8			
50		50.00 - 60.00 Fresh, weakly foliated, poorly jointed, light gray to greenish white, fine to medium grained, medium strong to strong, epidote-muscovite-biotite-feldspar-quartz GNEISS; locally contains garnets and pyrite.			50.00			
	705		BR			5		10.00 10.00
55								
	700				698.8			
60		60.00 - 76.00 Fresh, weakly foliated, poorly jointed, green to white to gray, fine to medium grained, medium strong to strong, GNEISS; locally contains vein quartz and garnets			60.00			
	695							
65						6		7.50 10.00
	690		BR					
70								
	685							
75						7		8.70 10.00
	680				682.8			
80		76.00 - 85.00 Fresh to slightly weathered, weak to moderately foliated, poorly jointed, greenish white to gray, fine to medium grained, strong, GNEISS; locally contains folds, vein quartz, and garnets; rock becomes schistose in localized areas.	BR		76.00			

Log continued on next page

PIEZOMETER DIAGRAM and NOTES



PIEZOMETER CONSTRUCTION DETAILS

WELL CASING
Interval: 0-74.4'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Flush/Screw

WELL SCREEN
Interval: 74.4-84.4'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: 84.4-84.7'

FILTER PACK
Interval: 72.4-84.7'
Type: #1 Filter Sand
Quantity: 3.5 - 50 lbs bags

FILTER PACK SEAL
Interval: 68.0-72.4'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1 - 5 gallon bucket

ANNULUS SEAL
Interval: 0-68.0'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 80 gallons

WELL COMPLETION
Pad: 4'x4'x4" Concrete
Protective Casing: 8" Flush Mount

DRILLING METHODS
Soil Drill: Rotosonic (6 inch casing by 4 inch core barrel)
Rock Drill: Rotosonic
Sample Type: Rotosonic

LOG SCALE: 1 in = 5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tommy Ardito

INSPECTOR: Michael Boatman, PG
CHECKED BY: Rachel Kirkman, PG
DATE: 5/24/21

GOLDER
MEMBER OF WSP

RECORD OF BOREHOLE B-113D

SHEET 3 of 3

PROJECT: Plant McDonough
PROJECT NUMBER: 166849621
DRILLED DEPTH: 85.00 ft
LOCATION: Offset of B-72

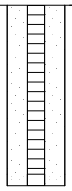
DRILL RIG: TSi 150CC
DATE STARTED: 3/22/21
DATE COMPLETED: 3/30/21

NORTHING: 1,391,264.6
EASTING: 2,200,719.2
GS ELEVATION: 758.8
TOC ELEVATION: 758.22 ft

DEPTH W.L.:1.46
ELEVATION W.L.: 756.76
DATE W.L.:4/12/2021
TIME W.L.:12:00

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	PHOTO	REC
80		76.00 - 85.00 Fresh to slightly weathered, weak to moderately foliated, poorly jointed, greenish white to gray, fine to medium grained, strong, GNEISS; locally contains folds, vein quartz, and garnets; rock becomes schistose in localized areas. *(Continued)*	BR			8		4.50 / 5.00
	675				673.8			
85		Boring completed at 85.00 ft						
	670							
90								
	665							
95								
	660							
100								
	655							
105								
	650							
110								
	645							
115								
	640							
120								

PIEZOMETER DIAGRAM and NOTES



PIEZOMETER CONSTRUCTION DETAILS

WELL CASING
Interval: 0-74.4'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Flush/Screw

WELL SCREEN
Interval: 74.4-84.4'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: 84.4-84.7'

FILTER PACK
Interval: 72.4-84.7'
Type: #1 Filter Sand
Quantity: 3.5 - 50 lbs bags

FILTER PACK SEAL
Interval: 68.0-72.4'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1 - 5 gallon bucket

ANNULUS SEAL
Interval: 0-68.0'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 80 gallons

WELL COMPLETION
Pad: 4'x4'x4" Concrete
Protective Casing: 8" Flush Mount

DRILLING METHODS
Soil Drill: Rotosonic (6 inch casing by 4 inch core barrel)
Rock Drill: Rotosonic
Sample Type: Rotosonic

LOG SCALE: 1 in = 5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tommy Ardito

INSPECTOR: Michael Boatman, PG
CHECKED BY: Rachel Kirkman, PG
DATE: 5/24/21

GOLDER
MEMBER OF WSP

BOREHOLE RECORD 166849621.GPJ PIEDMONT.GDT 5/24/21

RECORD OF BOREHOLE B-115D

PROJECT: Plant McDonough
PROJECT NUMBER: 166849621
DRILLED DEPTH: 80.00 ft
LOCATION: South of overflow parking

DRILL RIG: TSi 150CC
DATE STARTED: 3/19/21
DATE COMPLETED: 3/20/21

NORTHING: 1,391,265.3
EASTING: 2,202,580.7
GS ELEVATION: 786.4
TOC ELEVATION: 789.17 ft

DEPTH W.L.:19.32
ELEVATION W.L.: 769.85
DATE W.L.:4/7/2021
TIME W.L.:14:15

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	PHOTO	REC	PIEZOMETER DIAGRAM and NOTES
0	785	0.00 - 10.00 FILL- Backfilled with cuttings from air knife clearance			776.4	Air Knife		0.00 10.00	
10	775	10.00 - 13.00 CL, Silty CLAY with tace organics, low to moderate plasticity; dark brown; fill; soft to firm, moist, W<PL	CL		10.00 773.4				
15	770	13.00 - 18.00 SC, Clayey SAND, low plasticity, fine to coase; dark red brown to red brown; fill; soft/loose, dry to moist, W<PL	SC		13.00 768.4	1		10.00 10.00	
		18.00 - 20.00 ML, Clayey SILT, low plasticity; tan; soft, moist, W<PL	ML		18.00 766.4				
20	765	20.00 - 25.00 TWR, Transitional Weathered Rock; breaks down to a ML, Sandy SILT with trace coobles, non to low plasticity; light brown to brown; soft/loose, moist, W<PL	TWR		20.00 761.4	2		8.50 10.00	
25	760	25.00 - 30.00 Highly to moderately weathered, well foliated, well jointed, dark gray to black, fine to medium grained, very weak to weak, muscovite SCHIST; locally is water stained	BR		25.00 756.4				
30	755	30.00 - 50.00 Fresh to moderately weathered, well foliated, well jointed, green to gray to black, fine to medium grained, very weak to medium strong, muscovite SCHIST; locally interlayered with a epidote-quartz-muscovite schistose GNEISS	BR		30.00	3		7.50 10.00	AquaGuard Grout
35	750								
40		Log continued on next page							

WELL CASING
Interval: 0-69.2'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Flush/Screw

WELL SCREEN
Interval: 69.2-79.2'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: 79.2-79.5'

FILTER PACK
Interval: 66.7-79.5'
Type: #1 Fliter Sand
Quantity: 4 - 50 lbs bags

FILTER PACK SEAL
Interval: 62.5-66.7'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1 - 5 gallon bucket

ANNULUS SEAL
Interval: 0-62.5'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 100 gallons

WELL COMPLETION
Pad: 4'x4'x4" Concrete
Protective Casing: 4"x4" Aluminium

DRILLING METHODS
Soil Drill: Rotosonic (6 inch casing by 4 inch core barrel)
Rock Drill: Rotosonic
Sample Type: Rotosonic

LOG SCALE: 1 in = 5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tommy Ardito

INSPECTOR: Michael Boatman, PG
CHECKED BY: Rachel Kirkman, PG
DATE: 5/24/21

GOLDER
MEMBER OF WSP

RECORD OF BOREHOLE B-115D

PROJECT: Plant McDonough
PROJECT NUMBER: 166849621
DRILLED DEPTH: 80.00 ft
LOCATION: South of overflow parking

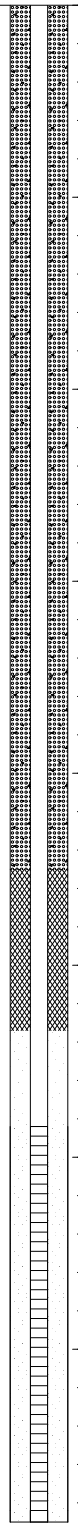
DRILL RIG: TSi 150CC
DATE STARTED: 3/19/21
DATE COMPLETED: 3/20/21

NORTHING: 1,391,265.3
EASTING: 2,202,580.7
GS ELEVATION: 786.4
TOC ELEVATION: 789.17 ft

DEPTH W.L.:19.32
ELEVATION W.L.: 769.85
DATE W.L.:4/7/2021
TIME W.L.:14:15

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	PHOTO	REC
40		30.00 - 50.00 Fresh to moderately weathered, well foliated, well jointed, green to gray to black, fine to medium grained, very weak to medium strong, muscovite SCHIST; locally interlayered with a epidote-quartz-muscovite schistose GNEISS *(Continued)*						
45	745		BR			4		6.50 10.00
50	740				736.4 50.00			
55	735	50.00 - 70.00 Fresh to slightly weathered, well foliated, well jointed, light gray to green, fine to medium grained, weak to strong, chlorite-quartz-muscovite SCHIST				5		6.50 10.00
60	730		BR					
65	725					6		8.00 10.00
70	720				716.4 70.00			
75	715	70.00 - 80.00 Fresh to Slightly weathered, weak to moderately foliated, poorly jointed, gray to black, fine grained, medium strong to strong, quartz-biotite-muscovite SCHIST; locally contains pyrite and garnets	BR			7		10.00 10.00
80	710	Boring completed at 80.00 ft			706.4			

PIEZOMETER DIAGRAM and NOTES



PIEZOMETER CONSTRUCTION DETAILS

WELL CASING
Interval: 0-69.2'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Flush/Screw

WELL SCREEN
Interval: 69.2-79.2'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: 79.2-79.5'

FILTER PACK
Interval: 66.7-79.5'
Type: #1 Fliter Sand
Quantity: 4 - 50 lbs bags

FILTER PACK SEAL
Interval: 62.5-66.7'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1 - 5 gallon bucket

ANNULUS SEAL
Interval: 0-62.5'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 100 gallons

WELL COMPLETION
Pad: 4'x4'x4" Concrete
Protective Casing: 4"x4" Aluminium

DRILLING METHODS
Soil Drill: Rotosonic (6 inch casing by 4 inch core barrel)
Rock Drill: Rotosonic
Sample Type: Rotosonic

LOG SCALE: 1 in = 5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tommy Ardito

INSPECTOR: Michael Boatman, PG
CHECKED BY: Rachel Kirkman, PG
DATE: 5/24/21

GOLDER
MEMBER OF WSP

RECORD OF BOREHOLE B-116D

PROJECT: Plant McDonough
PROJECT NUMBER: 166849621
DRILLED DEPTH: 90.00 ft
LOCATION: Offset DGWC-70A

DRILL RIG: TSi 150CC
DATE STARTED: 3/7/21
DATE COMPLETED: 3/8/21

NORTHING: 1,390,483.7
EASTING: 2,200,611.0
GS ELEVATION: 805.3
TOC ELEVATION: 807.82 ft

DEPTH W.L.:40.82
ELEVATION W.L.: 767.00
DATE W.L.:4/6/2021
TIME W.L.:15:11

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	ELEV. / DEPTH (ft)	SAMPLE NO.	REC	PIEZOMETER DIAGRAM and NOTES
0	805	0.00 - 3.00 CL, Silty CLAY, low plasticity; red brown; soft to firm, moist, W<PL	CL	802.3			
		3.00 - 6.00 ML, Clayey SILT with trace to some fine to coase sand, non plasticity; brown; soft/ loose, dry to moist, W<PL	ML	3.00	Hand Auger	0.00 10.00	
5	800			799.3			
		6.00 - 10.00 SM, SILTY SAND, non to low plasticity; yellow-brown to tan; loose, dry, W<PL	SM	6.00			
10	795			795.3			
		10.00 - 11.00 CL, Silty CLAY with some silt, low plasticity; red brown to brown; soft, moist, W<PL	CL	10.00 794.3			
		11.00 - 20.00 ML, Clayey SILT, non plasticity; brown to gray-brown; soft/ loose, moist, W<PL; locally contains books of muscovite	ML	11.00	1	13.50 10.00	
15	790						
20	785	20.00 - 21.50 CL, Silty CLAY with some fine sand, low plasticity; orange brown; soft, moist, W~PL	CL	20.00 783.8			
		21.50 - 30.00 ML, Clayey SILT with trace clay and fine sand, non plasticity; brown to gray-brown; soft/ loose, moist, W<PL; locally contains books of muscovite	ML	21.50	2	15.00 10.00	
25	780						
30	775	30.00 - 40.00 ML, Clayey SILT with trace fine sand and trace to some clay, non to low plasticity; gray; soft, moist, W<PL to W~PL	ML	775.3 30.00	3	12.00 10.00	AquaGuard Grout
35	770						
40				765.3			

Log continued on next page

PIEZOMETER CONSTRUCTION DETAILS

WELL CASING
Interval: 0-79.2'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Flush/Screw

WELL SCREEN
Interval: 79.2-89.2'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: 89.2-89.5'

FILTER PACK
Interval: 75.5-89.5'
Type: #1 Filter Sand
Quantity: 4.5 - 50 lbs bag

FILTER PACK SEAL
Interval: 70.6-75.5'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1 - 5 gallon bucket

ANNULUS SEAL
Interval: 0-70.6'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 120 gallons

WELL COMPLETION
Pad: 4'x4'x4" Concrete
Protective Casing: 4"x4" Aluminium

DRILLING METHODS
Soil Drill: Rotosonic (6 inch casing by 4 inch core barrel)
Rock Drill: Rotosonic
Sample Type: Rotosonic

LOG SCALE: 1 in = 5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tommy Ardito

INSPECTOR: Michael Boatman, PG
CHECKED BY: Rachel Kirkman, PG
DATE: 5/24/21

GOLDER
MEMBER OF WSP

RECORD OF BOREHOLE B-116D

PROJECT: Plant McDonough
PROJECT NUMBER: 166849621
DRILLED DEPTH: 90.00 ft
LOCATION: Offset DGWC-70A

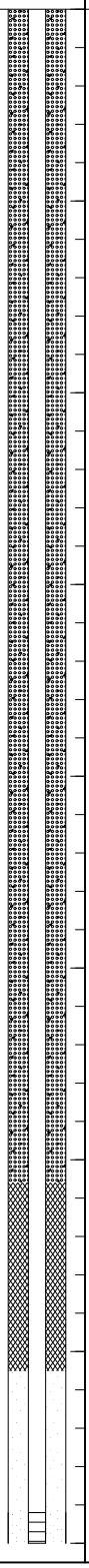
DRILL RIG: TSi 150CC
DATE STARTED: 3/7/21
DATE COMPLETED: 3/8/21

NORTHING: 1,390,483.7
EASTING: 2,200,611.0
GS ELEVATION: 805.3
TOC ELEVATION: 807.82 ft

DEPTH W.L.:40.82
ELEVATION W.L.: 767.00
DATE W.L.:4/6/2021
TIME W.L.:15:11

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	PHOTO	REC
40	765	40.00 - 50.00 ML, Clayey SILT with some fine to coase sand, non to low plasticity; gray to gray-brown; soft (becoming firm to stiff with depth), moist to wet, W<PL	ML		40.00	4		12.00 10.00
45	760							
50	755	50.00 - 54.90 TWR, Transitional Weathered Rock; breaks down to a ML, Clayey SILT with some fine to coase sand, non to low plasticity; gray to gray-brown; soft (becoming firm to stiff with depth), moist to wet, W<PL	TWR		755.3 50.00	5		5.10 10.00
55	750	54.90 - 90.00 Fresh to slightly weathered, well foliated, well jointed, gray to black, fine to medium grained, weak to medium strong, garnet-chlorite-quartz-biotite-muscovite SCHIST	BR		750.4 54.90	6		7.00 10.00
60	745							
65	740							
70	735					7		8.00 10.00
75	730							
80		Log continued on next page						

PIEZOMETER DIAGRAM and NOTES



PIEZOMETER CONSTRUCTION DETAILS

WELL CASING
Interval: 0-79.2'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Flush/Screw

WELL SCREEN
Interval: 79.2-89.2'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: 89.2-89.5'

FILTER PACK
Interval: 75.5-89.5'
Type: #1 Filter Sand
Quantity: 4.5 - 50 lbs bag

FILTER PACK SEAL
Interval: 70.6-75.5'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1 - 5 gallon bucket

ANNULUS SEAL
Interval: 0-70.6'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 120 gallons

WELL COMPLETION
Pad: 4'x4'x4" Concrete
Protective Casing: 4"x4" Aluminium

DRILLING METHODS
Soil Drill: Rotosonic (6 inch casing by 4 inch core barrel)
Rock Drill: Rotosonic
Sample Type: Rotosonic

LOG SCALE: 1 in = 5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tommy Ardito

INSPECTOR: Michael Boatman, PG
CHECKED BY: Rachel Kirkman, PG
DATE: 5/24/21

GOLDER
MEMBER OF WSP

RECORD OF BOREHOLE B-116D

PROJECT: Plant McDonough
PROJECT NUMBER: 166849621
DRILLED DEPTH: 90.00 ft
LOCATION: Offset DGWC-70A

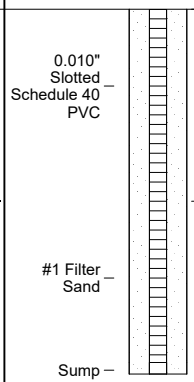
DRILL RIG: TSi 150CC
DATE STARTED: 3/7/21
DATE COMPLETED: 3/8/21

NORTHING: 1,390,483.7
EASTING: 2,200,611.0
GS ELEVATION: 805.3
TOC ELEVATION: 807.82 ft

DEPTH W.L.:40.82
ELEVATION W.L.: 767.00
DATE W.L.:4/6/2021
TIME W.L.:15:11

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	PHOTO	REC
80	725	54.90 - 90.00 Fresh to slightly weathered, well foliated, well jointed, gray to black, fine to medium grained, weak to medium strong, garnet-chlorite-quartz-biotite-muscovite SCHIST *(Continued)*	BR			8		9.00 / 10.00
85	720							
90	715	Boring completed at 90.00 ft			715.3			
95	710							
100	705							
105	700							
110	695							
115	690							
120								

PIEZOMETER DIAGRAM and NOTES



PIEZOMETER CONSTRUCTION DETAILS

WELL CASING
Interval: 0-79.2'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Flush/Screw

WELL SCREEN
Interval: 79.2-89.2'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: 89.2-89.5'

FILTER PACK
Interval: 75.5-89.5'
Type: #1 Filter Sand
Quantity: 4.5 - 50 lbs bag

FILTER PACK SEAL
Interval: 70.6-75.5'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1 - 5 gallon bucket

ANNULUS SEAL
Interval: 0-70.6'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 120 gallons

WELL COMPLETION
Pad: 4'x4'x4" Concrete
Protective Casing: 4"x4" Aluminium

DRILLING METHODS
Soil Drill: Rotosonic (6 inch casing by 4 inch core barrel)
Rock Drill: Rotosonic
Sample Type: Rotosonic

LOG SCALE: 1 in = 5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tommy Ardito

INSPECTOR: Michael Boatman, PG
CHECKED BY: Rachel Kirkman, PG
DATE: 5/24/21

GOLDER
MEMBER OF WSP

RECORD OF BOREHOLE B-117D

PROJECT: Plant McDonough
PROJECT NUMBER: 166849621
DRILLED DEPTH: 75.00 ft
LOCATION: Offset of DGWC-71

DRILL RIG: TSi 150CC
DATE STARTED: 3/17/21
DATE COMPLETED: 3/17/21

NORTHING: 1,393,963.8
EASTING: 2,201,727.3
GS ELEVATION: 861.2
TOC ELEVATION: 863.82 ft

DEPTH W.L.:27.88
ELEVATION W.L.: 835.94
DATE W.L.:4/7/2021
TIME W.L.:9:35

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	ELEV. / DEPTH (ft)	SAMPLE NO.	REC
0	860	0.00 - 10.00 FILL- Backfilled with cuttings from air knife clearance		851.2	Air Knife	0.00 / 10.00
10	850	10.00 - 16.00 SM, SILTY SAND, low plasticity; red brown; soft/loose, moist, W<PL	SM	10.00 845.2	1	7.00 / 9.00
15	845	16.00 - 19.00 ML, Clayey SILT with trace sand, low plasticity; light gray to white; soft, moist, W<PL	ML	16.00 842.2		
20	840	19.00 - 29.00 SM, SILTY SAND, low plasticity, very fine; light gray to tannish white; soft, moist, W<PL	SM	19.00 832.2	2	9.50 / 10.00
25	835					
30	830	29.00 - 39.00 SM, SILTY SAND with trace gravels, low plasticity, fine to coarse; light gray to tannish white; soft, moist (becoming dry with depth), W<PL	SM	29.00 822.2	3	10.00 / 10.00
35	825					
40		Log continued on next page	SM	39.00	4	9.00 / 10.00

PIEZOMETER DIAGRAM and NOTES: AquaGuard Grout

PIEZOMETER CONSTRUCTION DETAILS

WELL CASING
Interval: 0-64.7'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Flush/Screw

WELL SCREEN
Interval: 64.7-74.7'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: 74.7-75'

FILTER PACK
Interval: 62.5- 75'
Type: #1 Filter Sand
Quantity: 4 - 50 lbs bags

FILTER PACK SEAL
Interval: 58.5-62.5'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1 - 5 gallon bucket

ANNULUS SEAL
Interval: 0-58.5'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 80 gallons

WELL COMPLETION
Pad: 4'x4'x4" Concrete
Protective Casing: 4'x4' Aluminium

DRILLING METHODS
Soil Drill: Rotosonic (6 inch casing by 4 inch core barrel)
Rock Drill: Rotosonic
Sample Type: Rotosonic

LOG SCALE: 1 in = 5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tommy Ardito

INSPECTOR: Michael Boatman, PG
CHECKED BY: Rachel Kirkman, PG
DATE: 5/24/21

GOLDER
MEMBER OF WSP

RECORD OF BOREHOLE B-117D

PROJECT: Plant McDonough
PROJECT NUMBER: 166849621
DRILLED DEPTH: 75.00 ft
LOCATION: Offset of DGWC-71

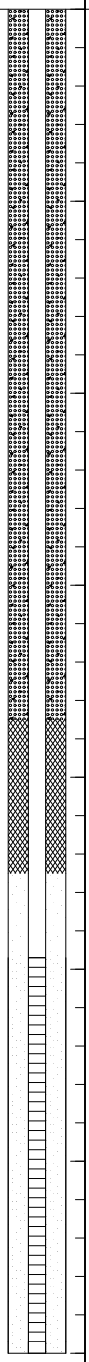
DRILL RIG: TSi 150CC
DATE STARTED: 3/17/21
DATE COMPLETED: 3/17/21

NORTHING: 1,393,963.8
EASTING: 2,201,727.3
GS ELEVATION: 861.2
TOC ELEVATION: 863.82 ft

DEPTH W.L.:27.88
ELEVATION W.L.: 835.94
DATE W.L.:4/7/2021
TIME W.L.:9:35

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	PHOTO	REC
40		39.00 - 41.00 SM, SILTY SAND with trace gravels, low plasticity, fine to coarse; light gray to tannish white; compact/dense to firm/stiff, moist (becoming dry with depth), W<PL *(Continued)*	SM		820.2 41.00			
45	820 815	41.00 - 49.00 TWR, Transitional Weathered Rock; breaks down to abreaks down to aSM, SILTY SAND with trace gravels, low plasticity, fine to coarse; light gray to tannish white; compact/dense to firm/stiff, moist (becoming dry with depth), W<PL	TWR		812.2	4		9.00 10.00
50	810	49.00 - 75.00 Fresh to moderately weathered, well foliated, moderately jointed, gray to dark gray, fine to medium grained, medium strong, biotite-quartz-feldspar GNEISS; locally contains pegmatite and quartz veins	BR		49.00	5		7.50 10.00
60	800					6		8.50 10.00
65	795							
70	790					7		4.50 6.00
75	785	Boring completed at 75.00 ft			786.2			
80								

PIEZOMETER DIAGRAM and NOTES



PIEZOMETER CONSTRUCTION DETAILS

WELL CASING
Interval: 0-64.7'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Flush/Screw

WELL SCREEN
Interval: 64.7-74.7'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: 74.7-75'

FILTER PACK
Interval: 62.5- 75'
Type: #1 Filter Sand
Quantity: 4 - 50 lbs bags

FILTER PACK SEAL
Interval: 58.5-62.5'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1 - 5 gallon bucket

ANNULUS SEAL
Interval: 0-58.5'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 80 gallons

WELL COMPLETION
Pad: 4'x4'x4" Concrete
Protective Casing: 4'x4' Aluminium

DRILLING METHODS
Soil Drill: Rotosonic (6 inch casing by 4 inch core barrel)
Rock Drill: Rotosonic
Sample Type: Rotosonic

LOG SCALE: 1 in = 5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tommy Ardito

INSPECTOR: Michael Boatman, PG
CHECKED BY: Rachel Kirkman, PG
DATE: 5/24/21

GOLDER
MEMBER OF WSP

BOREHOLE RECORD 166849621.GPJ PIEDMONT.GDT 5/24/21

RECORD OF BOREHOLE B-118

SHEET 1 of 2

PROJECT: Plant McDonough
PROJECT NUMBER: 166849621
DRILLED DEPTH: 75.00 ft
LOCATION: West of gas pipline

DRILL RIG: TSi 150CC
DATE STARTED: 3/8/21
DATE COMPLETED: 3/9/21

NORTHING: 1,391,219.3
EASTING: 2,200,449.7
GS ELEVATION: 805.0
TOC ELEVATION: 807.70 ft

DEPTH W.L.:50.65
ELEVATION W.L.: 757.05
DATE W.L.:4/6/2021
TIME W.L.:9:36

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	PHOTO	REC
0	805	0.00 - 3.00 CL, Silty CLAY with trace to some fine sand, low plasticity; dark red; soft, dry to moist, W,PL	CL		802			
5	800	3.00 - 10.00 SP, SAND, non plasticity, uniformly graded; yellow-orange; loose, dry to moist, W<PL	SP		3.00 795	Hand Auger		0.00 10.00
10	795	10.00 - 18.50 CL, Silty CLAY with trace to some fine sand, low plasticity; red-orange and white; soft, moist, W,PL	CL		10.00 786.5	1		5.00 10.00
15	790	18.50 - 20.00 ML, Clayey SILT with trace sand and fine gravels, non plasticity; olive brown to brown; loose, dry, W<PL	ML		18.50 785			
20	785	20.00 - 25.00 SP, SAND, non plasticity, fine to coarse, poorly graded; tannish-orange; loose, moist, W<PL	SP		20.00 780	2		7.50 10.00
25	780	25.00 - 30.00 SM, SILTY SAND, low plasticity, fine to medium; orange to tan; loose/soft, moist, W<PL	SM		25.00 775			
30	775	30.00 - 32.00 ML, Sandy SILT, non plasiticity; brown to dark brown; soft, moist, W<PL	ML		30.00 773	3		2.50 2.00
35	770	32.00 - 40.00 TWR, Transitional Weathered Rock; breaks down to a SW-SM, SAND AND SILT with some gravels, non to low plasticity, fine to coarse; white; loose, wet, W<PL	TWR		32.00	4		1.00 6.00
40	765	Log continued on next page			765	5		1.50 2.00

PIEZOMETER DIAGRAM and NOTES: AquaGuard Grout

PIEZOMETER CONSTRUCTION DETAILS

WELL CASING
Interval: 0-64.85'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Flush/Screw

WELL SCREEN
Interval: 64.85-74.85'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: 74.85-75.15'

FILTER PACK
Interval: 61.8-75.15
Type: #1 Filter Sand
Quantity: 4 - 50 lbs bags

FILTER PACK SEAL
Interval: 56.6-61.8'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1 - 5 gallon bucket

ANNULUS SEAL
Interval: 0-56.6'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 80 gallons

WELL COMPLETION
Pad: 4'x4'x4" Concrete
Protective Casing: 4"x4" Aluminium

DRILLING METHODS
Soil Drill: Rotosonic (6 inch casing by 4 inch core barrel)
Rock Drill: Rotosonic
Sample Type: Rotosonic

LOG SCALE: 1 in = 5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tommy Ardito

INSPECTOR: Michael Boatman, PG
CHECKED BY: Rachel Kirkman, PG
DATE: 5/24/21

GOLDER
MEMBER OF WSP

BOREHOLE RECORD 166849621.GPJ PIEDMONT.GDT 5/24/21

RECORD OF BOREHOLE B-118

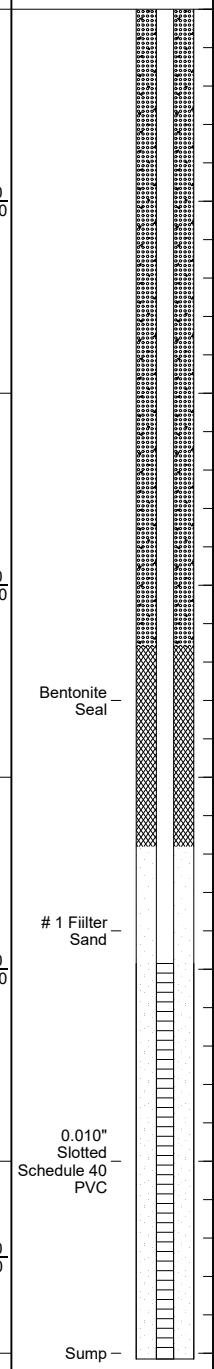
PROJECT: Plant McDonough
PROJECT NUMBER: 166849621
DRILLED DEPTH: 75.00 ft
LOCATION: West of gas pipline

DRILL RIG: TSi 150CC
DATE STARTED: 3/8/21
DATE COMPLETED: 3/9/21

NORTHING: 1,391,219.3
EASTING: 2,200,449.7
GS ELEVATION: 805.0
TOC ELEVATION: 807.70 ft

DEPTH W.L.:50.65
ELEVATION W.L.: 757.05
DATE W.L.:4/6/2021
TIME W.L.:9:36

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	PHOTO	REC
40	765	40.00 - 50.00 Slightly to moderately weathered, well folitated, moderately jointed, tan to white to gray, fine to medium grained, medium strong, plagioclase-K-spar-biotite-quartz GNEISS	BR		40.00	6		4.80 / 10.00
45	760							
50	755	50.00 - 60.00 Moderately weathered, well folitated, well jointed, tan to white to brown, fine to medium grained, weak to medium strong, plagioclase-K-spar-biotite-quartz GNEISS			755 50.00	7		2.50 / 10.00
55	750							
60	745	60.00 - 75.00 Fresh to slightly weathered, well folitated, poorly jointed, greenish gray to gray, fine to medium grained, medium strong, epidote-biotite-fledspar-quartz GNEISS			745 60.00	8		0.00 / 10.00
65	740		BR					
70	735					9		2.50 / 5.00
75	730	Boring completed at 75.00 ft			730			
80	725							



PIEZOMETER CONSTRUCTION DETAILS

WELL CASING
Interval: 0-64.85'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Flush/Screw

WELL SCREEN
Interval: 64.85-74.85'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: 74.85-75.15'

FILTER PACK
Interval: 61.8-75.15
Type: #1 Filter Sand
Quantity: 4 - 50 lbs bags

FILTER PACK SEAL
Interval: 56.6-61.8'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1 - 5 gallon bucket

ANNULUS SEAL
Interval: 0-56.6'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 80 gallons

WELL COMPLETION
Pad: 4'x4'x4" Concrete
Protective Casing: 4"x4" Aluminium

DRILLING METHODS
Soil Drill: Rotosonic (6 inch casing by 4 inch core barrel)
Rock Drill: Rotosonic
Sample Type: Rotosonic

LOG SCALE: 1 in = 5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tommy Ardito

INSPECTOR: Michael Boatman, PG
CHECKED BY: Rachel Kirkman, PG
DATE: 5/24/21

GOLDER
MEMBER OF WSP

RECORD OF BOREHOLE B-119D

PROJECT: Plant McDonough
PROJECT NUMBER: 166849621
DRILLED DEPTH: 105.00 ft
LOCATION: Offset of B-118

DRILL RIG: TSi 150CC
DATE STARTED: 3/10/21
DATE COMPLETED: 3/16/21

NORTHING: 1,391,236.4
EASTING: 2,200,446.6
GS ELEVATION: 804.5
TOC ELEVATION: 807.15 ft

DEPTH W.L.:49.94
ELEVATION W.L.: 757.21
DATE W.L.:4/5/2021
TIME W.L.:13:37

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	PHOTO	REC
0		0.00 - 12.50 CL, Sandy CLAY, low plasticity, fine to coarse; red to red-orange; soft/loose, dry to moist, W<PL	CL		792	Hand Auger		0.00 10.00
5	800							
10	795				12.50	1		7.50 9.00
		12.50 - 18.00 ML, Clayey SILT with some fine sand, low plasticity; pink-brown to tan; loose, dry to moist, W<PL	ML					
15	790				786.5			
		18.00 - 19.00 SP, SAND with trace to some silt, low plasticity, uniformly graded; white to tan; loose, dry, W<PL	SP		18.00 785.5			
20	785	19.00 - 20.00 SC, CLAYEY SAND, moderate plasticity, fine to medium; dark brown; soft, moist, W~PL	SC		19.00 784.5			
		20.00 - 21.50 SP, SAND with some silt, low plasticity, fine; white to tan to gray; loose, dry to moist, W<PL	SP		20.00 783			
		21.50 - 23.50 SM, SILTY SAND, low plasticity; beige brown; soft, moist to wet, W~PL	SM		21.50 781			
25	780	23.50 - 27.50 ML, Clayey SILT with some fine sand, moderate plasticity; light to dark brown; soft/loose, dry to moist, W<PL	ML		23.50 777	2		9.50 10.00
		27.50 - 29.00 SP, SAND with trace to some silt, non plasticity, fine to coarse; white to beige; loose, dry, W<PL	SP		27.50 775.5			
30	775	29.00 - 39.00 ML, Sandy SILT with trace gravels, low plasticity, fine; tan to light brown; loose, dry to moist, W<PL	ML		29.00	3		9.50 10.00
35	770							
					765.5			
40	765	Log continued on next page	ML		39.00	4		4.50 6.00

PIEZOMETER DIAGRAM and NOTES

AquaGuard Grout

PIEZOMETER CONSTRUCTION DETAILS

WELL CASING
Interval: 0-94.7'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Flush/Screw

WELL SCREEN
Interval: 94.7-104.7'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: 104.7-105'

FILTER PACK
Interval: 91.5-105'
Type: #1 Filter Sand
Quantity: 4.5 - 50 lbs bags

FILTER PACK SEAL
Interval: 86.5-91.5'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1 - 5 gallon bucket

ANNULUS SEAL
Interval: 0-86.5'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 160 gallons

WELL COMPLETION
Pad: 4'x4'x4" Concrete
Protective Casing: 4"x4" Aluminium

DRILLING METHODS
Soil Drill: Rotosonic (6 inch casing by 4 inch core barrel)
Rock Drill: Rotosonic
Sample Type: Rotosonic

LOG SCALE: 1 in = 5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tommy Ardito

INSPECTOR: Michael Boatman, PG
CHECKED BY: Rachel Kirkman, PG
DATE: 5/24/21

GOLDER
MEMBER OF WSP

RECORD OF BOREHOLE B-119D

PROJECT: Plant McDonough
PROJECT NUMBER: 166849621
DRILLED DEPTH: 105.00 ft
LOCATION: Offset of B-118

DRILL RIG: TSi 150CC
DATE STARTED: 3/10/21
DATE COMPLETED: 3/16/21

NORTHING: 1,391,236.4
EASTING: 2,200,446.6
GS ELEVATION: 804.5
TOC ELEVATION: 807.15 ft

DEPTH W.L.:49.94
ELEVATION W.L.: 757.21
DATE W.L.:4/5/2021
TIME W.L.:13:37

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	ELEV. / DEPTH (ft)	SAMPLE NO.	REC
40		39.00 - 45.00 ML, Sandy SILT with trace gravels and cobbles, low plasticity, fine; tan to light brown; loose, dry to wet, W<PL *(Continued)*	ML		4	4.50/6.00
45	760			759.5 45.00		
		45.00 - 50.00 TWR, Transitional Weathered Rock; breaks down to a SM, SILTY SAND with trace gravels(weatherd gneiss) low plasticity; light gray to tan; firm/compact, moist to wet, W<PL	TWR		5	6.00/5.00
50	755			754.5 50.00		
		50.00 - 53.40 Slightly to moderately weathered, well foliated, moderately jointed, gray to brown, fine grained, weak to medium strong, muscovite-quartz-feldspar-biotite GNEISS	BR			
				751.1 53.40		
55	750	53.40 - 60.00 TWR, Transitional Weathered Rock; breaks down to a SM, SILTY SAND, low plasticity; grayish brown to gray; loose, dry to moist, W<PL	TWR		6	6.20/10.00
60	745			744.5 60.00		
		60.00 - 67.00 Slightly to moderately weathered, well foliated, moderately jointed, gray to brown, fine grained, weak to medium strong, muscovite-quartz-feldspar-biotite GNEISS	BR		7	4.00/10.00
65	740			737.5 67.00		
		67.00 - 87.00 Fresh to slightly weathered, moderately foliated, poorly jointed, dark gray to black, very fine to fine grained, medium strong, feldspar-quartz-biotite GNEISS	BR			
70	735					
75	730				8	8.50/10.00
80	725					

Log continued on next page

PIEZOMETER DIAGRAM and NOTES

PIEZOMETER CONSTRUCTION DETAILS

WELL CASING
Interval: 0-94.7'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Flush/Screw

WELL SCREEN
Interval: 94.7-104.7'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: 104.7-105'

FILTER PACK
Interval: 91.5-105'
Type: #1 Filter Sand
Quantity: 4.5 - 50 lbs bags

FILTER PACK SEAL
Interval: 86.5-91.5'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1 - 5 gallon bucket

ANNULUS SEAL
Interval: 0-86.5'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 160 gallons

WELL COMPLETION
Pad: 4'x4'x4" Concrete
Protective Casing: 4"x4" Aluminium

DRILLING METHODS
Soil Drill: Rotosonic (6 inch casing by 4 inch core barrel)
Rock Drill: Rotosonic
Sample Type: Rotosonic

LOG SCALE: 1 in = 5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tommy Ardito

INSPECTOR: Michael Boatman, PG
CHECKED BY: Rachel Kirkman, PG
DATE: 5/24/21

GOLDER
MEMBER OF WSP

RECORD OF BOREHOLE B-119D

SHEET 3 of 3

PROJECT: Plant McDonough
PROJECT NUMBER: 166849621
DRILLED DEPTH: 105.00 ft
LOCATION: Offset of B-118

DRILL RIG: TSi 150CC
DATE STARTED: 3/10/21
DATE COMPLETED: 3/16/21

NORTHING: 1,391,236.4
EASTING: 2,200,446.6
GS ELEVATION: 804.5
TOC ELEVATION: 807.15 ft

DEPTH W.L.:49.94
ELEVATION W.L.: 757.21
DATE W.L.:4/5/2021
TIME W.L.:13:37

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	PHOTO	REC	PIEZOMETER DIAGRAM and NOTES
80		67.00 - 87.00 Fresh to slightly weathered, moderately foliated, poorly jointed, dark gray to black, very fine to fine grained, medium strong, feldspar-quartz-biotite GNEISS *(Continued)*	BR			9		7.00 / 10.00	Bentonite Seal # 1 Fiilter Sand
85	720				717.5				
		87.00 - 90.00 Fresh to slightly weathered, poor to moderately foliated, poorly jointed, dark gray to black, medium grained, medium strong, chlorite-epidote-quartz-feldspar-biotite GNEISS	BR		87.00				
90	715				714.5				
		90.00 - 105.00 Fresh to slightly weathered, foliated, poorly jointed, light gray to dark gray, fine to medium grained, medium strong to strong, feldspar-biotite-quartz GNEISS; locally contains garnets and k-spar augens			90.00				
95	710					10		9.00 / 10.00	
			BR						
100	705								0.010" Slotted Schedule 40 PVC
						11		4.90 / 5.00	
105	700				699.5				Sump
		Boring completed at 105.00 ft							
110	695								
115	690								
120	685								

WELL CASING
Interval: 0-94.7'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Flush/Screw

WELL SCREEN
Interval: 94.7-104.7'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: 104.7-105'

FILTER PACK
Interval: 91.5-105'
Type: #1 Filter Sand
Quantity: 4.5 - 50 lbs bags

FILTER PACK SEAL
Interval: 86.5-91.5'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1 - 5 gallon bucket

ANNULUS SEAL
Interval: 0-86.5'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 160 gallons

WELL COMPLETION
Pad: 4'x4'x4" Concrete
Protective Casing: 4"x4" Aluminium

DRILLING METHODS
Soil Drill: Rotosonic (6 inch casing by 4 inch core barrel)
Rock Drill: Rotosonic
Sample Type: Rotosonic

LOG SCALE: 1 in = 5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tommy Ardito

INSPECTOR: Michael Boatman, PG
CHECKED BY: Rachel Kirkman, PG
DATE: 5/24/21

GOLDER
MEMBER OF WSP

BOREHOLE RECORD 166849621.GPJ PIEDMONT.GDT 5/24/21

RECORD OF BOREHOLE B-120D

SHEET 1 of 2

PROJECT: Plant McDonough
PROJECT NUMBER: 166849621
DRILLED DEPTH: 70.00 ft
LOCATION: Offset of B-3

DRILL RIG: TSi 150CC
DATE STARTED: 3/5/21
DATE COMPLETED: 3/6/21

NORTHING: 1,394,047.2
EASTING: 2,202,436.4
GS ELEVATION: 834.0
TOC ELEVATION: 836.42 ft

DEPTH W.L.:33.76
ELEVATION W.L.: 802.66
DATE W.L.:4/9/2021
TIME W.L.:12:26

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	PHOTO	REC	PIEZOMETER DIAGRAM and NOTES
0		0.00 - 10.00 FILL- Backfilled with cuttings from air knife clearance			824	Air Knife		0.00 / 10.00	
10	830 / 825	10.00 - 20.00 ML, Clayey SILT with trace medium to coarse sand, non to low plasticity; tan to brown; loose, dry to moist, W<PL	ML		10.00 814	1		6.80 / 10.00	
20	820 / 815	20.00 - 27.00 SM, SILTY SAND with some gravels, non plasticity; light gray to gray; loose, dry to moist, W<PL	SM		20.00 807	2		10.00 / 10.00	
30	810 / 805	27.00 - 30.00 ML, Clayey SILT with trace medium to coarse sand, non to low plasticity; tan to brown; loose, dry to moist, W<PL	ML		27.00 804				
40	800 / 795	30.00 - 36.00 SM, SILTY SAND with trace fine to coase gravels, non plasticity; tan to brown; compact to dense, dry to moist, W<PL	SM		30.00 798	3		8.00 / 10.00	AquaGuard Grout
		36.00 - 40.00 TWR, Transitional Weathered Rock; breaks down to a SM, SILTY SAND with trace fine to coase gravels, non plasticity; olive to tan to brown; compact to dense, dry to moist, W<PL	TWR		36.00 794				
		Log continued on next page							

WELL CASING
Interval: 0-59'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Flush/Screw

WELL SCREEN
Interval: 59-69'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: 69.0-69.3'

FILTER PACK
Interval: 56.0-69.3'
Type: #1 Filter Sand
Quantity: 5.5 - 50 lbs bags

FILTER PACK SEAL
Interval: 53-56'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1 - 5 gallon bucket

ANNULUS SEAL
Interval: 0-53'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 80 gallons

WELL COMPLETION
Pad: 4'x4'x4" Concrete
Protective Casing: 4"x4" Aluminium

DRILLING METHODS
Soil Drill: Rotosonic (6 inch casing by 4 inch core barrel)
Rock Drill: Rotosonic
Sample Type: Rotosonic

LOG SCALE: 1 in = 5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tommy Ardito

INSPECTOR: Michael Boatman, PG
CHECKED BY: Rachel Kirkman, PG
DATE: 5/24/21

GOLDER
MEMBER OF WSP

BOREHOLE RECORD 166849621.GPJ PIEDMONT.GDT 5/24/21

RECORD OF BOREHOLE B-120D

PROJECT: Plant McDonough
PROJECT NUMBER: 166849621
DRILLED DEPTH: 70.00 ft
LOCATION: Offset of B-3

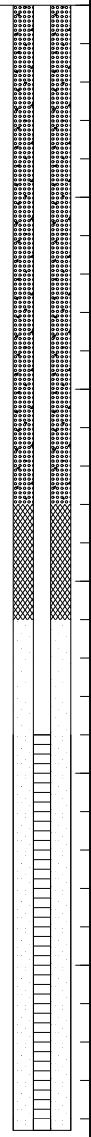
DRILL RIG: TSi 150CC
DATE STARTED: 3/5/21
DATE COMPLETED: 3/6/21

NORTHING: 1,394,047.2
EASTING: 2,202,436.4
GS ELEVATION: 834.0
TOC ELEVATION: 836.42 ft

DEPTH W.L.:33.76
ELEVATION W.L.: 802.66
DATE W.L.:4/9/2021
TIME W.L.:12:26

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	PHOTO	REC
40		40.00 - 70.00 Fresh to slightly weatherd, well foliated, poorly jointed, white to dark gray, fine to coarse grained, biotite-feldspar-quartz GNEISS; locally the felspars are augened	BR		40.00	4		7.80/10.00
45	790							
50	785					5		6.20/10.00
55	780							
60	775					6		8.50/10.00
65	770							
70	765				764			
		Boring completed at 70.00 ft						
75	760							
80	755							

PIEZOMETER DIAGRAM and NOTES



PIEZOMETER CONSTRUCTION DETAILS

WELL CASING
Interval: 0-59'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Flush/Screw

WELL SCREEN
Interval: 59-69'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: 69.0-69.3'

FILTER PACK
Interval: 56.0-69.3'
Type: #1 Filter Sand
Quantity: 5.5 - 50 lbs bags

FILTER PACK SEAL
Interval: 53-56'
Type: 3/8" Uncoated Pel-Plug
Quantity: 1 - 5 gallon bucket

ANNULUS SEAL
Interval: 0-53'
Type: AquaGuard Bentonite Grout
Quantity: Approximately 80 gallons

WELL COMPLETION
Pad: 4'x4'x4" Concrete
Protective Casing: 4"x4" Aluminium

DRILLING METHODS
Soil Drill: Rotosonic (6 inch casing by 4 inch core barrel)
Rock Drill: Rotosonic
Sample Type: Rotosonic

LOG SCALE: 1 in = 5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tommy Ardito

INSPECTOR: Michael Boatman, PG
CHECKED BY: Rachel Kirkman, PG
DATE: 5/24/21

GOLDER
MEMBER OF WSP

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: 4/12/21
Casing Type: PVC
Well/Boring Number: B-112D
Casing Diameter in inches (Dr): 2 in
Screened Interval: 54.6 - 44.6
Riser Stickup:
Total Well Depth (Lw) in feet: 54.60
Depth to Water (Lf) in feet: 6.87
Time of Measurement: 12:18

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = 7.18 Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	pump rate	WL (feet)
Before Development	4/12 12:40	6.18	316.0	6.83	17.90	0	0.5 gal/min	8.56
Purging 1 Well Vol	4/12 12:50	6.66	307.3	4.97	17.40	5	0.5 gal/min	8.60
2 Well Vol	4/12 13:00	6.68	281.1	5.80	17.37	10	0.5 gal/min	8.60
3 Well Vol	4/12 13:15	6.63	262.1	4.16	17.56	17.5	0.5 gal/min	8.83
4 Well Vol	4/12 13:30	6.59	234.7	3.74	17.48	25	0.5 gal/min	8.60
5 Well Vol	4/12 13:45	6.55	234.2	5.99	17.46	32.5	0.5 gal/min	8.83
6 Well Vol	4/12 14:00	6.54	232.9	3.45	17.44	40	0.5 gal/min	8.75
7 Well Vol	4/12 14:15	6.49	222.6	11.7	17.60	47.5	0.5 gal/min	9.45
8 Well Vol	4/12 14:30	6.52	224.6	4.52	17.59	55	0.5 gal/min	9.05
9 Well Vol	4/12 14:45	6.52	217.7	5.73	17.54	62.5	0.5 gal/min	9.00
10 Well Vol	4/12 15:00	6.50	212.3	3.23	17.59	70	0.5 gal/min	8.81
11 Well Vol								
12 Well Vol								
13 Well Vol								
14 Well Vol								
15 Well Vol								

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump): Reclaimer
If pumped, pumping rate: 0.5 gal/min
Well Purged Dry: No
Continuous Recharge: yes
Notes concerning condition of well, odors, color, etc.:

Developer's Signature: Stephanie Brodie Date: 4/12/21
PM's Signature: Date: 4/19/2021

4/12 12:40 - pump @ 1 foot from bottom, surged
3:00 - moved pump from 1 foot to 3 feet from bottom, surged
:30 - moved pump to 6 feet from bottom, surged
:00 - moved pump to 9 feet from bottom, surged
:30 - moved to mid screen, surged

Total Volume 72 gallons

PURGING AND SAMPLING FORM

Project #: 166849621	Project Name/Site Name: SCS Plant McDonough		Page: 2 of 2
ID #: B-112D	Date: 4/12/21	Water Level (ft): ~~47.61~~ 7.50	Time (WL): 15:05
Physical Condition of Well: good		Weather: Sunny, 82°F	
Well Diameter (in): 2	Well Depth (ft): 54.60	Water Column (ft): 47.1	Well Volume (gal): 7.7
Start Purge: 15:10	End Purge: 15:25	Top of Pump (ft): ~~47.60~~ 46.60	
Evacuation Method: Low-Flow		Volume Removed (gal): ~~1.5~~ 1.6 gal, 6L	
Evacuation Equipment: Reclaimers		Purging Personnel: S. Brodie, E. Rheams	
SmarTroll serial #: 512733		Lamotte serial #: 4392-1914	

Pu Data/Field Parameters

Time	Color & Appearance	Odor	pH (S.U.)	Cond. (uS/cm)	DO (mg/L)	Temp (C)	ORP (mV)	Turbidity (NTU)	DTW (ft BTOC)	Pumping Rate
15:15	clear	none	6.49	216.90	0.69	19.10	590.00	3.55	7.44	400 mL/min
15:20	clear	none	6.49	216.50	0.68	19.01	570.10	4.38	7.36	400 mL/min
15:25	clear	none	6.49	216.20	0.68	19.01	558.20	4.98	7.38	400 mL/min

Stabilization Criteria: pH ± 0.1 S.U, Conductivity ± 5%, Dissolved Oxygen ± 10% or 0.2Mg/L(whichever is greater; for DO < 0.5mg/L, record only, no stabilization criteria), Turbidity ≤5 NTU; Purge volume ≥3L purge water, water level ≤ 0.3 ft; Temp and ORP record only

Sample Description

Sample ID: _____ Sample Date/Time: _____ Metals Date/Time: _____

Duplicate: _____ Dup Date/Time: _____ Final Turbidity NTU: _____

Field Blank: _____ Blank Date/Time: _____ Turbidity Date/Time: _____

# Sample Bottles	Container	Preservative	Analyte(s)
1	250 mL plastic	HNO3	Metals
1	250 mL plastic	--	Cl, F, SO_4, Alkalinity
1	500 mL plastic	--	TDS
2	1 L plastic	HNO3	Radium 226/228 (SW-846 9315/9320)

Signature: Steph Brodie

GOLDER

Product Name: Low-Flow System

Date: 2021-04-12 15:27:36

Project Information:		Pump Information:	
Operator Name	S.Brodie	Pump Model/Type	Reclaimer
Company Name	Golder	Tubing Type	polyethylene
Project Name	166849621	Tubing Diameter	.5 in
Site Name	Plant McDonough	Tubing Length	46.60 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	46.6 ft

Well Information:		Pumping Information:	
Well ID	B-112D	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	1.889269 L
Well Total Depth	54.60 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	7.50 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		+/- 0.3	+/- 10
Last 5	15:14:08	300.05	19.10	6.49	216.93	3.55	7.44	0.69	590.00
Last 5	15:19:08	600.02	19.01	6.49	216.46	4.38	7.36	0.68	570.12
Last 5	15:24:08	900.02	19.01	6.49	216.23	4.98	7.38	0.68	558.16
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.09	0.00	-0.47			-0.01	-19.88
Variance 2			-0.00	-0.00	-0.24			-0.00	-11.96

Notes

Grab Samples

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: 4/12/21
Casing Type: PVC
Well/Boring Number: 13-113D
Casing Diameter in inches (Dr): 2 in
Screened Interval: 10
Riser Stickup: —
Total Well Depth (Lw) in feet: 83.87
Depth to Water (Lf) in feet: 1.46
Time of Measurement: 1200 pm.

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = 13.5 Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	GW	Flow ~~Pump~~ rate	pump depth from bottom (ft)
	1210								
Before Development	~~1205~~					0	0	0.5 gal/min	1
Purging									
1 Well Vol	1225	8.95	803.0	1852	17.05	5	31.90	~~0.5~~ 0.5	1
2 Well Vol	1240	8.97	502.7	3501	19.01	10	69.15	0.25gal/min	1
3 Well Vol	1250	9.10	274.9	41	19.05		75.10	1.	1
4 Well Vol	1300	9.15	943.8	4049	17.11		78.80		
5 Well Vol	1310	9.26	1165.0	overrange	18.20	15	79.00		
6 Well Vol	1315		pause pumping				dry		
7 Well Vol	1325						77.00		
8 Well Vol	1335						75.93		
9 Well Vol	1345						75.01		
10 Well Vol	1355						72.90		
11 Well Vol	1405						71.69		
12 Well Vol	1415		resume pumping				70.49	80.0 mL/min	1
13 Well Vol	1425	8.60	482.1	40.7	20.44		75.11		
14 Well Vol	1435	8.35	440.7	49	21.05		77.97		
15 Well Vol	1438		pause pumping				dry		

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) _____ If pumped, pumping rate: _____
Well Purged Dry _____ Continuous Recharge _____
Notes concerning condition of well, odors, color, etc.: _____

Developer's Signature: Yong Cheng Su Date: 4/12/21
PM's Signature: [signature] Date: 4/19/2021

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: 4/12/21
Casing Type: PVC
Well/Boring Number: B-1130
Casing Diameter in inches (Dr): 2 in
Screened Interval: 10
Riser Stickup:
Total Well Depth (Lw) in feet: 83.87
Depth to Water (Lf) in feet:
Time of Measurement:

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = _____ Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	GW
~~Before Development~~	1515						74.05
Purging 1 Well Vol	1530						70.61
2 Well Vol	1540						68.16
3 Well Vol	1550						65.70
4 Well Vol	1600			resume	pumping.		64.00
5 Well Vol	1610	8.38	413.7	48.4	22.22	20	64.02
6 Well Vol	1620	8.23	317.1	43.6	17.58		74.00
7 Well Vol	1630	8.28	323.5	45.0	18.25		96.92
8 Well Vol	1640	8.14	354.1	60.0	16.58		78.32
9 Well Vol	1650	44					dry.
10 Well Vol							
11 Well Vol							
12 Well Vol							
13 Well Vol							
14 Well Vol							
15 Well Vol							

Flow Rate mL/min: 600mL/min

pump depth from bottom (ft): 1

1

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) _____ If pumped, pumping rate: _____
Well Purged Dry _____ Continuous Recharge _____
Notes concerning condition of well, odors, color, etc.: _____

Developer's Signature: Yong Cheng Soo Date: 4/12/21
PM's Signature: [signature] Date: 4/19/2021

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: ~~B-113D~~ 4/13/21
Casing Type: PVC
Well/Boring Number: B-113D
Casing Diameter in inches (Dr): 2 in
Screened Interval: 10
Riser Stickup: —
Total Well Depth (Lw) in feet: 33.87
Depth to Water (Lf) in feet: 4.34
Time of Measurement: 0933

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = 13.0 Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	GW	Flow Rate mL/min	pump def from btc
Before Development	0950		start pumping			0	7.28	600	8
Purging 1 Well Vol			pump clogged switch pump						
2 Well Vol	1047		start pumping				12.38	600	8
3 Well Vol	1055	7.29	345.5	140	18.97		19.33		
4 Well Vol	1105	7.55	3447	1098AU	18.51		27.02		
5 Well Vol	1115	7.64	3326	106.8	19.32	5	31.29	400	
6 Well Vol	1125	7.71	342.4	29.1	19.14		36.58	300	
7 Well Vol	1135	7.74	344.9	41.4	19.26		40.42		
8 Well Vol	1145	7.76	349.6	28.3	19.63		43.65		
9 Well Vol	1155	7.79	357.4	28.2	20.13		46.21		
10 Well Vol	1205	7.78	358.6	22.5	20.89		47.56		
11 Well Vol	1215	7.81	358.6	22.7	19.85		50.68		
12 Well Vol	1225	7.80	359.0	25.8	20.31	10	52.51		
13 Well Vol	1235	7.82	349.1	18.2	20.77		54.50		
14 Well Vol	1245	7.81	353.8	20.4	20.11		57.97	300	8
15 Well Vol	1255	7.81	352.9	19.3	20.61		59.60	300	8 5

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) _____ If pumped, pumping rate: _____
Well Purged Dry _____ Continuous Recharge _____
Notes concerning condition of well, odors, color, etc.: _____

Developer's Signature: Yong Cheng Soo Date: 4/13/21
PM's Signature: [signature] Date: 4/19/2021

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: 4/13/21
Casing Type: PVC
Well/Boring Number: B-113D
Casing Diameter in inches (Dr): 2 in
Screened Interval: 10 -
Riser Stickup:
Total Well Depth (Lw) in feet: 83.87
Depth to Water (Lf) in feet:
Time of Measurement:

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = _____ Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	GW	Flow Rate (mL/min)	Pump Depth from Bottom (ft)
~~Before Development~~	1305	7.83	360.8	26.3	20.08		61.31	300	5
Purging 1 Well Vol	1315	7.80	357.8	817 AV	21.11		63.48	300	5
2 Well Vol	1325	7.80	354.2	920 AV	21.01		64.54		
3 Well Vol	1335	7.80	357.3	729 AV	20.75	15	65.42		
4 Well Vol	1345	7.82	351.3	143	20.61		66.01		
5 Well Vol	1355	7.80	352.3	80.9	19.12		64.26		
6 Well Vol	1405	7.80	353.4	143	19.48		72.23		
7 Well Vol	1415	7.82	366.8	135	19.62		74.62		
8 Well Vol	1425	7.82	373.3	59.4	19.77		74.51		
9 Well Vol	1435	7.81	367.2	144	20.63		74.68		
10 Well Vol	1445	7.80	366.4	59	21.07	20	74.64		
11 Well Vol	1455	7.85	383.0	76	19.37		75.00		
12 Well Vol	1505	7.85	357.2	63.5	20.08		75.03		
13 Well Vol	1514	pause pumping					dry		
14 Well Vol	1615	resume pumping					62.15		
15 Well Vol	1625	7.86	345.3	45.7	22.22		64.81	purge dry	bottom

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) _____ If pumped, pumping rate: _____
Well Purged Dry _____ Continuous Recharge _____
Notes concerning condition of well, odors, color, etc.: _____

Developer's Signature: Yong Cheng Soo Date: 4/16/21
PM's Signature: [signature] Date: 4/19/2021

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: 4/13/21
Casing Type: PVC
Well/Boring Number: B-113D
Casing Diameter in inches (Dr): 2 in
Screened Interval:
Riser Stickup:
Total Well Depth (Lw) in feet:
Depth to Water (Lf) in feet:
Time of Measurement:

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = _____ Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)
Before Development	1640		purge	dry		25.5
Purging						
1 Well Vol						
2 Well Vol						
3 Well Vol						
4 Well Vol						
5 Well Vol						
6 Well Vol						
7 Well Vol						
8 Well Vol						
9 Well Vol						
10 Well Vol						
11 Well Vol						
12 Well Vol						
13 Well Vol						
14 Well Vol						
15 Well Vol						

pump @ bottom

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) _____ If pumped, pumping rate: _____
Well Purged Dry _____ Continuous Recharge _____
Notes concerning condition of well, odors, color, etc.: _____

Developer's Signature: Yong Cheng Soo Date: 4/13/21
PM's Signature: Date: 4/19/2021

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: 4/14/21
Casing Type: PVC
Well/Boring Number: B-113D
Casing Diameter in inches (Dr): 2 in
Screened Interval: 10
Riser Stickup: —
Total Well Depth (Lw) in feet: 83.87
Depth to Water (Lf) in feet: 4.30
Time of Measurement: 9.20 am

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = 120 Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	GW	Flow Rate mL/min	Pump dg from btm (ft)
Before Development	9.07	—	Start	—	—	0	4.30	100	5
Purging 1 Well Vol	0935	7.40	323.4	59.7	19.40		7.94		5
2 Well Vol	0945	7.55	345.7	31.3	18.96		8.89		
3 Well Vol	0955	7.62	363.6	20.3	19.16	2.8L	9.79		
4 Well Vol	1005	7.67	384.8	21.2	19.14		11.18		
5 Well Vol	1015	7.69	389.7	15.2	19.89		12.02		
6 Well Vol	1025 ~~1020~~	7.72	388.9	15.1	19.63		13.31		
7 Well Vol	~~1035~~	7.73	394.0	12.7	20.28		14.31		
8 Well Vol	1045	7.73	399.5	7.91	20.12		15.40		
9 Well Vol	1055	7.73	403.3	5.78	21.14	8.8L	15.68		
10 Well Vol	1100 ~~1105~~	start low flow					15.98		
11 Well Vol	~~1115~~								
12 Well Vol									
13 Well Vol									
14 Well Vol									
15 Well Vol									

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) _____ If pumped, pumping rate: _____
Well Purged Dry _____ Continuous Recharge _____
Notes concerning condition of well, odors, color, etc.: _____

Developer's Signature: Yong Cheng Soo Date: 4/14/21
PM's Signature: [signature] Date: 4/19/2021

Total volume = 48 gallons

~~Page 1~~ 6 of 6

PURGING AND SAMPLING FORM

Project #: 166849621	Project Name/Site Name: SCS Plant McDonough		Page: 1 of ___
Well ID #: B-113D	Date: 4/14/21	Water Level (ft):	Time (WL):
Physical Condition of Well: Good		Weather: Sunny	
Well Diameter (in): 2	Well Depth (ft): 83.87	Water Column (ft):	Well Volume (gal):
art Purge: 1100	End Purge:	Top of Pump (ft): ~~75.87~~ ~~72.37~~ 78.87	
Evacuation Method: Low-Flow		Volume Removed (gal):	
Evacuation Equipment: Reclaimer		Purging Personnel: Yong Chung Soo	
SmarTroll serial #: 642531		Lamotte serial #: 4392-1914	

Purge Data/Field Parameters

Time	Color & Appearance	Odor	pH (S.U.)	Cond. (uS/cm)	DO (mg/L)	Temp (C)	ORP (mV)	Turbidity (NTU)	DTW (ft BTOC)	Pumping Rate
1105	Clear	None	7.75	401.80	0.41	21.15	32.30	7.31	16.52	100 mL/min
1110	Clear	None	7.74	403.80	0.36	21.11	19.10	6.24	16.88	100 mL/min
1115	"	"	7.74	399.10	0.32	21.15	6.50	4.81	17.34	
1120	"	"	7.74	396.60	0.29	20.76	-5.00	4.68	17.82	
1125			7.73	393.50	0.27	21.41	-15.00	4.61	18.22	
				Finished Low Flow						

Stabilization Criteria: pH ± 0.1 S.U, Conductivity ± 5%, Dissolved Oxygen ± 10% or 0.2Mg/L(whichever is greater; for DO < 0.5mg/L, record only, no stabilization criteria), Turbidity ≤5 NTU; Purge volume ≥3L purge water, water level ≤ 0.3 ft; Temp and ORP record only

Sample Description

Sample ID: _____ Sample Date/Time: _____ Metals Date/Time: _____

Duplicate: _____ Dup Date/Time: _____ Final Turbidity NTU: _____

Field Blank: _____ Blank Date/Time: _____ Turbidity Date/Time: _____

# Sample Bottles	Container	Preservative	Analyte(s)
1	250 mL plastic	HNO3	Metals
1	250 mL plastic	--	Cl, F, SO_4, Alkalinity
1	500 mL plastic	--	TDS
2	1 L plastic	HNO3	Radium 226/228 (SW-846 9315/9320)

Signature: _____

GOLDER

Product Name: Low-Flow System

Date: 2021-04-14 11:26:48

Project Information:		Pump Information:	
Operator Name	Y.C. Soo	Pump Model/Type	Reclaimer
Company Name	Golder	Tubing Type	polyethylene
Project Name	166849621	Tubing Diameter	.5 in
Site Name	Plant McDonough	Tubing Length	78.87 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	642531		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	78.87 ft

Well Information:		Pumping Information:	
Well ID	B-113D	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	3.135244 L
Well Total Depth	83.87 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	26.9 in
Depth to Water	15.68 ft	Total Volume Pumped	11.8 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		+/- 0.3	+/- 10
Last 5	11:05:04	300.08	21.15	7.75	401.76	7.31	16.52	0.41	32.26
Last 5	11:10:04	600.01	21.11	7.74	403.82	6.24	16.88	0.36	19.07
Last 5	11:15:04	900.00	21.15	7.74	399.15	4.81	17.34	0.32	6.49
Last 5	11:20:04	1199.99	20.76	7.74	396.55	4.68	17.82	0.29	-5.04
Last 5	11:25:04	1499.98	21.41	7.73	393.49	4.61	18.22	0.27	-14.96
Variance 0			0.03	0.00	-4.68			-0.04	-12.58
Variance 1			-0.39	-0.00	-2.59			-0.03	-11.53
Variance 2			0.65	-0.01	-3.06			-0.02	-9.92

Notes

Grab Samples

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: 4/7/21
Casing Type: PVC
Well/Boring Number: B-115D
Casing Diameter in inches (Dr): 2 in
Screened Interval: 82.97 - 72.97
Riser Stickup:
Total Well Depth (Lw) in feet: 82.97
Depth to Water (Lf) in feet: 19.32
Time of Measurement: 14:15

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = 10.4 Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Time	pH (S.U.)	Conduc-tivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	pump rate	WL (Feet)
Before Development	4/7 15:00	5.99	592.9	21.0	25.33	0	0.5 gal/min	35.55
Purging 1 Well Vol	4/7 15:10	5.90	592.4	13.0	20.34	5	0.5 gal/min	50.60
2 Well Vol	4/7 15:20	5.89	613.9	8.43	20.31	7.5	0.25 gal/min	60.32
3 Well Vol	4/7 15:30	5.76	621.2	7.68	20.48	10	0.25 gal/min	63.45
4 Well Vol	4/7 15:40	5.79	615.5	5.9	20.60	12.5	0.25 gal/min	69.09
5 Well Vol	4/7 15:55	5.30	622.8	2.06	20.42	15.3	700 mL/min	69.72
6 Well Vol	4/7 16:10	5.56	623.1	4.42	20.82	18.3	500 mL/min	68.17
7 Well Vol	4/7 16:20	5.31	625.6	1.24	20.59	18.6	500 mL/min	67.68
8 Well Vol	4/7 16:35	5.37	619.4	12.1	20.97	20.6	500 mL/min	68.48
9 Well Vol	4/7 16:45	5.20	621.2	2.68	21.49	21.9	500 mL/min	67.92
10 Well Vol	4/7 16:55	5.15	619.9	1.64	21.40	23.2	500 mL/min	67.79
11 Well Vol	4/8 9:00	4.91	632.9	6.82	19.50	23.2	1000 mL/min	27.96
12 Well Vol	4/8 9:10	4.71	622	5.27	19.82	25.8	1000 mL/min	38.80
13 Well Vol	4/8 9:20	4.79	621.2	13.7	19.77	28.4	1000 mL/min	52.35
14 Well Vol	4/8 9:30	4.87	619.4	6.97	19.60	29.7	500 mL/min	53.53
15 Well Vol	4/8 9:45	4.91	617.5	2.20	19.52	31.7	500 mL/min	54.20

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump): Reciprocating pump — If pumped, pumping rate: 500 mL/min to 0.5 gal/min
Well Purged Dry: No — Continuous Recharge:
Notes concerning condition of well, odors, color, etc.:

Developer's Signature: Stephanie Brodie — Date: 4/7/21
PM's Signature: [signature] — Date: 4/19/2021

4/7
15:00: pump @ 1 ft from bottom
4/7 15:30: moved pump to 3 ft from bottom, surged
4/7 15:55: changed pump rate to allow for recharge
4/7 16:20: moved pump to 6 ft from bottom, surged

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: 4/8/21
Casing Type: PVC
Well/Boring Number: B-115D
Casing Diameter in inches (Dr): 2 in
Screened Interval: 82.97 - 72.97
Riser Stickup:
Total Well Depth (Lw) in feet: 82.97
Depth to Water (Lf) in feet: 19.32
Time of Measurement: 14:15

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = 10.4 Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	pump rate	WL (Feet)
Before Development	4/8 10:00	5.70	728.5	13.4	19.59	33.7	500 mL/min	54.30
Purging 1 Well Vol	4/8 10:15	5.00	6250	2.92	19.60	35.7	500 mL/min	53.55
2 Well Vol	start LOW FLOW							
3 Well Vol								
4 Well Vol								
5 Well Vol								
6 Well Vol								
7 Well Vol								
8 Well Vol								
9 Well Vol								
10 Well Vol								
11 Well Vol								
12 Well Vol								
13 Well Vol								
14 Well Vol								
15 Well Vol								

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump): Reclaimer — If pumped, pumping rate: 500 mL/min to 0.5 gal/min
Well Purged Dry: no — Continuous Recharge: yes
Notes concerning condition of well, odors, color, etc.:

Developer's Signature: Stephanie Brodie — Date: 4/8/21
PM's Signature: [signature] — Date: 4/19/2021

4/8 9:45 - moved pump to middle of screen, surged

Total volume 37 gallons

PURGING AND SAMPLING FORM

Project #: 166849621	Project Name/Site Name: SCS Plant McDonough		Page: 3 of 3
Well ID #: B-115D	Date: 9/8/21	Water Level (ft): 53.55	Time (WL): 10:15
Physical Condition of Well: good		Weather: cloudy, 63°F	
Well Diameter (in): 2	Well Depth (ft): 82.97	Water Column (ft): 29.42	Well Volume (gal): 4.8
Start Purge: 10:30	End Purge: 11:00	Top of Pump (ft): 74.97	
Evacuation Method: Low-Flow		Volume Removed (gal): 2.38 gal, 9 L	
Evacuation Equipment: Reclaimer		Purging Personnel: S. Brodie	
SmarTroll serial #: 512733		Lamotte serial #: 568-0111	

Purge Data/Field Parameters

Time	Color & Appearance	Odor	pH (S.U.)	Cond. (uS/cm)	DO (mg/L)	Temp (C)	ORP (mV)	Turbidity (NTU)	DTW (ft BTOC)	Pumping Rate
10:35	clear	none	4.91	627.8	0.55	19.50	207.10	2.39	49.31	300 mL/min
10:40	clear	none	4.82	629.70	0.60	19.58	210.10	1.13	48.42	300 mL/min
10:45	clear	none	4.79	628.10	0.13	19.59	211.40	0.98	47.65	300 mL/min
11:00	clear	none	4.83	627.80	0.11	19.64	209.00	1.33	47.10	300 mL/min

Stabilization Criteria: pH ± 0.1 S.U, Conductivity ± 5%, Dissolved Oxygen ± 10% or 0.2Mg/L(whichever is greater; for DO < 0.5mg/L, record only, no stabilization criteria), Turbidity ≤5 NTU; Purge volume ≥3L purge water, water level ≤ 0.3 ft; Temp and ORP record only

Sample Description

Sample ID: _____ Sample Date/Time: _____ Metals Date/Time: _____

Duplicate: _____ Dup Date/Time: _____ Final Turbidity NTU: _____

Field Blank: _____ Blank Date/Time: _____ Turbidity Date/Time: _____

# Sample Bottles	Container	Preservative	Analyte(s)
	250 mL plastic	HNO3	
	500 mL plastic	--	Alkalinity (Carbonate/Bicarbonate)
	1 L plastic	HNO3	Radium 226/228 (SW-846 9315/9320)

Signature: Stephan Brodie

GOLDER

Product Name: Low-Flow System

Date: 2021-04-08 10:55:31

Project Information:		Pump Information:	
Operator Name	S.Brodie	Pump Model/Type	Reclaimer
Company Name	Golder	Tubing Type	polyethylene
Project Name	166849621	Tubing Diameter	.5 in
Site Name	Plant McDonough	Tubing Length	74.97 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	74.97 ft

Well Information:		Pumping Information:	
Well ID	B-115D	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	2.984661 L
Well Total Depth	82.97 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	53.55 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			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 0.3	+/- 10
Last 5	10:36:21	300.17	19.50	4.91	627.83	2.39	49.31	0.55	207.14
Last 5	10:41:21	600.02	19.58	4.82	629.65	1.13	48.42	0.60	210.12
Last 5	10:46:21	900.02	19.59	4.79	628.08	0.98	47.65	0.13	211.37
Last 5	10:51:21	1200.02	19.64	4.83	627.84	1.33	47.10	0.11	208.98
Last 5									
Variance 0			0.09	-0.09	1.82			0.05	2.98
Variance 1			0.01	-0.03	-1.57			-0.48	1.25
Variance 2			0.04	0.04	-0.24			-0.02	-2.39

Notes

Grab Samples

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: 4/6/21
Casing Type: PVC
Well/Boring Number: B-116D
Casing Diameter in inches (Dr): 2 in
Screened Interval: 82.45 - 92.45
Riser Stickup:
Total Well Depth (Lw) in feet: 92.45
Depth to Water (Lf) in feet: 40.82
Time of Measurement: 15:11

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = 8.42 Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

		Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	Pump rate	WL (feet)
Before Development	4/6	15:45	6.54	1404	643	24.81	0	0.5 gal/min	50.47
Purging 1 Well Vol	4/6	15:50	6.26	157.4	641	17.53	2.5	0.5 gal/min	58.00
2 Well Vol	4/6	16:00	6.29	157.3	64.5	17.29	7.6	0.5 gal/min	73.20
3 Well Vol	4/6	16:10	6.31	166.4	59.9	17.56	10	0.25 gal/min	74.40
4 Well Vol	4/6	16:25	6.31	178.8	1848	17.66	13.75	0.25 gal/min	73.35
5 Well Vol	4/6	16:30	6.29	178.6	680	17.54	16.25	0.5 gal/min	75.78
6 Well Vol	4/6	16:35	6.28	158.9	49.6	17.19	18.75	0.5 gal/min	79.65
7 Well Vol	4/6	16:50	6.74	157.0	103.8	18.43	22.5	0.25 gal/min	80.11
8 Well Vol	4/6	16:55	6.29	159.7	46.5	17.36	23.75	0.25 gal/min	80.02
9 Well Vol	4/6	17:00	→ stopped pumping						
10 Well Vol	4/7	9:45	6.44	152.9	1986	18.34	23.75	0.25 gal/min	49.00
11 Well Vol	4/7	10:00	6.29	151.6	54	17.36	27.5	0.25 gal/min	55.46
12 Well Vol	4/7	10:15	6.19	150.7	39.5	17.05	31.25	0.25 gal/min	56.65
13 Well Vol	4/7	10:30	6.20	152.0	12.3	17.11	35	0.25 gal/min	58.00
14 Well Vol	4/7	10:45	6.20	151.3	105	17.39	38.75	0.25 gal/min	60.81
15 Well Vol	4/7	11:00	6.21	152.7	22.8	17.33	42.5	0.25 gal/min	61.75

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump): Reclaimer If pumped, pumping rate: 0.25 - 0.5 gal/min
Well Purged Dry: no Continuous Recharge: yes
Notes concerning condition of well, odors, color, etc.:

Developer's Signature: Stephanie Brodie Date: 4/6/21
PM's Signature: [signature] Date: 4/19/2021

4/6 16:10 - move pump to 3 ft from bottom of screen, surged
4/7 9:45 - moved pump to 6 feet from bottom of screen, surged
4/7 10:30 - moved pump to 9 feet from bottom, surged

GOLDER

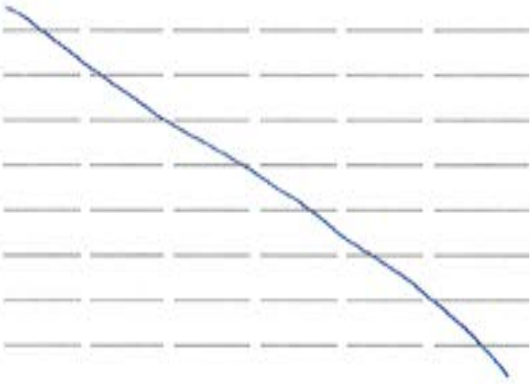
MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: 4/7/21
Casing Type: PVC
Well/Boring Number: B-116D
Casing Diameter in inches (Dr): 2 in
Screened Interval: 82.45 - 92.45
Riser Stickup:
Total Well Depth (Lw) in feet: 92.45
Depth to Water (Lf) in feet: 40.82
Time of Measurement: 15:11

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = 8.42 Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

		Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	Pump rate	WL (Feet)
Before Development	4/7	11:15	6.25	169.3	3640	17.43	46.25	0.25 gal/min	60.89
Purging 1 Well Vol	4/7	11:30	6.21	152.9	895	17.90	50	0.25 gal/min	60.87
2 Well Vol	4/7	11:45	6.22	147.5	69.8	17.99	53.75	0.25 gal/min	58.38
3 Well Vol	4/7	12:00	6.20	148.3	48.1	17.64	57.5	0.25 gal/min	58.05
4 Well Vol	4/7	12:15	6.20	146.7	6.20	17.65	61.25	0.25 gal/min	57.90
5 Well Vol		Starting low flow							
6 Well Vol									
7 Well Vol									
8 Well Vol									
9 Well Vol									
10 Well Vol									
11 Well Vol									
12 Well Vol									
13 Well Vol									
14 Well Vol									
15 Well Vol									



(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump): Reclaimer
If pumped, pumping rate: 0.25 - 0.5 gal/min
Well Purged Dry: NO
Continuous Recharge: yes
Notes concerning condition of well, odors, color, etc.:

Developer's Signature: Stephanie Brodi Date: 4/7/21
PM's Signature: [signature] Date: 4/19/2021

4/7 11:00 moved pump to middle of screen (5ft from bottom), surged

Total volume 70 gallons

PURGING AND SAMPLING FORM

Project #: 166849621	Project Name/Site Name: SCS Plant McDonough		Page: 3 of 3
Well ID #: B-116D	Date: 4/7/21	Water Level (ft): 57.90	Time (WL): 12:15
Physical Condition of Well: good, new		Weather: sunny, 75	
Well Diameter (in): 2	Well Depth (ft): 92.45	Water Column (ft): 34.55	Well Volume (gal): 5.63
Start Purge: 12:35	End Purge: 13:00	Top of Pump (ft): 80.45	
Evacuation Method: Low-Flow		Volume Removed (~~gal~~): 8L, 2.1 gal	
Evacuation Equipment: Reclaimer		Purging Personnel: S. Brodie	
SmarTroll serial #: 512-733		Lamotte serial #: 568-0111	

Purge Data/Field Parameters

Time	Color & Appearance	Odor	pH (S.U.)	Cond. (uS/cm)	DO (mg/L)	Temp (C)	ORP (mV)	Turbidity (NTU)	DTW (ft BTOC)	Pumping Rate
12:40	clear	none	6.20	156.90	3.59	18.63	-128.9	2.21	48.35	400 mL/min
12:45	clear	none	6.18	155.90	3.97	18.39	-106.7	1.55	47.87	400 mL/min
12:50	clear	none	6.16	150.30	4.10	18.44	-90.10	1.42	47.85	400 mL/min
13:00	clear	none	6.14	147.30	4.11	18.45	-68.10	3.03	47.85	400 mL/min

Stabilization Criteria: pH ± 0.1 S.U, Conductivity ± 5%, Dissolved Oxygen ± 10% or 0.2Mg/L(whichever is greater; for DO < 0.5mg/L, record only, no stabilization criteria), Turbidity ≤5 NTU; Purge volume ≥3L purge water, water level ≤ 0.3 ft; Temp and ORP record only

Sample Description

Sample ID: _____ Sample Date/Time: _____ Metals Date/Time: _____

Duplicate: _____ Dup Date/Time: _____ Final Turbidity NTU: _____

Field Blank: _____ Blank Date/Time: _____ Turbidity Date/Time: _____

# Sample Bottles	Container	Preservative	Analyte(s)
	250 mL plastic	HNO3	
	500 mL plastic	--	Alkalinity (Carbonate/Bicarbonate)
	1 L plastic	HNO3	Radium 226/228 (SW-846 9315/9320)

Signature: Stephen Brodie

GOLDER

Product Name: Low-Flow System

Date: 2021-04-07 13:03:33

Project Information:		Pump Information:	
Operator Name	S.Brodie	Pump Model/Type	Reclaimer
Company Name	Golder	Tubing Type	polyethylene
Project Name	166849621	Tubing Diameter	.5 in
Site Name	Plant McDonough	Tubing Length	92.45 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	80.45 ft

Well Information:		Pumping Information:	
Well ID	B-116D	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	3.65958 L
Well Total Depth	92.45 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	10.05 in
Depth to Water	57.90 ft	Total Volume Pumped	8 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		+/- 0.3	+/- 10
Last 5	12:41:58	300.04	18.63	6.20	156.85	2.21	48.35	3.59	-128.94
Last 5	12:46:58	600.02	18.39	6.18	155.91	1.55	47.87	3.97	-106.74
Last 5	12:51:58	900.02	18.44	6.16	150.34	1.42	47.85	4.10	-90.13
Last 5	12:56:58	1200.02	18.45	6.14	147.29	3.03	47.85	4.11	-68.14
Last 5									
Variance 0			-0.24	-0.02	-0.94			0.37	22.20
Variance 1			0.05	-0.02	-5.58			0.13	16.61
Variance 2			0.01	-0.02	-3.05			0.01	21.99

Notes

Grab Samples

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: 4/7/21
Casing Type: PVC
Well/Boring Number: B-117D
Casing Diameter in inches (Dr): 2 in
Screened Interval: 10
Riser Stickup:
Total Well Depth (Lw) in feet: 77.72
Depth to Water (Lf) in feet: 27.88
Time of Measurement: 9.35 am.

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = 8.2 Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	GW	pump rate gal/min	pump depth from btw
Before Development	1000 ~~958~~						~~1068~~		
Purging 1 Well Vol	1015	5.96	227.4	12.1	17.77	5	~~48.30~~	0.5	1
2 Well Vol	1025	6.23	265.6	59.7	18.30	10	73.0	0.5	1
3 Well Vol	1030		dry.	recharge				0.0	
4 Well Vol	1100						71.21		
5 Well Vol	1115						70.31		
6 Well Vol	1130						69.38		
7 Well Vol	1145						68.42		
8 Well Vol	1200						67.42		
9 Well Vol	1215						65.66		
10 Well Vol	1230	Resume pumping					63.72		
11 Well Vol	1245	~~18~~ 6.45	253.3	58.4	18.28		68.85		
12 Well Vol	1255	6.42	250.3	33.3	18.08		~~64.51~~ 73.18	900mL/min	
13 Well Vol	1300	6.43	260.8	84	18.07	~~10~~	73.91	600mL/min	
14 Well Vol	1305	6.43	260.6	64.1	18.22	10	74.7		
15 Well Vol	1307		Pause	pumping					

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump): _____ If pumped, pumping rate: _____
Well Purged Dry: _____ Continuous Recharge: _____
Notes concerning condition of well, odors, color, etc.: _____

Developer's Signature: Yong Cheng Soo Date: 4/7/21
PM's Signature: [signature] Date: 4/19/2021

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: 4/7/21
Casing Type: PVC
Well/Boring Number: B-1(17)
Casing Diameter in inches (Dr): 2 in
Screened Interval:
Riser Stickup:
Total Well Depth (Lw) in feet:
Depth to Water (Lf) in feet:
Time of Measurement:

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = _____ Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	GW	pumping rate
Before Development								
Purging 1 Well Vol	1315						73.82	~~75~~ —
2 Well Vol	1325						73.62	—
3 Well Vol	1335						72.85	—
4 Well Vol	1345						72.11	—
5 Well Vol	1355						71.48	—
6 Well Vol	1405						70.90	
7 Well Vol	1415						70.30	~~300~~ mL/min
8 Well Vol	1416						71.82	300 mL/min
9 Well Vol	1419						72.60	
10 Well Vol	1421						72.98	
11 Well Vol	1423						73.55	
12 Well Vol	1430	6.48	228.5	56.8	20.16		73.94	
13 Well Vol	1440	6.40	750.4	30.9	19.57	13.5	73.96	300 mL/min
14 Well Vol	1442	pause					dry	
15 Well Vol	1540						72.60	

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) _____ If pumped, pumping rate: _____
Well Purged Dry _____ Continuous Recharge _____
Notes concerning condition of well, odors, color, etc.: _____

Developer's Signature: yong cheng soo Date: 4/7/21
PM's Signature: [signature] Date: 4/09/2021

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: 4/7/21
Casing Type: PVC
Well/Boring Number: B-117D
Casing Diameter in inches (Dr): 2 in
Screened Interval:
Riser Stickup:
Total Well Depth (Lw) in feet:
Depth to Water (Lf) in feet:
Time of Measurement:

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf) =$ _____ Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	GW
Before Development							
Purging 1 Well Vol	1610						68.30
2 Well Vol	1630					13.5	66.55
3 Well Vol							
4 Well Vol							
5 Well Vol							
6 Well Vol							
7 Well Vol							
8 Well Vol							
9 Well Vol							
10 Well Vol							
11 Well Vol							
12 Well Vol							
13 Well Vol							
14 Well Vol							
15 Well Vol							

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) _____ If pumped, pumping rate: _____
Well Purged Dry _____ Continuous Recharge _____
Notes concerning condition of well, odors, color, etc.: _____

Developer's Signature: Yong Ung Soo Date: 4/7/21
PM's Signature: Date: 4/09/2021

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: 4/8/21
Casing Type: PVC
Well/Boring Number: B-117D
Casing Diameter in inches (Dr): 2 in
Screened Interval: 10
Riser Stickup:
Total Well Depth (Lw) in feet: 77.72
Depth to Water (Lf) in feet: 37.95
Time of Measurement: 8:52

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = 8.2 Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	GW	pump rate mL/min	pump depth from btm
Start ~~Before~~ Development	8:55					0		350	1
Purging 1 Well Vol	8900	7.94	165.0	4.33	18.21		32.42	"	1
2 Well Vol	905	6.57	124.0	1.23	17.56		35.10	"	
3 Well Vol	910	6.37	126.7	3.63	17.54		37.60	"	
4 Well Vol	915	6.31	131.3	6.7	17.53		39.13	200	
5 Well Vol	920	6.37	136.1	5.6	17.54		39.97		
6 Well Vol	925	6.30	138.0	56.3	17.48		41.09		
7 Well Vol	930	6.24	139.2	71.9	17.50		41.73		
8 Well Vol	935	6.25	139.1	54.0	17.50		41.95	500	5
9 Well Vol	945	6.27	141.5	59.4	17.43		47.08	500	5
10 Well Vol	955	6.19	140.2	28.6	17.56	5	51.10	500	5
11 Well Vol	1000	6.17	128.3	32.0	17.67		53.60	"	"
12 Well Vol	1005	6.16	129.2	22.8	17.71		54.82		
13 Well Vol	1010	6.15	140.1	12.6	17.67		56.62		
14 Well Vol	1015	6.15	146.2	9.4	17.63		57.45		
15 Well Vol	1020	6.16	151.6	5.6	17.55		58.68		

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump): _____ If pumped, pumping rate: _____
Well Purged Dry: _____ Continuous Recharge: _____
Notes concerning condition of well, odors, color, etc.: _____

Developer's Signature: Yong Cheng Soo Date: 4/8/21
PM's Signature: [signature] Date: 4/19/2021

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: 4/8/21
Casing Type: PVC
Well/Boring Number: B-117D
Casing Diameter in inches (Dr): 2 in
Screened Interval: 10
Riser Stickup:
Total Well Depth (Lw) in feet: 77.72
Depth to Water (Lf) in feet:
Time of Measurement:

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = _____ Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	GW	pump rate mL/min	pump depth from BTOC
~~Before Development~~	1025	6.16	153.1	84.9	17.53		59.38	500	5
Purging 1 Well Vol	1030	6.16	152.6	915 NU	17.53		60.12		
2 Well Vol	1035	6.22	153.2	75.2	17.54		61.71		
3 Well Vol	1040	6.19	154.0	79	17.63		63.12		
4 Well Vol	1045	6.16	162.1	91	1757	10	64.65		
5 Well Vol	1050	6.20	175.1	68	17.57		66.55		
6 Well Vol	1055	6.18	171.0	42	17.60		68.00		
7 Well Vol	1100	6.17	180.2	83.2	17.62		68.58		
8 Well Vol	1105	6.18	181.2	69.0	17.71		69.37		
9 Well Vol	1110	6.12	190.8	77.1	17.76		69.91		
10 Well Vol	1115	6.17	222.1	86.5	1788		70.32		
11 Well Vol	1120	6.21	241.1	52.3	17.74	15	70.35 dry		
12 Well Vol	1120 ~~1135~~	pause							
13 Well Vol	1235 ~~1230~~						56.72		
14 Well Vol	1240	resume.					60.18	500	5
15 Well Vol	1245	6.37	116.5	0.23	1892		62.00	"	

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) _____ If pumped, pumping rate: _____
Well Purged Dry _____ Continuous Recharge _____
Notes concerning condition of well, odors, color, etc.: _____

Developer's Signature: Yung Chung Soo Date: 4/8/21
PM's Signature: [signature] Date: 4/12/2021

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: 4/8/21
Casing Type: PVC
Well/Boring Number: B-117D
Casing Diameter in inches (Dr): 2 in
Screened Interval: 10
Riser Stickup:
Total Well Depth (Lw) in feet:
Depth to Water (Lf) in feet:
Time of Measurement:

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = _____ Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	GW	pump rate mL/min	pump depth from btm
~~Before Development~~	1250	6.24	122.9	31.3	18.34		64.02	500	5
Purging 1 Well Vol	1255	6.14	130.0	44.5	18.25		66.42		
2 Well Vol	1300	6.12	136.6	71.7	18.22		68.00		
3 Well Vol	1305	6.14	139.9	83.7	18.08		68.89		
4 Well Vol	1310	6.14	145.8	71	17.91		69.62		
5 Well Vol	1315	6.18	168.8	93.3	17.92		70.30		
6 Well Vol	1320	6.20	200.3	81.4	18.04	~~+5~~ 20	70.31		
7 Well Vol	1325	6.20	264.5	46.9	18.12		70.32	500	
8 Well Vol	1325 ~~1330~~	pause					dry	↓	5
9 Well Vol	1425 ~~1335~~						~~71.60~~		
10 Well Vol	1435						57.21		
11 Well Vol	1440	resume	pumping.				56.59	300 mL/min	5
12 Well Vol	1450	6.44	180	8.~~79~~	19.23		59.82		
13 Well Vol	1455	6.31	148.2	43.4	18.71		60.68		
14 Well Vol	1500	6.22	133.6	53.7	18.44		61.23		
15 Well Vol	1505	6.16	127.7	48.6	18.34		61.91		

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) _____ If pumped, pumping rate: _____
Well Purged Dry _____ Continuous Recharge _____
Notes concerning condition of well, odors, color, etc.: _____

Developer's Signature: Yong Cheng Soo Date: 4/8/21
PM's Signature: [signature] Date: 4/14/2021

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: 4/8/21
Casing Type: PVC
Well/Boring Number: B-117D
Casing Diameter in inches (Dr): 2 in
Screened Interval:
Riser Stickup:
Total Well Depth (Lw) in feet:
Depth to Water (Lf) in feet:
Time of Measurement:

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = _____ Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	GW
~~Before Development~~	1510	6.15	125.5	64.0	18.26		62.49
Purging 1 Well Vol	1515	6.13	122.0	42.4	18.30		63.02
2 Well Vol	1520	6.12	122.4	35.0	18.43		63.53
3 Well Vol	1525	6.12	123.5	44.8	18.85		63.84
4 Well Vol	1530	6.11	125.0	87.0	19.54		63.80
5 Well Vol	1535	6.11	126.5	39.8	19.96		63.88
6 Well Vol	1540	6.11	124.5	42.9	19.59		63.82
7 Well Vol	1545	6.12	126.3	53.7	19.68	25	65.00
8 Well Vol	1550	6.13	124.2	56.9	18.69		66.88
9 Well Vol	1555	6.12	124.1	50.7	18.37		67.97
10 Well Vol	1600	6.14	127.9	46.3	18.83		68.42
11 Well Vol	1605	6.13	127.8	47.6	18.58		68.92
12 Well Vol	1610	6.13	128.6	49.1	18.48		69.41
13 Well Vol	1615	6.15	131.3	48.1	18.56		69.80
14 Well Vol	1620	6.16	133.4	25.4	18.49		70.22
15 Well Vol	1625	6.15	139.3	25.6	18.44		70.35

pumping rate ~~5~~ 300 mL/min

pump depth from bottom 5

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) _____ If pumped, pumping rate: _____
Well Purged Dry _____ Continuous Recharge _____
Notes concerning condition of well, odors, color, etc.: _____

Developer's Signature: Yong Cheng Soo Date: 4/8/21
PM's Signature: [signature] Date: 4/19/2021

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: 4/8/21
Casing Type: PVC
Well/Boring Number: B-117D
Casing Diameter in inches (Dr): 2 in
Screened Interval:
Riser Stickup:
Total Well Depth (Lw) in feet:
Depth to Water (Lf) in feet:
Time of Measurement:

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf) =$ _____ Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	GW
~~Before Development~~	1630	6.16	143.1	19.3	18.64		70.37
Purging 1 Well Vol	1635	6.15	140.8	12.7	18.90		70.37
2 Well Vol	1637			pause		29	dry
3 Well Vol							
4 Well Vol							
5 Well Vol							
6 Well Vol							
7 Well Vol							
8 Well Vol							
9 Well Vol							
10 Well Vol							
11 Well Vol							
12 Well Vol							
13 Well Vol							
14 Well Vol							
15 Well Vol							

Flow rate mL/min: 300

pump depth from bottom: 5

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) _____ If pumped, pumping rate: _____
Well Purged Dry _____ Continuous Recharge _____
Notes concerning condition of well, odors, color, etc.: _____

Developer's Signature: Yong Cheng Soo Date: 4/8/21
PM's Signature: [signature] Date: 4/19/2021

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: 4/9/21
Casing Type: PVC
Well/Boring Number: B-117D
Casing Diameter in inches (Dr): 2 in
Screened Interval:
Riser Stickup:
Total Well Depth (Lw) in feet: 77.72
Depth to Water (Lf) in feet: 27.96
Time of Measurement: 9:00 am.

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = 8.2 Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	GW	Flow rate mL/min	pump dep from bm.
Before Development	905		stat			0		300	1
Purging 1 Well Vol	910	6.93	123.2	12.4	17.99		3181	300	1
2 Well Vol	915	6.50	123.8	12.1	17.76		33.14		
3 Well Vol	920	6.30	124.5	24.5	17.72		35.41		
4 Well Vol	925	6.25	120.1	25.6	17.74		37.22		
5 Well Vol	930	6.25	122.9	36.6	1781		39.18		
6 Well Vol	935	6.27	121.1	48.7	17.81		40.72		
7 Well Vol	940	6.24	120.3	37.1	17.76		42.19		
8 Well Vol	945	6.21	123.6	43.1	17.76		43.32		
9 Well Vol	950	6.29	119.8	30.6	18.16		44.36		
10 Well Vol	955	6.25	120.1	31.5	17.92		45.06		
11 Well Vol	1000	6.18	118.9	29.2	17.85		45.62		
12 Well Vol	1005	6.17	118.5	24.6	1781		46.13		
13 Well Vol	1010	6.15	118.5	19.0	17.68	5	4653		
14 Well Vol	1015	6.24	115.4	16.6	18.01		46.95	30	5
15 Well Vol	1020	6.24	117.2	16.0	18.39		47.95		

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) _____ If pumped, pumping rate: _____
Well Purged Dry _____ Continuous Recharge _____
Notes concerning condition of well, odors, color, etc.: _____

Developer's Signature: Yong Chang Soo Date: 4/9/21
PM's Signature: [signature] Date: 4/19/2021

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: 4/9/21
Casing Type: PVC
Well/Boring Number: B-177D
Casing Diameter in inches (Dr): 2 in
Screened Interval:
Riser Stickup:
Total Well Depth (Lw) in feet:
Depth to Water (Lf) in feet:
Time of Measurement:

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = _____ Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	GW	Flow Rate ml/min	pump depth from bottom
~~Before Development~~	1025	6.18	117.6	15.3	18.43		48.49	300	5
Purging 1 Well Vol	1030	6.21	116.7	25.8	18.70		48.85		
2 Well Vol	1035	6.20	120.7	30.1	18.61		49.50		
3 Well Vol	1040	6.17	120.7	20.4	18.92		50.04		
4 Well Vol	1045	6.23	120.5	21.7	19.30		50.58		
5 Well Vol	1050	6.19	121.3	19.5	19.14		51.20		
6 Well Vol	1055	6.21	119.7	19.0	19.32		51.56		
7 Well Vol	1100	6.21	120.5	16.1	19.31		52.06	300	8
8 Well Vol	1105	6.20	118.8	14.2	19.63		53.48		
9 Well Vol	1110	6.14	118.8	16.0	19.36		54.35		
10 Well Vol	1115	6.09	122.4	22.0	19.44	10	54.70		
11 Well Vol	1120	6.16	124.8	20.8	19.59		55.28		
12 Well Vol	1125	6.14	120.7	14.9	19.57		53.30		
13 Well Vol	1130	6.22	121.9	12.6	19.32		56.28		
14 Well Vol	1135	6.20	121.7	7.97	18.98		56.65	300	5
15 Well Vol	1140	6.21	120.2	6.86	18.94		57.10		

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) _____ If pumped, pumping rate: _____
Well Purged Dry _____ Continuous Recharge _____
Notes concerning condition of well, odors, color, etc.:

Developer's Signature: Yong Chung Soo Date: 4/9/21
PM's Signature: [signature] Date: 4/19/2021

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: 4/9/21
Casing Type: PVC
Well/Boring Number: B-117D
Casing Diameter in inches (Dr): 2 in
Screened Interval:
Riser Stickup:
Total Well Depth (Lw) in feet:
Depth to Water (Lf) in feet:
Time of Measurement:

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = _____ Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	GW	Flow Rate mL/min	pump depth from bottom
~~Before Development~~	1145	6.19	118.7	7.10	18.70		57.45		
Purging 1 Well Vol	1150	6.16	117.4	6.13	18.52	13.5	57.85		
2 Well Vol	1158 ~~1155~~	Start low flow							
3 Well Vol									
4 Well Vol									
5 Well Vol									
6 Well Vol									
7 Well Vol									
8 Well Vol									
9 Well Vol									
10 Well Vol									
11 Well Vol									
12 Well Vol									
13 Well Vol									
14 Well Vol									
15 Well Vol									

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) _____ If pumped, pumping rate: _____
Well Purged Dry _____ Continuous Recharge _____
Notes concerning condition of well, odors, color, etc.: _____

Developer's Signature: Yong Chung Soo Date: 4/9/21
PM's Signature: Date: 4/19/2021

Total volume = 62 gallons 13.5 gal = 51.1 L

PURGING AND SAMPLING FORM

Project #: 166849621	Project Name/Site Name: SCS Plant McDonough		Page: 1 of 1
Well ID #: B-117D	Date: 4/9/21	Water Level (ft): 58.85	Time (WL): 1158
Physical Condition of Well: Good		Weather: Cloudy	
Well Diameter (in): 2	Well Depth (ft): 77.72	Water Column (ft):	Well Volume (gal):
Start Purge: ~~1157~~ 1158	End Purge:	Top of Pump (ft): 72.72	
Evacuation Method: Low-Flow		Volume Removed ~~(gal)~~: 586 Liter	
Evacuation Equipment: Reclaimer		Purging Personnel: Yongcheng Soo	
SmarTroll serial #: 642531		Lamotte serial #: 1603-4411	

Purge Data/Field Parameters

Time	Color & Appearance	Odor	pH (S.U.)	Cond. (uS/cm)	DO (mg/L)	Temp (C)	ORP (mV)	Turbidity (NTU)	DTW (ft BTOC)	Pumping Rate
1203	Clear	None	6.06	120.60	2.84	18.42	101.40	8.18	59.24	300mL/min
1208	"	"	6.05	119.80	2.66	18.65	101.10	7.69	59.46	"
1213	"	"	6.05	119.10	2.47	18.61	100.00	7.87	59.68	"
1218	"	"	6.05	119.00	2.46	18.77	100.10	5.91	59.92	
1223	"	"	6.05	119.00	2.37	18.65	99.30	5.22	60.09	"

Finished Developing & Low Flow

Stabilization Criteria: pH ± 0.1 S.U, Conductivity ± 5%, Dissolved Oxygen ± 10% or 0.2Mg/L(whichever is greater; for DO < 0.5mg/L, record only, no stabilization criteria), Turbidity ≤5 NTU; Purge volume ≥3L purge water, water level ≤ 0.3 ft; Temp and ORP record only

Sample Description

Sample ID: _____ Sample Date/Time: _____ Metals Date/Time: _____

Duplicate: _____ Dup Date/Time: _____ Final Turbidity NTU: _____

Field Blank: _____ Blank Date/Time: _____ Turbidity Date/Time: _____

# Sample Bottles	Container	Preservative	Analyte(s)
	250 mL plastic	HNO3	
	500 mL plastic	--	Alkalinity (Carbonate/Bicarbonate)
	1 L plastic	HNO3	Radium 226/228 (SW-846 9315/9320)

Signature: _____

GOLDER

Product Name: Low-Flow System

Date: 2021-04-09 12:25:58

Project Information:		Pump Information:	
Operator Name	Y.C. Soo	Pump Model/Type	Reclaimer
Company Name	Golder	Tubing Type	polyethylene
Project Name	166849621	Tubing Diameter	.5 in
Site Name	Plant McDonough	Tubing Length	72.72 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	642531		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	72.72 ft

Well Information:		Pumping Information:	
Well ID	B-117D	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	2.897786 L
Well Total Depth	77.72 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	14.9 in
Depth to Water	27.96 ft	Total Volume Pumped	58.6 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		+/- 0.3	+/- 10
Last 5	12:03:43	300.10	18.42	6.06	120.57	8.18	59.24	2.84	101.40
Last 5	12:08:43	600.01	18.65	6.05	119.84	7.69	59.46	2.66	101.10
Last 5	12:13:43	900.00	18.61	6.05	119.14	7.87	59.68	2.47	100.05
Last 5	12:18:43	1199.99	18.77	6.05	119.02	5.91	59.92	2.46	100.11
Last 5	12:23:43	1499.99	18.65	6.05	119.04	5.22	60.09	2.37	99.25
Variance 0			-0.04	0.00	-0.71			-0.19	-1.05
Variance 1			0.15	-0.00	-0.11			-0.01	0.06
Variance 2			-0.11	-0.00	0.02			-0.09	-0.85

Notes

Grab Samples

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: 4/6/21
Casing Type: PVC
Well/Boring Number: BH18
Casing Diameter in inches (Dr): 2 in
Screened Interval: 10
Riser Stickup:
Total Well Depth (Lw) in feet: 78.30
Depth to Water (Lf) in feet: 50.65
Time of Measurement: 9.36 am

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = 4.5 Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	Flow Rate	GW	Pump Depth from bottom
Before Development	0940					0	0.5 gal/min		1
Purging 1 Well Vol	1000	7.09	181.5	24.1	15.86	5		55.50	1
2 Well Vol	1005	6.68	116.7	11.61	15.75		0.5 gal/min	55.55	1
3 Well Vol	1010	6.51	108.5	35	15.79	10		55.60	1
4 Well Vol	1015	6.42	95.2	67	15.79			55.00	1
5 Well Vol	1020	6.33	94.9	48.2	15.93			55.11	1
6 Well Vol	1030	6.24	84.7	20.2	15.80	15		54.92	4
7 Well Vol	1035	6.18	86.1	13.64	15.97			55.35	4
8 Well Vol	1040	6.13	98.6	~~38~~ 74	15.88			55.68	4
9 Well Vol	1045	~~46~~ 6.14	~~3587~~ 0	52	16.91	20		55.62	4
10 Well Vol	1050	6.16	959 82.9	148	15.97			55.01	4
11 Well Vol	1055	6.16	82.0	46.4	15.97	25		53.20	5
12 Well Vol	1100	Compressor stop working							
13 Well Vol	1120	resumed pumping							
14 Well Vol	1125	stop compressor not working							
15 Well Vol	1145	6.51	93.2	19.4	18.06	30	0.5 gal/min	53.14	4

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump): _____ If pumped, pumping rate: _____
Well Purged Dry: _____ Continuous Recharge: _____
Notes concerning condition of well, odors, color, etc.: _____

Developer's Signature: Yong Chung Soo Date: 4/6/21
PM's Signature: [signature] Date: 4/19/2021

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date:
Casing Type: PVC
Well/Boring Number: B-118
Casing Diameter in inches (Dr): 2 in
Screened Interval:
Riser Stickup:
Total Well Depth (Lw) in feet:
Depth to Water (Lf) in feet:
Time of Measurement:

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = _____ Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	Flow rate gal/min	GW	Pump Depth from Bottom
Before Development									
Purging 1 Well Vol	1155	6.32	87.5	11.24	16.32		0.5 gal/min	54.32	6
2 Well Vol	1200	6.23	101.2	42.1	16.20			55.28	6
3 Well Vol	1205	6.22	79.3	44.8	16.04	35	0.5	55.26	6
4 Well Vol	1215	6.10	77.3	58.3	16.05	40		56.54	6
5 Well Vol	1225	6.08	75.7	29.9	16.09	45		55.49	6
6 Well Vol	1235	6.08	75.3	14.67	16.20	50		55.19	6
7 Well Vol	1240	6.08	75.8	11.63	16.28	55		55.06	9
8 Well Vol	1250	6.05	75.3	21.1	16.30	60		55.72	9
9 Well Vol	1300	6.07	75.6	14.65	16.34	65		55.70	9
10 Well Vol	1310	6.10	75.2	12.5	16.24	70		55.48	9
11 Well Vol	1315	6.09	75.2	64.3	16.20	-		55.63	
12 Well Vol	1320	6.04	74.6	13.62	16.20	75		55.17	
13 Well Vol	1325	6.07	75	6.55	16.24	-		55.05	5
14 Well Vol	1330	6.13	75.6	4.67	16.29	~~85~~ 85		55.00	5
15 Well Vol	1345	6.06	75.1	90	16.31	~~85~~ 87.5		56.03	5

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) _____ If pumped, pumping rate: _____
Well Purged Dry _____ Continuous Recharge _____
Notes concerning condition of well, odors, color, etc.: _____

Developer's Signature: Yong Chung Gu Date: 4/6/21
PM's Signature: [signature] Date: 4/19/2021

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: 4/6/21
Casing Type: PVC
Well/Boring Number B-118
Casing Diameter in inches (Dr): 2 in
Screened Interval:
Riser Stickup:
Total Well Depth (Lw) in feet:
Depth to Water (Lf) in feet:
Time of Measurement:

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = _____ Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	Pump rate gal/min	GW	Pump Depth from Bottom
Before Development									
Purging 1 Well Vol	1355	6.04	73.6	14.3	16.13	~~105~~ 125	0.5	55.08	5
2 Well Vol	1410	6.06	75.3	Switch	16.05	~~95~~ 100	0.5	54.74	5
3 Well Vol	1420	6.04	73.5	Turbidity 11.77	16.14	105	0.5	54.80	5
4 Well Vol	1430	6.03	73.5	18.2	16.01	110		55.01	
5 Well Vol	1440	6.06	74.6	33.2	16.08	115		54.79	5
6 Well Vol	1450	6.03	74.3	17.6	16.11	120		55.00	
7 Well Vol	1500	6.04	73.1	22.8	16.02	125		54.58	
8 Well Vol	1510	6.04	73.1	60	15.98	130		54.70	
9 Well Vol	1520	6.05	73.6	74	16.10	135		54.82	
10 Well Vol	1530	6.02	72.0	12.52	16.05	140		54.79	5
11 Well Vol	1544	stop	low flow			147			
12 Well Vol									
13 Well Vol									
14 Well Vol									
15 Well Vol									

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) _____ If pumped, pumping rate: _____
Well Purged Dry _____ Continuous Recharge _____
Notes concerning condition of well, odors, color, etc.: _____

Developer's Signature Yong Cheng Soo Date: 4/6/21
PM's Signature Date: 4/19/2021

Total Volume = 152 gallons

PURGING AND SAMPLING FORM

Project #: 166849618 21	Project Name/Site Name: Plant McDonough ~~Additional Sampling January 2020~~		Page: 1 of ____
Well ID #: B-118	Date: 4/6/21	Water Level (ft):	Time (WL):
Physical Condition of Well: Good		Weather: Sunny	
Well Diameter (in): 2	Well Depth (ft): 78.30	Water Column (ft):	Well Volume (gal):
Start Purge: 1544	End Purge: 1609	Top of Pump (ft): 73.3	
Evacuation Method: Low-Flow		Volume Removed (L):	
Evacuation Equipment: Reclaimer		Purging Personnel: Yong Cheng SO	
SmarTroll serial #: ~~1603-4411~~ 642531		Lamotte serial #: 1603-4411	

Purge Data/Field Parameters

Time	Color & Appearance	Odor	pH (S.U.)	Cond. (uS/cm)	DO (mg/L)	Temp (C)	ORP (mV)	Turbidity (NTU)	DTW (ft BTOC)	Pumping Rate
1544	Clear	None	6.03	74.0	6.56	17.0	13.20	6.96	51.41	250mL/min
1554	"	"	6.03	74.50	6.48	17.2	10.80	8.19	51.41	"
1559	"	"	6.03	74.60	6.42	17.36	10.50	8.80	51.41	"
1604	"	"	6.03	74.80	6.36	17.39	11.20	8.72	51.39	"
1609	"	"	6.01	76.30	7.28	17.36	1	9.98	51.32	
					Finished Developing & Low Flow					

Stabilization Criteria: pH ± 0.1 S.U, Conductivity ± 5%, Dissolved Oxygen ± 10% or 0.2Mg/L (whichever is greater; for DO < 0.5mg/L, record only, no stabilization criteria), Turbidity ≤5 NTU; Purge volume ≥3L purge water, water level ≤ 0.3 ft; Temp and ORP record only

Sample Description

Sample ID: _____ Sample Date/Time: _____ Metals Date/Time: _____

Duplicate: _____ Dup Date/Time: _____ Final Turbidity NTU: _____

Field Blank: _____ Blank Date/Time: _____ Turbidity Date/Time: _____

# Sample Bottles	Container	Preservative	Analyte(s)
1	250 mL plastic	HNO_3	B, Be, Co, Al, Mg, Mn, K, Na, Si, Ca
1	250 mL plastic	--	Alkalinity
1	250 mL plastic	--	Chloride + Sulfate
1	250 mL plastic	--	Ferrous + Ferric Iron

Signature: _____

GOLDER

Product Name: Low-Flow System

Date: 2021-04-13 11:37:03

Project Information:		Pump Information:	
Operator Name	S. Brodie	Pump Model/Type	SamplePro
Company Name	Golder	Tubing Type	polyethylene
Project Name	Plant McDonough	Tubing Diameter	.17 in
Site Name	Plant McDonough	Tubing Length	73 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte	Pump placement from TOC	73 ft

Well Information:		Pumping Information:	
Well ID	B-118	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.4158299 L
Well Total Depth	78.25 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3 in
Depth to Water	50.85 ft	Total Volume Pumped	12 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	11:07:57	1801.38	16.51	6.07	110.91	5.37	51.11	2.93	161.75
Last 5	11:12:57	2101.38	16.48	6.05	106.03	4.80	51.10	3.53	176.58
Last 5	11:17:57	2401.38	16.56	6.04	103.60	4.86	51.12	3.92	183.81
Last 5	11:22:57	2701.38	16.64	6.03	101.68	4.69	51.10	4.16	188.36
Last 5	11:27:57	3001.38	16.76	6.02	100.12	4.79	51.10	4.26	188.11
Variance 0			0.08	-0.00	-2.43			0.39	7.23
Variance 1			0.08	-0.01	-1.92			0.24	4.55
Variance 2			0.12	-0.01	-1.56			0.10	-0.25

Notes

Grab Samples

GOLDER

WELL DEVELOPMENT FIELD RECORD

JOB NAME: McDonough
DEVELOPED BY: S. Bradt / YC. 500
STARTED DEVEL.: 4/5/21 (DATE) / 14:00 (TIME)
W.L. BEFORE DEVEL.: 46.94 (DEPTH) / 4/5 (DATE) / 13:37 (TIME)
WELL DEPTH: BEFORE DEVEL.: 108.02
STANDING WATER COLUMN (FT.): 61.08
SCREEN LENGTH: 10 feet

JOB NO.:
WELL NO.: B-119D
DATE OF INSTALL.: 4/5/21
SHEET 1 OF 5
COMPLETED DEVEL.: 4/6/21 (DATE) / 13:15 (TIME)
AFTER DEVEL.: 89.52 (DEPTH) / 4/6/21 (DATE) / 13:15 (TIME)
AFTER DEVEL.: ____ WELL DIA. (In) ____
STANDING WELL VOLUME: 9.96 gal.
DRILLING WATER LOSS: ____ gal.

DATE/TIME	VOLUME REMOVED (GALS)	FIELD PARAMETERS: SPEC. COND. (mS/cm)	TEMP. (°C)	pH (s.u.)	Turbidity (NTU)	REMARKS: WL	REMARKS: Flow rate
4/5 14:15	0	186.1	16.64	7.58	21.4	75.10	0.5 gal/min
1420	1.25	202.8	15.93	7.87	18.0	87.50	0.25 gal/min.
1426	2.5	311.9	16.12	7.79		99.75	
1436	switched compressors						
1440		224.2	16.52	7.72	"	Top pump (10')	~~Stop~~ recharge, stop pumping
1525						83.55	"
1530	2.5					81.40	start 0.25 gal/min
1535	3.75	475.1	16.48	7.38	9.90	86.60	
1540	5	493.6	16.25	7.14	5.11	88.05	
1550	7.5	495.9	16.38	7.03	26.0	97.70	
1555	9.75	307.0	16.48	6.94	32.9	99.90	
1600	10	238.6	16.12	6.74	14.2	101.11	
1610		340.1	16.48	7.02	20.6	~~dried~~ dry	pause
1622						99.85	
1645	10						1000ml/min
1655	12.64					100.6	
1708	15.3					101.9	
1715	17.9						stop.
		= TOTAL VOLUME REMOVED (gal.)					

DEVELOPMENT METHOD:
14:25 - purged, moved to 3 Ft from bottom of screen
15:35 - pump @ 104' Top of pump
16:10 - moved to 101' Top of pump

NOTES:

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: 4/6/21
Casing Type: PVC
Well/Boring Number: B-119D
Casing Diameter in inches (Dr): 2 in
Screened Interval: 108.02 - 98.02
Riser Stickup:
Total Well Depth (Lw) in feet: 108.02
Depth to Water (Lf) in feet: 47.15 Grace
Time of Measurement: 9:20 AM

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = 9.9 Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

		Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	Pump rate	WL (feet)
Before Development	4/6	9:35	6.60	139.2	2.96	16.42	17.9	1000 mL/min	62.90
Purging 1 Well Vol	4/6	9:45	6.53	131.1	2.02	15.96	20.5	1000 mL/min	71.90
2 Well Vol	4/6	10:00	6.54	126.9	1.75	16.20	22.5	500 mL/min	78.95
3 Well Vol	4/6	10:10	6.54	130.8	14.2	16.16	24.5	500 mL/min	82.70
4 Well Vol	4/6	10:20	6.49	122.3	11.6	16.02	26.5	500 mL/min	86.71
5 Well Vol	4/6	10:30	6.54	125.9	4.69	16.29	28.5	500 mL/min	89.65
6 Well Vol	4/6	10:40	6.50	123.3	14.4	16.20	30.5	500 mL/min	94.82
7 Well Vol	4/6	10:50	6.50	126.8	9.40	16.47	32.5	500mL/min	95.15
8 Well Vol	4/6	11:00	6.53	131.0	4.70	16.66	34.5	500 mL/min	95.49
9 Well Vol	4/6	11:00 → compressor at 0 psi pause pumping							
10 Well Vol	4/6	11:08 → resumed pumping @ 500 mL/min							
11 Well Vol	4/6	11:10	6.50	148.1	2.36	16.4	34.5	500 mL/min	94.50
12 Well Vol	4/6	11:20	6.55	155.2	1.55	16.56	36.5	500 mL/min	95.34
13 Well Vol	4/6	11:30	6.58	153.5		16.88	38.5	500mL/min	
14 Well Vol	4/6	11:30 → compressor @ 0 psi, pause pump							
15 Well Vol	4/6	11:35 → resume pumping @ 500 mL/min							

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump) Reclaimer If pumped, pumping rate:
Well Purged Dry Continuous Recharge
Notes concerning condition of well, odors, color, etc.:

Developer's Signature Date:
PM's Signature Date:

10:00 - ~~surged~~, moved pump to 6 ft above bottom of screen - surged
10:30 - ~~surged~~, moved pump to 9 ft above bottom of screen - surged
11:10 - pump moved to middle of screen, surged

3/5

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date:
Casing Type: PVC
Well/Boring Number: B-119D
Casing Diameter in inches (Dr): 2 in
Screened Interval: 98.02 - 108.02
Riser Stickup:
Total Well Depth (Lw) in feet: 108.02
Depth to Water (Lf) in feet: 47.15
Time of Measurement: 9:20

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = 9.9 Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

	Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	Flow rate	WL
Before Development								
Purging 1 Well Vol	4/6 11:40	6.55	149.9	5.95	16.70	40.5	500 mL/min	96.54
2 Well Vol								
3 Well Vol	Begin Low Flow							
4 Well Vol								
5 Well Vol								
6 Well Vol								
7 Well Vol								
8 Well Vol								
9 Well Vol								
10 Well Vol								
11 Well Vol								
12 Well Vol								
13 Well Vol								
14 Well Vol								
15 Well Vol								

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump): Reclaimer If pumped, pumping rate: 500 mL/min to 0.5 gal/min
Well Purged Dry: yes Continuous Recharge:
Notes concerning condition of well, odors, color, etc.:

Developer's Signature: Stephanie Brodie Date: 4/6/21
PM's Signature: Date: 4/19/2021

Total volume 44 gallons

PURGING AND SAMPLING FORM

Project #: 16684961~~8~~21	Project Name/Site Name: SCS Plant McDonough		Page: 4 of 5
Well ID #: B-119D	Date: 4/6/21	Water Level (ft): 95.84	Time (WL): 12:03
Physical Condition of Well: Good		Weather: Sunny 70	
Well Diameter (in): 2	Well Depth (ft): 108.02	Water Column (ft): 12.18	Well Volume (gal): 2.0
Start Purge: 12:05	End Purge: 13:15	Top of Pump (ft): 100.02	
Evacuation Method: Low-Flow		Volume Removed (L): 14	
Evacuation Equipment: ~~Master Extract~~ Reclaimer		Purging Personnel: S. Brodie	
SmarTroll serial #: 512733		Lamotte serial #: 568-0111	

Purge Data/Field Parameters

Time	Color & Appearance	Odor	pH (S.U.)	Cond. (uS/cm)	DO (mg/L)	Temp (C)	ORP (mV)	Turbidity (NTU)	DTW (ft BTOC)	Pumping Rate
12:05	clear	none	6.49	148.2	6.46	17.27	100.8	1.99	95.60	200 mL/min
12:10	clear	none	6.49	152.30	6.38	16.97	109.30	2.47	95.40	200 mL/min
12:15	clear	none	6.49	159.90	6.18	17.01	110.20	1.92	95.35	200 mL/min
12:20	compressor	died → paused flow								
12:25	resumed flow									
12:25	clear	none	6.70	0.00	9.25	18.82	253.10	1.15	92.65	200 mL/min
12:30	clear	none	6.55	179.90	5.73	17.04	105.10	0.97	92.71	200 mL/min
12:35	clear	none	6.54	172.70	5.59	17.09	99.90	1.00	92.79	200 mL/min
12:40	clear	none	6.53	171.10	5.59	17.05	95.80	0.86	92.80	200 mL/min

Stabilization Criteria: pH ± 0.1 S.U, Conductivity ± 5%, Dissolved Oxygen ± 10% or 0.2Mg/L (whichever is greater; for DO < 0.5mg/L, record only, no stabilization criteria), Turbidity ≤5 NTU; Purge volume ≥3L purge water, water level ≤ 0.3 ft; Temp and ORP record only

Sample Description

Sample ID: _____ Sample Date/Time: _____ Metals Date/Time: _____

Duplicate: _____ Dup Date/Time: _____ Final Turbidity NTU: _____

Field Blank: _____ Blank Date/Time: _____ Turbidity Date/Time: _____

# Sample Bottles	Container	Preservative	Analyte(s)
	250 mL plastic	HNO3	Metals App III & IV (As, Sb, Ba, Be, Cd, Cr, Co, Cu, Pb, Ni, Se, Ag, V, Zn, Th, Hg) (EPA 6020/7470)
	500 mL plastic	--	Anions/Total Dissolved Solids (EPA 300.0/SM 2540C)
	1 L plastic	HNO3	Radium 226/228 (SW-846 9315/9320)

Signature: Stephanie Brodie

GOLDER

PURGING AND SAMPLING FORM

Project #: 1668496 21	Project Name/Site Name: Plant McDonough Additional Sampling [redacted]		Page: 5 of 5
Well ID #: B-119D	Date: 4-6-21	Water Level (ft): 95.84	Time (WL): 12:03
Physical Condition of Well: Good		Weather: Sunny, 70	
Well Diameter (in): 2	Well Depth (ft): 108.02	Water Column (ft): 12.18	Well Volume (gal): 2.0
Start Purge: 12:05	End Purge: 13:15	Top of Pump (ft): 100.02	
Evacuation Method: Low-Flow		Volume Removed (L): 14	
Evacuation Equipment: Reclaimer		Purging Personnel: S. Brodie	
SmarTroll serial #: 512733		Lamotte serial #: 568-0111	

Purge Data/Field Parameters

Time	Color & Appearance	Odor	pH (S.U.)	Cond. (uS/cm)	DO (mg/L)	Temp (C)	ORP (mV)	Turbidity (NTU)	DTW (ft BTOC)	Pumping Rate
12:45	clear	none	6.54	185.80	5.65	17.03	86.80	0.67	92.65	200 mL/min
12:50	clear	none	6.55	175.70	5.31	17.32	83.00	0.67	92.53	200 mL/min
12:55	clear	none	6.54	165.30	5.40	17.37	84.36	1.03	92.25	200
13:00	clear	none	6.52	160.20	5.23	17.69	79.40	1.32	91.90	200
13:05	clear	none	6.53	158.30	5.15	17.81	85.30	1.00	91.5	200
13:05	compressor	died,	pumping	paused						
13:10	clear	none	6.61	163.60	6.81	20.93	142.11	0.66	89.95	200
13:15	clear	none	6.51	159.1	5.26	17.32	3	0.73	89.52	200

Stabilization Criteria: pH ± 0.1 S.U, Conductivity ± 5%, Dissolved Oxygen ± 10% or 0.2Mg/L (whichever is greater; for DO < 0.5mg/L, record only, no stabilization criteria), Turbidity ≤5 NTU; Purge volume ≥3L purge water, water level ≤ 0.3 ft; Temp and ORP record only

Sample Description

Sample ID: _____ Sample Date/Time: _____ Metals Date/Time: _____

Duplicate: _____ Dup Date/Time: _____ Final Turbidity NTU: _____

Field Blank: _____ Blank Date/Time: _____ Turbidity Date/Time: _____

# Sample Bottles	Container	Preservative	Analyte(s)
1	250 mL plastic	HNO_3	B, Be, Co, Al, Mg, Mn, K, Na, Si, Ca
1	250 mL plastic	--	Alkalinity
1	250 mL plastic	--	Chloride + Sulfate
1	250 mL plastic	--	Ferrous + Ferric Iron

Signature: Stephanie Brodie

GOLDER

Product Name: Low-Flow System

Date: 2021-04-06 13:28:00

Project Information:		Pump Information:	
Operator Name	S.Brodie	Pump Model/Type	Reclaimer
Company Name	Golder	Tubing Type	polyethylene
Project Name	166849621	Tubing Diameter	.5 in
Site Name	Plant McDonough	Tubing Length	108.02 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	108.02 ft

Well Information:		Pumping Information:	
Well ID	B-119D	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	4.260752 L
Well Total Depth	108.02 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	95.84 ft	Total Volume Pumped	13 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		+/- 0.3	+/- 10
Last 5	13:00:11	3300.02	17.69	6.52	160.23	1.32	91.90	5.23	79.38
Last 5	13:05:12	3600.93	17.81	6.53	158.27	1.00	91.50	5.15	85.31
Last 5	13:10:12	3900.93	20.93	6.61	163.64	0.66	89.95	6.81	142.07
Last 5	13:15:12	4200.93	17.72	6.51	159.07	0.73	89.52	5.26	35.12
Last 5	13:20:33	4521.93	17.54	6.51	161.47	--	--	5.19	28.42
Variance 0			3.12	0.08	5.38			1.66	56.76
Variance 1			-3.21	-0.10	-4.58			-1.55	-106.95
Variance 2			-0.18	0.00	2.41			-0.06	-6.70

Notes

Grab Samples

GOLDER

MONITORING WELL DEVELOPMENT DATA SHEET

Project: Plant McDonough
Date: 4/9/21
Casing Type: PVC
Well/Boring Number: B-120D
Casing Diameter in inches (Dr): 2 in
Screened Interval: 62.13 - 72.13
Riser Stickup:
Total Well Depth (Lw) in feet: 72.13
Depth to Water (Lf) in feet: 33.76
Time of Measurement: 12:26

Volume of water in well, using $V=0.041\ (Dr)^2\ (Lw - Lf)$ = 6.25 Gallons

FIELD MEASUREMENT OF PHYSICAL PARAMETERS

		Time	pH (S.U.)	Conductivity (µS/cm)	Clarity/ Turbidity (NTU)	Temp (°C)	Volume (gallons)	pump rate	WL (Feet)
Before Development	4/8	14:00	5.69	1152.2	44.1	18.66	0	0.5 gal/min	34.18
Purging 1 Well Vol	4/8	14:10	5.62	1172.2	5.26	18.36	5	0.5 gal/min	34.18
2 Well Vol	4/8	14:25	5.62	1187.7	2.99	18.17	12.5	0.5 gal/min	34.18
3 Well Vol	4/8	14:45	5.56	1206.4	3.60	18.19	22.5	0.5 gal/min	34.21
4 Well Vol	4/8	15:00	5.53	1213.0	2.08	18.17	30	0.5 gal/min	34.21
5 Well Vol	4/8	15:15	5.50	1213.9	9.56	18.25	37.5	0.5 gal/min	34.18
6 Well Vol	4/8	15:30	5.47	1213.9	3.14	18.43	45	0.5 gal/min	34.10
7 Well Vol	4/8	15:40	5.45	1209.1	1.92	18.38	50	0.5 gal/min	34.10
8 Well Vol		pause for day							
9 Well Vol	4/9	9:25	5.41	1249.9	3.48	18.15	50	0.5 gal/min	34.01
10 Well Vol	4/9	9:35	5.41	1241.5	2.64	18.08	55	0.5 gal/min	34.11
11 Well Vol	4/9	9:45	5.40	1182.6	30.3	18.12	60	0.5 gal/min	34.11
12 Well Vol	4/9	10:00	5.40	1248.8	7.17	18.12	67.5	0.5 gal/min	34.11
13 Well Vol	4/9	10:15	5.39	1250.1	2.01	18.17	75	0.5 gal/min	34.11
14 Well Vol	4/9	10:30	5.39	1294.2	5.49	18.34	82.5	0.5 gal/min	34.30
15 Well Vol	4/9	10:45	5.37	1249.3	2.12	18.35	90	0.5 gal/min	34.13

Begin LOW FLOW

(Fill in one or more of the above columns depending on available equipment)

Method of purging (bailer or pump): Reclaimer
If pumped, pumping rate: 0.5 gal
Well Purged Dry: No
Continuous Recharge: yes
Notes concerning condition of well, odors, color, etc.:

Developer's Signature: Stephanie Brodie Date: 4/9/21
PM's Signature: [signature] Date: 4/19/2021

4/8-14:00 - pump @ 1 foot from bottom
4/8-14:25 - pump moved to 3 ft from bottom, surged
4/8 15:00 - moved pump to 6 ft from bottom, surged
4/9 9:35 - moved pump to 9 ft from bottom, surged
4/9 10:15 - moved to mid screen, surge

Total volume 95 gallons

PURGING AND SAMPLING FORM

Project #: 166849621	Project Name/Site Name: SCS Plant McDonough		Page: 2 of 2
Well ID #: B-120D	Date: 4/9/21	Water Level (ft): 34.13	Time (WL): 10:45
Physical Condition of Well: good		Weather: sunny, 70	
Well Diameter (in): 2	Well Depth (ft): 72.13	Water Column (ft): 38.0	Well Volume (gal): 6.2
Start Purge: 11:00	End Purge: 11:20	Top of Pump (ft): 64.13	
Evacuation Method: Low-Flow		Volume Removed (gal): 5L, 1.32 gal	
Evacuation Equipment: Reclaimer		Purging Personnel: S. Brodie	
SmarTroll serial #: 512-733		Lamotte serial #: 568-0111	

Purge Data/Field Parameters

Time	Color & Appearance	Odor	pH (S.U.)	Cond. (uS/cm)	DO (mg/L)	Temp (C)	ORP (mV)	Turbidity (NTU)	DTW (ft BTOC)	Pumping Rate
11:10	clear	none	5.34	1249.70	0.12	19.59	245.40	1.66	34.01	250 mL/min
11:15	clear	none	5.34	1245.70	0.12	19.77	246.60	1.87	33.95	250 mL/min
11:20	clear	none	5.34	1246.10	0.11	19.68	253.10	1.54	33.98	250 mL/min

Stabilization Criteria: pH ± 0.1 S.U, Conductivity ± 5%, Dissolved Oxygen ± 10% or 0.2Mg/L(whichever is greater; for DO < 0.5mg/L, record only, no stabilization criteria), Turbidity ≤5 NTU; Purge volume ≥3L purge water, water level ≤ 0.3 ft; Temp and ORP record only

Sample Description

Sample ID: _____ Sample Date/Time: _____ Metals Date/Time: _____

Duplicate: _____ Dup Date/Time: _____ Final Turbidity NTU: _____

Field Blank: _____ Blank Date/Time: _____ Turbidity Date/Time: _____

# Sample Bottles	Container	Preservative	Analyte(s)
	250 mL plastic	HNO3	
	500 mL plastic	--	Alkalinity (Carbonate/Bicarbonate)
	1 L plastic	HNO3	Radium 226/228 (SW-846 9315/9320)

Signature: _____

GOLDER

Product Name: Low-Flow System

Date: 2021-04-09 11:24:46

Project Information:		Pump Information:	
Operator Name	S.Brodie	Pump Model/Type	Reclaimer
Company Name	Golder	Tubing Type	polyethylene
Project Name	166849621	Tubing Diameter	.5 in
Site Name	Plant McDonough	Tubing Length	64.13 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	64.13 ft

Well Information:		Pumping Information:	
Well ID	B-120D	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	2.566119 L
Well Total Depth	72.13 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	34.13 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		+/- 0.3	+/- 10
Last 5	11:11:46	600.03	19.59	5.34	1249.65	1.66	34.01	0.12	245.35
Last 5	11:16:46	900.02	19.77	5.34	1245.74	1.87	33.95	0.12	246.64
Last 5	11:21:46	1200.02	19.68	5.34	1246.06	1.54	33.98	0.11	253.10
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			0.18	0.00	-3.91			-0.01	1.29
Variance 2			-0.10	-0.00	0.32			-0.01	6.45

Notes

Grab Samples

April 2021 **Daily Calibration Log** 166849621

Project Plant McDonough
Field Staff S. Brodie, YC. Soo

Instrument Calibration

Date: 4/5/21 **Time:** 1200

Parameter	Units	Standard	SmarTROLL SN 465016	SmarTROLL SN 642531	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100		102.9		
Conductivity	us/cm	4490	4340	4768		
pH	S.U.	4.00	4.20	4.39		
pH	S.U.	7.00	7.07	7.08		
pH	S.U.	10.00	9.92	9.81		
ORP	mV	228.00	229.4	222.3		

	Units	Standard	LaMotte SN 5896-3715	LaMotte SN 5896-3715	LaMotte SN _____	LaMotte SN _____
Turbidity	NTU	0.0	0.0	0.0		
	NTU	1.0	1.0			
	NTU	10.0	10.0	10.0		

Date: 4/6/21 **Time:** 807

Parameter	Units	Standard	SmarTROLL SN 642531	SmarTROLL SN ~~5896-3715~~	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100	102.9			
Conductivity	us/cm	4490	4768			
pH	S.U.	4.00	4.39			
pH	S.U.	7.00	7.08			
pH	S.U.	10.00	9.81			
ORP	mV	228.00	222.3			

	Units	Standard	LaMotte SN 5896-3715	LaMotte SN 1603-4411	LaMotte SN _____	LaMotte SN _____
Turbidity	NTU	0.0	0.0	0.0		
	NTU	1.0	1.0	1.0		
	NTU	10.0	10.0	10.0		

time 1420

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

Project Plant McDonough
Field Staff S. Brodie, YC. Soo

Instrument Calibration

Date: 4/7/21 **Time:** 802

Parameter	Units	Standard	SmarTROLL SN 642531	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100	102.7			
Conductivity	us/cm	4490	4449			
pH	S.U.	4.00	4.35			
pH	S.U.	7.00	7.12			
pH	S.U.	10.00	9.88			
ORP	mV	228.00	217.8			

Turbidity	Units	Standard	LaMotte SN 1603-4411	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
	NTU	0.0	0.0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

Date: 4/8/21 **Time:** 800

Parameter	Units	Standard	SmarTROLL SN 642531	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100	102			
Conductivity	us/cm	4490	5070			
pH	S.U.	4.00	4.39			
pH	S.U.	7.00	7.11			
pH	S.U.	10.00	9.92			
ORP	mV	228.00	215.5			

Turbidity	Units	Standard	LaMotte SN 1603-4411	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
	NTU	0.0	0.0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

April 2021 **Daily Calibration Log** 166849621

Project Plant McDonough
Field Staff S. Brodie, YC. Soo

Instrument Calibration

Date: 4/9/21 **Time:** 0800

Parameter	Units	Standard	SmarTROLL SN 642531	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100	102.3			
Conductivity	us/cm	4490	4598			
pH	S.U.	4.00	4.32			
pH	S.U.	7.00	7.10			
pH	S.U.	10.00	9.86			
ORP	mV	228.00	217.2			

	Units	Standard	LaMotte SN 1603-4411	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
Turbidity	NTU	0.0	0.0			
	NTU	1.0	1.26			
	NTU	10.0	10.0			

Date: **Time:**

Parameter	Units	Standard	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100				
Conductivity	us/cm	4490				
pH	S.U.	4.00				
pH	S.U.	7.00				
pH	S.U.	10.00				
ORP	mV	228.00				

	Units	Standard	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
Turbidity	NTU	0.0				
	NTU	1.0				
	NTU	10.0				

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

Project Plant McDonough
Field Staff S. Brodie, YC. Soo, E. Rheams

Instrument Calibration

Date: 4/12/21 **Time:** 1026

Parameter	Units	Standard	SmarTROLL SN 642531	SmarTROLL SN	SmarTROLL SN	SmarTROLL SN
DO	% saturation	100	107.4			
Conductivity	us/cm	4490	4520			
pH	S.U.	4.00	4.43			
pH	S.U.	7.00	7.12			
pH	S.U.	10.00	9.89			
ORP	mV	228.00	222.3			

	Units	Standard	LaMotte SN 4392-1914	LaMotte SN	LaMotte SN	LaMotte SN
Turbidity	NTU	0.0	0.0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

Date: 4/13/21 **Time:** 805

Parameter	Units	Standard	SmarTROLL SN 642531	SmarTROLL SN	SmarTROLL SN	SmarTROLL SN
DO	% saturation	100	105.8			
Conductivity	us/cm	4490	4615			
pH	S.U.	4.00	4.41			
pH	S.U.	7.00	7.19			
pH	S.U.	10.00	9.97			
ORP	mV	228.00	226.3			

	Units	Standard	LaMotte SN 4392-1914	LaMotte SN	LaMotte SN	LaMotte SN
Turbidity	NTU	0.0	0.0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

Project Plant McDonough

GOLDER

Field Staff S. Brodie, YC. Soo, E. Rheams

Instrument Calibration

Date: 4/14/21 **Time:** 0800

Parameter	Units	Standard	SmarTROLL SN 642531	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100	102.7			
Conductivity	us/cm	4490	4402			
pH	S.U.	4.00	4.33			
pH	S.U.	7.00	7.16			
pH	S.U.	10.00	10.09			
ORP	mV	228.00	213.3			

	Units	Standard	LaMotte SN 4392-1914	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
Turbidity	NTU	0.0	0.0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

Date: 4/15/21 **Time:** 0750

Parameter	Units	Standard	SmarTROLL SN 642531	SmarTROLL SN _____	SmarTROLL SN _____	SmarTROLL SN _____
DO	% saturation	100	102.9			
Conductivity	us/cm	4490	4463			
pH	S.U.	4.00	4.39			
pH	S.U.	7.00	7.12			
pH	S.U.	10.00	9.88			
ORP	mV	228.00	220.3			

	Units	Standard	LaMotte SN 4392-1914	LaMotte SN _____	LaMotte SN _____	LaMotte SN _____
Turbidity	NTU	0.0	0.0			
	NTU	1.0	1.0			
	NTU	10.0	10.0			

Notes: DO - Dissolved Oxygen; us/cm - microsiemens/centimeter; ORP - oxidation-reduction potential; mV - millivolts; NTU - Nphelometric Turbidity Units; NC - Not calibrated

GOLDER

APPENDIX C

CERTIFIED WELL SURVEY

METRO ENGINEERING & SURVEYING CO., INC.
SURVEYORS - ENGINEERS - PHOTOGRAMMETRISTS
PROVIDING PROFESSIONAL SERVICE SINCE 1967

1469 HIGHWAY 20 WEST • MCDONOUGH, GA 30253
phone: 770-707-0777 fax: 770.707-0755
WWW.METRO-ENGINEERING.COM

SURVEYOR'S REPORT

SCOPE OF WORK:

Field survey of existing monitoring wells at Georgia Power Company, Plant McDonough in Smyrna, GA.

Horizontal and vertical datum was derived from RTK GPS observations with corrections from the eGPS network and conventional surveying equipment. Horizontal datum is Georgia State Plane, West Zone, NAD83(2011) and vertical datum is NAVD88.

EQUIPMENT USED TO ESTABLISH THE MONITORING WELL LOCATIONS:

Trimble R8 Dual Frequency GPS Receiver
Leica TS16 Total Station
Leica DNA10 Digital Level

CERTIFICATION:

I hereby certify that the center of well casing (PVC) has a horizontal accuracy of 0.5+/- feet or better using a Trimble R8 Dual Frequency RTK (survey-grade) global positioning system receiver referencing the Georgia State Plane, west zone, NAD83(2011) coordinate system in US survey feet. The top of well casing (PVC) elevation data was determined in feet above mean sea level based on the NAVD88 vertical datum. Vertical data was confirmed to be accurate within 0.01 foot through establishment of a closed level check loop with a Leica DNA10 digital level having a published accuracy of 0.9mm per dual-traverse kilometer.

James R. Green R.L.S. No. 2543

Date: 5/11/21

Plant McDonough
Monitoring Well Locations
April 11, 2021

Well ID	LATITUDE	LONGITUDE	NAIL NORTHING	NAIL EASTING	NAIL ELEV	PVC NORTHING	PVC EASTING	TOP PVC ELEV	ELEV AT BASE
B-111D	N33.832640	W84.474992	1394302.7	2202956.6	788.99	1394303.6	2202956.4	791.84	789.0
B-112D	N33.825093	W84.482513	1391564.0	2200663.1	765.98	1391564.2	2200664.1	765.58	766.1
B-113D	N33.824270	W84.482329	1391264.7	2200720.2	758.87	1391264.6	2200719.2	758.22	758.8
B-115D	N33.824287	W84.476200	1391266.0	2202580.1	786.43	1391265.3	2202580.7	789.17	786.4
B-116D	N33.822123	W84.482677	1390483.0	2200611.0	805.31	1390483.7	2200611.0	807.82	805.3
B-117D	N33.831696	W84.479036	1393964.7	2201727.1	861.23	1393963.8	2201727.3	863.82	861.2
B-118	N33.824143	W84.483216	1391220.2	2200449.5	804.99	1391219.3	2200449.7	807.70	805.0
B-119D	N33.824190	W84.483226	1391237.5	2200446.4	804.53	1391236.4	2200446.6	807.15	804.5
B-120D	N33.831931	W84.476702	1394046.4	2202436.8	834.03	1394047.2	2202436.4	836.42	834.0

APPENDIX C

Statistical Analyses

APPENDIX C

Statistical Analyses September 2020

GROUNDWATER STATS CONSULTING

February 23, 2021

Southern Company Services
Attn: Mr. Joju Abraham
241 Ralph McGill Blvd NE, Bin 10160
Atlanta, Georgia 30308-3374

Re: Plant McDonough Ash Pond (AP-1)
September 2020 Statistical Analysis

Dear Mr. Abraham,

Groundwater Stats Consulting, formerly the statistical consulting division of Sanitas Technologies, is pleased to provide the September 2020 Semi-Annual Groundwater Monitoring and Corrective Action Statistical summary of groundwater data for Georgia Power Company's Plant McDonough AP-1. The analysis complies with the federal rule for the Disposal of Coal Combustion Residuals from Electric Utilities (CCR Rule, 2015), the Georgia Environmental Protection Division Rules for Solid Waste Management Chapter 391-3-4-.10 and follows the United States Environmental Protection Agency (USEPA) Unified Guidance (2009).

Sampling for the Appendix III parameters began in 2016, and at least 8 background samples were collected at each of the groundwater monitoring wells. Semi-annual sampling of the majority of Appendix IV constituents has been performed for several years in accordance with the Georgia Department of Natural Resources, Environmental Protection Division groundwater monitoring regulations. A list of all parameters is provided below. The terms "parameters" and "constituents" are used interchangeably.

The monitoring well network, as provided by Southern Company Services, consists of the following:

- **Upgradient wells:** DGWA-53, DGWA-70A, and DGWA-71
- **Downgradient wells:** DGWC-37, DGWC-38, DGWC-39, DGWC-40, DGWC-67, DGWC-68A, and DGWC-69
- **Delineation wells:** B-62, B-74, and B-100

Delineation wells were installed during 2020 and have limited data which are included in this report only on the time series and box plots.

Data were sent electronically to Groundwater Stats Consulting, and the statistical analysis was reviewed by Dr. Jim Loftis, Civil & Environmental Engineering professor emeritus at Colorado State University and Senior Advisor to Groundwater Stats Consulting. The analysis is prepared according to the recommended statistical methodology prepared in the Fall 2017 by Dr. Kirk Cameron, PhD Statistician with MacStat Consulting, primary author of the USEPA Unified Guidance.

The CCR program consists of the following constituents:

- **Appendix III** (Detection Monitoring) **-** boron, calcium, chloride, fluoride, pH, sulfate, and TDS
- **Appendix IV** (Assessment Monitoring) **–** antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, combined radium 226 + 228, fluoride, lead, lithium, mercury, molybdenum, selenium, and thallium

Note that when there are no detections present in downgradient wells for a given constituent, statistical analyses are not required. A summary of well/constituent pairs with 100% nondetects follows this letter.

Time series plots for Appendix III and IV parameters at all wells are provided for the purpose of screening data at these wells (Figure A). Additionally, a separate section of box plots is included for all constituents at upgradient and downgradient wells (Figure B). The time series plots are used to initially screen for suspected outliers and trends, while the box plots provide visual representation of variation within individual wells and between all wells. Values in background which have been flagged as outliers may be seen in a lighter font and as a disconnected symbol on the graphs. A summary of flagged outliers follows this report (Figure C).

In earlier analyses, data at all wells were evaluated for the following: 1) outliers; 2) trends; 3) most appropriate statistical method for Appendix III parameters based on site characteristics of groundwater data upgradient of the facility; and 4) eligibility of downgradient wells when intrawell statistical methods are recommended. Power curves were provided with the previous screening to demonstrate that the selected statistical methods for Appendix III parameters comply with the USEPA Unified Guidance. The EPA suggests the selected statistical method should provide at least 55% power at 3 standard deviations or at least 80% power at 4 standard deviations.

Summary of Statistical Methods – Appendix III Parameters:

Based on the earlier evaluation described above, the following method was selected:

- Interwell prediction limits, combined with a 1-of-2 resample plan for boron, calcium, chloride, fluoride, pH, sulfate, and TDS

Parametric prediction limits are utilized when the screened historical data follow a normal or transformed-normal distribution. When data cannot be normalized or the majority of data are nondetects, a nonparametric test is utilized. While the false positive rate associated with the parametric limits is based on an annual 10% (5% per semi-annual event) as recommended by the EPA Unified Guidance (2009), the false positive rate associated with the nonparametric limits is dependent upon the available background sample size, number of future comparisons, and verification resample plan. The distribution of data is tested using the Shapiro-Wilk/Shapiro-Francia test for normality. After testing for normality and performing any adjustments as discussed below (US EPA, 2009), data are analyzed using either parametric or non-parametric prediction limits.

- No statistical analyses are required on wells and analytes containing 100% nondetects (USEPA Unified Guidance, 2009, Chapter 6).
- When data contain <15% nondetects in background, simple substitution of one-half the reporting limit is utilized in the statistical analysis. The reporting limit utilized for nondetects is the practical quantification limit (PQL) as reported by the laboratory.
- When data contain between 15-50% nondetects, the Kaplan-Meier nondetect adjustment is applied to the background data. This technique adjusts the mean and standard deviation of the historical concentrations to account for concentrations below the reporting limit.
- Nonparametric prediction limits are used on data containing greater than 50% nondetects.

Natural systems continuously evolve due to physical changes made to the environment. Examples include capping a landfill, paving areas near a well, or lining a drainage channel to prevent erosion. Periodic updating of background statistical limits is necessary to accommodate these types of changes. In the interwell case, prediction limits are updated with upgradient well data during each event after careful screening for any new outliers. In the intrawell case, data for all wells and constituents may be re-evaluated when a minimum of 4 new data points are available to determine whether earlier concentrations are representative of present-day groundwater quality. In some cases, earlier data are deselected prior to construction of limits to provide sensitive limits that will rapidly detect

changes in groundwater quality. Even though the data are excluded from the calculation of limits, the deselected values will continue to be reported and shown in tables and graphs.

Summary of Background Screening – Conducted in March 2019

Outlier and Trend Testing

Time series plots are used to identify suspected outliers, or extreme values that would result in limits that are not representative of the current background data population. Suspected outliers at all wells for Appendix III and Appendix IV parameters were formally tested using Tukey's box plot method and, when identified, flagged in the computer database with "o" and deselected prior to construction of statistical limits.

Using the Tukey box plot method, several outliers were identified and the reports were submitted with the screening. In cases where the most recent value was identified as an outlier, values were not flagged in the database at that time as they may represent a future trend. If future values do not remain at similar concentrations, these values will be flagged as outliers and deselected. Several low values exist in the data sets and appear on the graphs as possible low outliers relative to the laboratory's Practical Quantitation Limit. However, these values are observed trace values (i.e. measurements reported by the laboratory between the Method Detection Limit and the Practical Quantitation Limit) and, therefore, were not flagged as outliers.

Of the outliers identified by Tukey's method, only a few of these values were flagged in the database as all other values were similar to remaining measurements or were nondetects.

Additionally, when any values are flagged in the database as outliers, they are plotted in a disconnected and lighter symbol on the time series graph. The accompanying data pages display the flagged value in a lighter font as well. A substitution of the most recent reporting limit was applied when varying detection limits existed in data.

No obvious seasonal patterns were observed on the time series plots for any of the detected data; therefore, no deseasonalizing adjustments were made to the data. When seasonal patterns are observed, data may be deseasonalized so that the resulting limits will correctly account for the seasonality as a predictable pattern rather than random variation or a release.

While trends may be identified by visual inspection, a quantification of the trend and its significance is needed. The Sen's Slope/Mann Kendall trend test was used to evaluate all data at each well to identify statistically significant increasing or decreasing trends. In the absence of suspected contamination, significant trending data are typically not included as part of the background data used for construction of prediction limits. This step serves to eliminate the trend and, thus, reduce variation in background. When statistically significant decreasing trends are present, all available data are evaluated to determine whether earlier concentration levels are significantly different than current reported concentrations, and earlier data will be deselected as necessary. When any records of data are truncated for the reasons above, a summary report will be provided to show the date ranges used in construction of the statistical limits.

The results of the trend analyses were included with the screening report and showed two statistically significant decreasing trends for the Appendix III parameters. The only trend identified in the upgradient wells was a statistically significant decreasing trend for sulfate in well DGWA-71. All trends noted were relatively low in magnitude when compared to average concentrations; therefore, no adjustments were made to the data sets.

Appendix III – Determination of Spatial Variation

The Analysis of Variance (ANOVA) was used to statistically evaluate differences in average concentrations among upgradient wells, which assists in identifying the most appropriate statistical approach. Interwell tests, which compare downgradient well data to statistical limits constructed from pooled upgradient well data, are appropriate when average concentrations are similar across upgradient wells. Intrawell tests, which compare compliance data from a single well to screened historical data within the same well, are appropriate when upgradient wells exhibit spatial variation; when statistical limits constructed from upgradient wells are not representative of the current background data population; and when downgradient water quality is unimpacted compared to upgradient water quality for the same parameter.

The ANOVA identified no variation among upgradient well data for fluoride, making this constituent eligible for interwell analyses. Variation was noted for boron, calcium, chloride, pH, sulfate, and TDS which would indicate intrawell analyses may be most appropriate for these parameters. While data were further tested for intrawell eligibility during the screening, interwell methods will be used for all Appendix III constituents in accordance with Georgia EPD requirements.

Statistical Analysis of Appendix III Parameters – September 2020

Interwell prediction limits, combined with a 1-of-2 resample plan, were constructed using all historical upgradient well data through September 2020 (Figure D). Interwell prediction limits pool upgradient well data to establish a background limit for an individual constituent. The most recent sample from each downgradient well is compared to the background limit to determine whether there are statistically significant increases (SSIs).

In the event of an initial exceedance of compliance well data, the 1-of-2 resample plan allows for collection of one additional sample to determine whether the initial exceedance is confirmed. When a resample confirms the initial exceedance, a statistically significant increase is identified, and further research would be required to identify the cause of the exceedance (i.e. impact from the site, natural variation, or an off-site source). If the resample falls within the statistical limit, the initial exceedance is considered to be a false positive result and, therefore, no exceedance is noted and no further action is necessary. If no resample is collected, the original result is considered a confirmed exceedance. Several prediction limit exceedances were noted for Appendix III parameters. A summary table of the interwell prediction limits follows this letter.

When prediction limit exceedances are identified in downgradient wells, data are further evaluated using the Sen's Slope/Mann Kendall trend test to determine whether concentrations are statistically increasing, decreasing, or stable (Figure E). Upgradient wells are included in the trend analyses for all parameters found to exceed their prediction limit in downgradient wells to identify whether similar patterns exist upgradient of the site. Upgradient trends are an indication of natural variability in groundwater unrelated to practices at the site. A summary of the trend test results follows this letter. Statistically significant trends were noted for the following well/constituent pairs:

Increasing trends:

- Chloride: DGWC-38 and DGWC-67

Decreasing trends:

- Calcium: DGWA-53 (upgradient) and DGWA-71 (upgradient)
- Chloride: DGWC-39
- Sulfate: DGWA-70A (upgradient), DGWA-71 (upgradient), and DGWC-68A
- TDS: DGWA-53 (upgradient)

Statistical Analysis of Appendix IV Parameters – September 2020

Interwell tolerance limits were used to calculate the site-specific background limits from pooled upgradient well data for Appendix IV constituents (Figure F). Parametric tolerance limits are used when data follow a normal or transformed-normal distribution such as for barium and radium. When data contained greater than 50% nondetects or did not follow a normal or transformed-normal distribution, non-parametric tolerance limits were used. The background limits were then used when determining the groundwater protection standard (GWPS) under 40 CFR §257.95(h) and Georgia EPD Rule 391-3-4-.10(6)(a) (Figure G).

As described in 40 CFR §257.95(h) (1-3), the GWPS is:

- The maximum contaminant level (MCL) established under §141.62 and §141.66 of this title
- Where an MCL has not been established for a constituent, CCR-rule specified levels have been specified for cobalt (0.006 mg/L), lead (0.015 mg/L), lithium (0.040 mg/L), and molybdenum (0.100 mg/L)
- The respective background level for a constituent when the background level is higher than the MCL or Federal CCR Rule identified GWPS

On July 30, 2018, USEPA revised the Federal CCR rule updating GWPS for cobalt, lead, lithium, and molybdenum as described above in 40 CFR §257.95(h)(2). Georgia EPD has not incorporated the updated GWPS into the current Georgia EPD Rules for Solid Waste Management 391-3-4-.10(6)(a); therefore, for sites regulated under Georgia EPD Rules, the GWPS is:

- The MCL or
- The background concentration when an MCL is not established or when the background concentration is higher than the MCL.

Following the above Georgia EPD Rule requirements, GWPS were established for statistical comparison of Appendix IV constituents for the September 2020 sample event for the federal and state rules (Figure G). To complete the statistical comparison to GWPS, confidence intervals were constructed for each of the Appendix IV constituents in accordance with the federal and state requirements in each downgradient well (Figures H and I, respectively). The Sanitas software was used to calculate the tolerance limits and the confidence intervals. Those confidence intervals were compared to the GWPS established using the CCR Rules for the federal requirements and the Georgia EPD Rules 391-3-4-.10(6)(a) for the State requirements. Only when the entire confidence

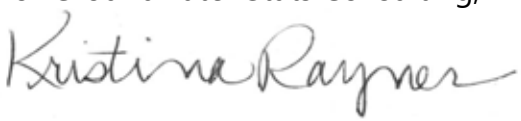
interval is above a GWPS is the downgradient well/constituent pair considered to exceed its respective standard. If there is an exceedance of the GWPS, a statistically significant level (SSL) exceedance is identified. A summary of the confidence intervals follows this letter . Exceedances were noted for the following well/constituent pairs:

Federal & State:

- Arsenic: DGWC-69
- Cobalt: DGWC-40
- Molybdenum: DGWC-68A

Thank you for the opportunity to assist you in the statistical analysis of groundwater quality for McDonough Ash Pond 1. If you have any questions or comments, please feel free to contact me.

For Groundwater Stats Consulting,



Kristina L. Rayner
Groundwater Statistician

100% Non-Detects

Analysis Run 10/29/2020 4:11 PM View: 100% Nondetects - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Antimony (mg/L)
DGWC-37, DGWC-38, DGWC-39, DGWC-40, B-74

Arsenic (mg/L)
DGWC-68A, B-62, B-100

Beryllium (mg/L)
DGWA-53, DGWC-39, DGWC-67

Cadmium (mg/L)
DGWA-71, DGWC-39, B-62

Chromium (mg/L)
DGWA-53, DGWC-39, B-62, B-74

Cobalt (mg/L)
B-62

Fluoride (mg/L)
B-100

Lead (mg/L)
DGWA-53, B-62

Lithium (mg/L)
DGWC-39

Mercury (mg/L)
B-62, B-74

Molybdenum (mg/L)
DGWA-70A, DGWC-37, DGWC-39, DGWC-40, DGWC-67, B-62, B-100

Selenium (mg/L)
DGWA-53, DGWA-70A, DGWA-71, DGWC-37, DGWC-38, DGWC-39, DGWC-67, DGWC-68A, DGWC-69, B-62, B-74, B-100

Thallium (mg/L)
DGWA-53, DGWC-37, DGWC-67, DGWC-69, B-62, B-74, B-100

Interwell Prediction Limit Summary - Significant Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 11/4/2020, 3:03 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	DGWC-37	0.13	n/a	9/24/2020	1.6	Yes	35	n/a	n/a	22.86	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Boron (mg/L)	DGWC-38	0.13	n/a	9/24/2020	2.9	Yes	35	n/a	n/a	22.86	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Boron (mg/L)	DGWC-39	0.13	n/a	9/25/2020	3.3	Yes	35	n/a	n/a	22.86	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Boron (mg/L)	DGWC-40	0.13	n/a	9/23/2020	0.76	Yes	35	n/a	n/a	22.86	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Boron (mg/L)	DGWC-67	0.13	n/a	9/23/2020	3.2	Yes	35	n/a	n/a	22.86	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Boron (mg/L)	DGWC-68A	0.13	n/a	9/23/2020	1.7	Yes	35	n/a	n/a	22.86	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Calcium (mg/L)	DGWC-37	40	n/a	9/24/2020	55.9	Yes	35	n/a	n/a	5.714	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Calcium (mg/L)	DGWC-38	40	n/a	9/24/2020	84.1	Yes	35	n/a	n/a	5.714	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Calcium (mg/L)	DGWC-39	40	n/a	9/25/2020	92.5	Yes	35	n/a	n/a	5.714	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Calcium (mg/L)	DGWC-40	40	n/a	9/23/2020	41.9	Yes	35	n/a	n/a	5.714	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Calcium (mg/L)	DGWC-67	40	n/a	9/23/2020	42	Yes	35	n/a	n/a	5.714	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Calcium (mg/L)	DGWC-68A	40	n/a	9/23/2020	50.2	Yes	35	n/a	n/a	5.714	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Chloride (mg/L)	DGWC-37	4.3	n/a	9/24/2020	5.6	Yes	37	1.634	0.2181	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	DGWC-38	4.3	n/a	9/24/2020	8.2	Yes	37	1.634	0.2181	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	DGWC-39	4.3	n/a	9/25/2020	7.9	Yes	37	1.634	0.2181	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	DGWC-40	4.3	n/a	9/23/2020	19.7	Yes	37	1.634	0.2181	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	DGWC-67	4.3	n/a	9/23/2020	7.1	Yes	37	1.634	0.2181	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	DGWC-69	4.3	n/a	9/23/2020	4.7	Yes	37	1.634	0.2181	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
pH (SU)	DGWC-40	6.6	5.3	9/23/2020	4.78	Yes	44	5.903	0.3302	0	None	No	0.0005373	Param Inter 1 of 2
Sulfate (mg/L)	DGWC-37	31	n/a	9/24/2020	84.1	Yes	37	2.639	1.476	8.108	None	sqrt(x)	0.001075	Param Inter 1 of 2
Sulfate (mg/L)	DGWC-38	31	n/a	9/24/2020	240	Yes	37	2.639	1.476	8.108	None	sqrt(x)	0.001075	Param Inter 1 of 2
Sulfate (mg/L)	DGWC-39	31	n/a	9/25/2020	153	Yes	37	2.639	1.476	8.108	None	sqrt(x)	0.001075	Param Inter 1 of 2
Sulfate (mg/L)	DGWC-40	31	n/a	9/23/2020	190	Yes	37	2.639	1.476	8.108	None	sqrt(x)	0.001075	Param Inter 1 of 2
Sulfate (mg/L)	DGWC-67	31	n/a	9/23/2020	99.8	Yes	37	2.639	1.476	8.108	None	sqrt(x)	0.001075	Param Inter 1 of 2
Sulfate (mg/L)	DGWC-68A	31	n/a	9/23/2020	38.7	Yes	37	2.639	1.476	8.108	None	sqrt(x)	0.001075	Param Inter 1 of 2
TDS (mg/L)	DGWC-38	280	n/a	9/24/2020	489	Yes	36	4.642	0.9577	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
TDS (mg/L)	DGWC-39	280	n/a	9/25/2020	460	Yes	36	4.642	0.9577	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
TDS (mg/L)	DGWC-40	280	n/a	9/23/2020	357	Yes	36	4.642	0.9577	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
TDS (mg/L)	DGWC-67	280	n/a	9/23/2020	296	Yes	36	4.642	0.9577	0	None	x^(1/3)	0.001075	Param Inter 1 of 2

Interwell Prediction Limit Summary - All Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 11/4/2020, 3:03 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	**DGWC-37**	**0.13**	**n/a**	**9/24/2020**	**1.6**	**Yes**	**35**	**n/a**	**n/a**	**22.86**	**n/a**	**n/a**	**0.001441**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**DGWC-38**	**0.13**	**n/a**	**9/24/2020**	**2.9**	**Yes**	**35**	**n/a**	**n/a**	**22.86**	**n/a**	**n/a**	**0.001441**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**DGWC-39**	**0.13**	**n/a**	**9/25/2020**	**3.3**	**Yes**	**35**	**n/a**	**n/a**	**22.86**	**n/a**	**n/a**	**0.001441**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**DGWC-40**	**0.13**	**n/a**	**9/23/2020**	**0.76**	**Yes**	**35**	**n/a**	**n/a**	**22.86**	**n/a**	**n/a**	**0.001441**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**DGWC-67**	**0.13**	**n/a**	**9/23/2020**	**3.2**	**Yes**	**35**	**n/a**	**n/a**	**22.86**	**n/a**	**n/a**	**0.001441**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**DGWC-68A**	**0.13**	**n/a**	**9/23/2020**	**1.7**	**Yes**	**35**	**n/a**	**n/a**	**22.86**	**n/a**	**n/a**	**0.001441**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	DGWC-69	0.13	n/a	9/23/2020	0.041J	No	35	n/a	n/a	22.86	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Calcium (mg/L)	**DGWC-37**	**40**	**n/a**	**9/24/2020**	**55.9**	**Yes**	**35**	**n/a**	**n/a**	**5.714**	**n/a**	**n/a**	**0.001441**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**DGWC-38**	**40**	**n/a**	**9/24/2020**	**84.1**	**Yes**	**35**	**n/a**	**n/a**	**5.714**	**n/a**	**n/a**	**0.001441**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**DGWC-39**	**40**	**n/a**	**9/25/2020**	**92.5**	**Yes**	**35**	**n/a**	**n/a**	**5.714**	**n/a**	**n/a**	**0.001441**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**DGWC-40**	**40**	**n/a**	**9/23/2020**	**41.9**	**Yes**	**35**	**n/a**	**n/a**	**5.714**	**n/a**	**n/a**	**0.001441**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**DGWC-67**	**40**	**n/a**	**9/23/2020**	**42**	**Yes**	**35**	**n/a**	**n/a**	**5.714**	**n/a**	**n/a**	**0.001441**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**DGWC-68A**	**40**	**n/a**	**9/23/2020**	**50.2**	**Yes**	**35**	**n/a**	**n/a**	**5.714**	**n/a**	**n/a**	**0.001441**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	DGWC-69	40	n/a	9/23/2020	8	No	35	n/a	n/a	5.714	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Chloride (mg/L)	**DGWC-37**	**4.3**	**n/a**	**9/24/2020**	**5.6**	**Yes**	**37**	**1.634**	**0.2181**	**0**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Chloride (mg/L)	**DGWC-38**	**4.3**	**n/a**	**9/24/2020**	**8.2**	**Yes**	**37**	**1.634**	**0.2181**	**0**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Chloride (mg/L)	**DGWC-39**	**4.3**	**n/a**	**9/25/2020**	**7.9**	**Yes**	**37**	**1.634**	**0.2181**	**0**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Chloride (mg/L)	**DGWC-40**	**4.3**	**n/a**	**9/23/2020**	**19.7**	**Yes**	**37**	**1.634**	**0.2181**	**0**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Chloride (mg/L)	**DGWC-67**	**4.3**	**n/a**	**9/23/2020**	**7.1**	**Yes**	**37**	**1.634**	**0.2181**	**0**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Chloride (mg/L)	DGWC-68A	4.3	n/a	9/23/2020	3.6	No	37	1.634	0.2181	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	**DGWC-69**	**4.3**	**n/a**	**9/23/2020**	**4.7**	**Yes**	**37**	**1.634**	**0.2181**	**0**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Fluoride (mg/L)	DGWC-37	0.42	n/a	9/24/2020	0.061J	No	42	n/a	n/a	50	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Fluoride (mg/L)	DGWC-38	0.42	n/a	9/24/2020	0.057J	No	42	n/a	n/a	50	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Fluoride (mg/L)	DGWC-39	0.42	n/a	9/25/2020	0.086J	No	42	n/a	n/a	50	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Fluoride (mg/L)	DGWC-40	0.42	n/a	9/23/2020	0.054J	No	42	n/a	n/a	50	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Fluoride (mg/L)	DGWC-67	0.42	n/a	9/23/2020	0.1ND	No	42	n/a	n/a	50	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Fluoride (mg/L)	DGWC-68A	0.42	n/a	9/23/2020	0.07J	No	42	n/a	n/a	50	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Fluoride (mg/L)	DGWC-69	0.42	n/a	9/23/2020	0.064J	No	42	n/a	n/a	50	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
pH (SU)	DGWC-37	6.6	5.3	9/24/2020	6.3	No	44	5.903	0.3302	0	None	No	0.0005373	Param Inter 1 of 2
pH (SU)	DGWC-38	6.6	5.3	9/24/2020	6.05	No	44	5.903	0.3302	0	None	No	0.0005373	Param Inter 1 of 2
pH (SU)	DGWC-39	6.6	5.3	9/25/2020	6.38	No	44	5.903	0.3302	0	None	No	0.0005373	Param Inter 1 of 2
pH (SU)	**DGWC-40**	**6.6**	**5.3**	**9/23/2020**	**4.78**	**Yes**	**44**	**5.903**	**0.3302**	**0**	**None**	**No**	**0.0005373**	**Param Inter 1 of 2**
pH (SU)	DGWC-67	6.6	5.3	9/23/2020	6.23	No	44	5.903	0.3302	0	None	No	0.0005373	Param Inter 1 of 2
pH (SU)	DGWC-68A	6.6	5.3	9/23/2020	6.6	No	44	5.903	0.3302	0	None	No	0.0005373	Param Inter 1 of 2
pH (SU)	DGWC-69	6.6	5.3	9/23/2020	6.08	No	44	5.903	0.3302	0	None	No	0.0005373	Param Inter 1 of 2
Sulfate (mg/L)	**DGWC-37**	**31**	**n/a**	**9/24/2020**	**84.1**	**Yes**	**37**	**2.639**	**1.476**	**8.108**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Sulfate (mg/L)	**DGWC-38**	**31**	**n/a**	**9/24/2020**	**240**	**Yes**	**37**	**2.639**	**1.476**	**8.108**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Sulfate (mg/L)	**DGWC-39**	**31**	**n/a**	**9/25/2020**	**153**	**Yes**	**37**	**2.639**	**1.476**	**8.108**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Sulfate (mg/L)	**DGWC-40**	**31**	**n/a**	**9/23/2020**	**190**	**Yes**	**37**	**2.639**	**1.476**	**8.108**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Sulfate (mg/L)	**DGWC-67**	**31**	**n/a**	**9/23/2020**	**99.8**	**Yes**	**37**	**2.639**	**1.476**	**8.108**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Sulfate (mg/L)	**DGWC-68A**	**31**	**n/a**	**9/23/2020**	**38.7**	**Yes**	**37**	**2.639**	**1.476**	**8.108**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Sulfate (mg/L)	DGWC-69	31	n/a	9/23/2020	5.9	No	37	2.639	1.476	8.108	None	sqrt(x)	0.001075	Param Inter 1 of 2
TDS (mg/L)	DGWC-37	280	n/a	9/24/2020	280	No	36	4.642	0.9577	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
TDS (mg/L)	**DGWC-38**	**280**	**n/a**	**9/24/2020**	**489**	**Yes**	**36**	**4.642**	**0.9577**	**0**	**None**	**x^(1/3)**	**0.001075**	**Param Inter 1 of 2**
TDS (mg/L)	**DGWC-39**	**280**	**n/a**	**9/25/2020**	**460**	**Yes**	**36**	**4.642**	**0.9577**	**0**	**None**	**x^(1/3)**	**0.001075**	**Param Inter 1 of 2**
TDS (mg/L)	**DGWC-40**	**280**	**n/a**	**9/23/2020**	**357**	**Yes**	**36**	**4.642**	**0.9577**	**0**	**None**	**x^(1/3)**	**0.001075**	**Param Inter 1 of 2**
TDS (mg/L)	**DGWC-67**	**280**	**n/a**	**9/23/2020**	**296**	**Yes**	**36**	**4.642**	**0.9577**	**0**	**None**	**x^(1/3)**	**0.001075**	**Param Inter 1 of 2**
TDS (mg/L)	DGWC-68A	280	n/a	9/23/2020	251	No	36	4.642	0.9577	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
TDS (mg/L)	DGWC-69	280	n/a	9/23/2020	102	No	36	4.642	0.9577	0	None	x^(1/3)	0.001075	Param Inter 1 of 2

Trend Test Summary - Significant Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 10/29/2020, 3:54 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Calcium (mg/L)	**DGWA-53 (bg)**	**-5.213**	**-40**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**DGWA-71 (bg)**	**-0.9849**	**-35**	**-34**	**Yes**	**11**	**9.091**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	**DGWC-38**	**0.2409**	**39**	**38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	**DGWC-39**	**-0.3668**	**-49**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	**DGWC-67**	**0.4474**	**46**	**38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**DGWA-70A (bg)**	**-0.3438**	**-40**	**-38**	**Yes**	**12**	**25**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**DGWA-71 (bg)**	**-2.262**	**-49**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**DGWC-68A**	**-3.602**	**-47**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
TDS (mg/L)	**DGWA-53 (bg)**	**-26.46**	**-41**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**

Trend Test Summary - All Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 10/29/2020, 3:54 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	DGWA-53 (bg)	-0.0003249	-5	-38	No	12	0	n/a	n/a	0.01	NP
Boron (mg/L)	DGWA-70A (bg)	0	1	38	No	12	50	n/a	n/a	0.01	NP
Boron (mg/L)	DGWA-71 (bg)	-0.00009656	-1	-34	No	11	18.18	n/a	n/a	0.01	NP
Boron (mg/L)	DGWC-37	-0.07542	-17	-38	No	12	0	n/a	n/a	0.01	NP
Boron (mg/L)	DGWC-38	-0.00343	-2	-38	No	12	0	n/a	n/a	0.01	NP
Boron (mg/L)	DGWC-39	-0.04541	-18	-38	No	12	0	n/a	n/a	0.01	NP
Boron (mg/L)	DGWC-40	-0.02133	-23	-38	No	12	0	n/a	n/a	0.01	NP
Boron (mg/L)	DGWC-67	0.07599	30	38	No	12	0	n/a	n/a	0.01	NP
Boron (mg/L)	DGWC-68A	-0.08493	-21	-38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	**DGWA-53 (bg)**	**-5.213**	**-40**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	DGWA-70A (bg)	-0.1112	-19	-38	No	12	8.333	n/a	n/a	0.01	NP
Calcium (mg/L)	**DGWA-71 (bg)**	**-0.9849**	**-35**	**-34**	**Yes**	**11**	**9.091**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	DGWC-37	0.01881	1	38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	DGWC-38	4.727	34	38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	DGWC-39	1.118	10	38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	DGWC-40	1.329	20	38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	DGWC-67	0.5957	14	38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	DGWC-68A	0.619	12	38	No	12	0	n/a	n/a	0.01	NP
Chloride (mg/L)	DGWA-53 (bg)	-0.2527	-40	-43	No	13	0	n/a	n/a	0.01	NP
Chloride (mg/L)	DGWA-70A (bg)	-0.08248	-13	-38	No	12	0	n/a	n/a	0.01	NP
Chloride (mg/L)	DGWA-71 (bg)	-0.07123	-11	-38	No	12	0	n/a	n/a	0.01	NP
Chloride (mg/L)	DGWC-37	-0.1399	-20	-38	No	12	0	n/a	n/a	0.01	NP
Chloride (mg/L)	**DGWC-38**	**0.2409**	**39**	**38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	**DGWC-39**	**-0.3668**	**-49**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	DGWC-40	-0.08192	-9	-38	No	12	0	n/a	n/a	0.01	NP
Chloride (mg/L)	**DGWC-67**	**0.4474**	**46**	**38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	DGWC-69	0.4041	29	43	No	13	0	n/a	n/a	0.01	NP
pH (SU)	DGWA-53 (bg)	0.031	4	53	No	15	0	n/a	n/a	0.01	NP
pH (SU)	DGWA-70A (bg)	0.004574	2	48	No	14	0	n/a	n/a	0.01	NP
pH (SU)	DGWA-71 (bg)	0.06107	33	53	No	15	0	n/a	n/a	0.01	NP
pH (SU)	DGWC-40	-0.03104	-22	-48	No	14	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	DGWA-53 (bg)	-2.258	-20	-43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	**DGWA-70A (bg)**	**-0.3438**	**-40**	**-38**	**Yes**	**12**	**25**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**DGWA-71 (bg)**	**-2.262**	**-49**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	DGWC-37	-4.184	-30	-34	No	11	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	DGWC-38	-6.806	-17	-38	No	12	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	DGWC-39	-25.77	-36	-38	No	12	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	DGWC-40	-10.08	-23	-38	No	12	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	DGWC-67	0	-5	-38	No	12	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	**DGWC-68A**	**-3.602**	**-47**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
TDS (mg/L)	**DGWA-53 (bg)**	**-26.46**	**-41**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
TDS (mg/L)	DGWA-70A (bg)	0	0	38	No	12	0	n/a	n/a	0.01	NP
TDS (mg/L)	DGWA-71 (bg)	-5.475	-26	-38	No	12	0	n/a	n/a	0.01	NP
TDS (mg/L)	DGWC-38	12.73	24	38	No	12	0	n/a	n/a	0.01	NP
TDS (mg/L)	DGWC-39	-11.95	-19	-38	No	12	0	n/a	n/a	0.01	NP
TDS (mg/L)	DGWC-40	6.266	13	34	No	11	0	n/a	n/a	0.01	NP
TDS (mg/L)	DGWC-67	-3.218	-4	-38	No	12	0	n/a	n/a	0.01	NP

Tolerance Limit Summary Table

Plant McDonough Client: Southern Company Data: McDonough AP Printed 11/18/2020, 10:01 AM

Constituent	Well	Upper Lim.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	n/a	0.0030	38	n/a	n/a	81.58	n/a	n/a	0.1424	NP Inter(NDs)
Arsenic (mg/L)	n/a	0.0050	38	n/a	n/a	78.95	n/a	n/a	0.1424	NP Inter(NDs)
Barium (mg/L)	n/a	0.19	38	n/a	n/a	0	n/a	n/a	0.1424	NP Inter(normality)
Beryllium (mg/L)	n/a	0.0030	38	n/a	n/a	73.68	n/a	n/a	0.1424	NP Inter(normality)
Cadmium (mg/L)	n/a	0.0025	38	n/a	n/a	92.11	n/a	n/a	0.1424	NP Inter(NDs)
Chromium (mg/L)	n/a	0.010	37	n/a	n/a	54.05	n/a	n/a	0.1499	NP Inter(normality)
Cobalt (mg/L)	n/a	0.032	38	n/a	n/a	31.58	n/a	n/a	0.1424	NP Inter(normality)
Combined Radium 226 + 228 (pCi/L)	n/a	5.9	40	1.062	0.3514	0	None	x^(1/3)	0.05	Inter
Fluoride (mg/L)	n/a	0.42	42	n/a	n/a	50	n/a	n/a	0.116	NP Inter(normality)
Lead (mg/L)	n/a	0.0050	38	n/a	n/a	76.32	n/a	n/a	0.1424	NP Inter(NDs)
Lithium (mg/L)	n/a	0.030	38	n/a	n/a	36.84	n/a	n/a	0.1424	NP Inter(normality)
Mercury (mg/L)	n/a	0.00050	38	n/a	n/a	89.47	n/a	n/a	0.1424	NP Inter(NDs)
Molybdenum (mg/L)	n/a	0.041	38	n/a	n/a	63.16	n/a	n/a	0.1424	NP Inter(normality)
Selenium (mg/L)	n/a	0.010	38	n/a	n/a	100	n/a	n/a	0.1424	NP Inter(NDs)
Thallium (mg/L)	n/a	0.0010	38	n/a	n/a	94.74	n/a	n/a	0.1424	NP Inter(NDs)

MCDONOUGH AP-1 GWPS TABLE					
Constituent Name	**MCL**	**CCR-Rule Specified**	**Background Limit**	**Federal GWPS**	**State GWPS**
Antimony, Total (mg/L)	0.006		0.003	0.006	0.006
Arsenic, Total (mg/L)	0.01		0.005	0.01	0.01
Barium, Total (mg/L)	2		0.19	2	2
Beryllium, Total (mg/L)	0.004		0.003	0.004	0.004
Cadmium, Total (mg/L)	0.005		0.0025	0.005	0.005
Chromium, Total (mg/L)	0.1		0.01	0.1	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.032	0.032	0.032
Combined Radium, Total (pCi/L)	5		5.92	5.92	5.92
Fluoride, Total (mg/L)	4		0.42	4	4
Lead, Total (mg/L)	n/a	0.015	0.005	0.015	0.005
Lithium, Total (mg/L)	n/a	0.04	0.03	0.04	0.03
Mercury, Total (mg/L)	0.002		0.0005	0.002	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.041	0.1	0.041
Selenium, Total (mg/L)	0.05		0.01	0.05	0.05
Thallium, Total (mg/L)	0.002		0.001	0.002	0.002

**Highlighted cells indicated Background is higher than MCLs or CCR-Rule Specified levels.*

**MCL = Maximum Contaminant Level*

**GWPS = Groundwater Protection Standard*

Federal Confidence Interval Summary - Significant Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 10/29/2020, 4:00 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	**DGWC-69**	**0.04128**	**0.01078**	**0.01**	**Yes**	**15**	**0.03475**	**0.0442**	**0**	**None**	**ln(x)**	**0.01**	**Param.**
Cobalt (mg/L)	**DGWC-40**	**0.04568**	**0.037**	**0.032**	**Yes**	**13**	**0.04134**	**0.005839**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**DGWC-68A**	**0.226**	**0.19**	**0.1**	**Yes**	**13**	**0.2118**	**0.02249**	**0**	**None**	**No**	**0.01**	**NP (normality)**

Federal Confidence Interval Summary - All Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 10/29/2020, 4:00 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	DGWC-37	0.003	0.003	0.006	No	12	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-38	0.003	0.003	0.006	No	12	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-39	0.003	0.003	0.006	No	12	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-40	0.003	0.003	0.006	No	12	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-67	0.003	0.0008	0.006	No	12	0.002542	0.0009327	75	None	No	0.01	NP (normality)
Antimony (mg/L)	DGWC-68A	0.003	0.0008	0.006	No	12	0.002817	0.0006351	91.67	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-69	0.003	0.0019	0.006	No	13	0.002738	0.0006838	84.62	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-37	0.005	0.0019	0.01	No	13	0.004762	0.0008598	92.31	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-38	0.005	0.0005	0.01	No	13	0.004654	0.001248	92.31	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-39	0.005	0.00057	0.01	No	13	0.002714	0.002209	46.15	None	No	0.01	NP (normality)
Arsenic (mg/L)	DGWC-40	0.005	0.00065	0.01	No	13	0.004027	0.001853	76.92	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-67	0.005	0.00042	0.01	No	13	0.004648	0.00127	92.31	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-68A	0.005	0.005	0.01	No	13	0.005	0	100	None	No	0.01	NP (NDs)
Arsenic (mg/L)	**DGWC-69**	**0.04128**	**0.01078**	**0.01**	**Yes**	**15**	**0.03475**	**0.0442**	**0**	**None**	**ln(x)**	**0.01**	**Param.**
Barium (mg/L)	DGWC-37	0.1138	0.09252	2	No	13	0.1032	0.0143	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-38	0.03369	0.03234	2	No	13	0.03302	0.0009091	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-39	0.09753	0.08432	2	No	13	0.09092	0.008879	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-40	0.01815	0.0169	2	No	13	0.01752	0.0008408	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-67	0.1131	0.1014	2	No	13	0.1072	0.007854	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-68A	0.09052	0.08674	2	No	13	0.08863	0.00254	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-69	0.1065	0.07028	2	No	14	0.08841	0.0256	0	None	No	0.01	Param.
Beryllium (mg/L)	DGWC-37	0.003	0.000086	0.004	No	13	0.002103	0.0014	69.23	None	No	0.01	NP (normality)
Beryllium (mg/L)	DGWC-38	0.003	0.000058	0.004	No	13	0.002774	0.000816	92.31	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-39	0.003	0.003	0.004	No	13	0.003	0	100	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-40	0.003353	0.002862	0.004	No	13	0.003108	0.0003303	7.692	None	No	0.01	Param.
Beryllium (mg/L)	DGWC-67	0.003	0.003	0.004	No	13	0.003	0	100	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-68A	0.003	0.000084	0.004	No	13	0.002776	0.0008088	92.31	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-69	0.003	0.000063	0.004	No	14	0.001952	0.001459	64.29	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-37	0.0025	0.0002	0.005	No	13	0.001782	0.001121	69.23	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-38	0.001	0.00017	0.005	No	13	0.0004915	0.000659	15.38	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-39	0.0025	0.0025	0.005	No	13	0.0025	0	100	None	No	0.01	NP (NDs)
Cadmium (mg/L)	DGWC-40	0.001	0.0007	0.005	No	13	0.0009608	0.0004698	15.38	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-67	0.0025	0.00017	0.005	No	13	0.001785	0.001116	69.23	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-68A	0.0025	0.00017	0.005	No	13	0.00114	0.001141	46.15	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-69	0.0025	0.00017	0.005	No	14	0.001834	0.001094	71.43	None	No	0.01	NP (normality)
Chromium (mg/L)	DGWC-37	0.01	0.0007	0.1	No	13	0.00856	0.003515	84.62	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-38	0.01	0.0005	0.1	No	13	0.007835	0.004115	76.92	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-39	0.01	0.01	0.1	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-40	0.01	0.00061	0.1	No	13	0.004332	0.004667	38.46	None	No	0.01	NP (normality)
Chromium (mg/L)	DGWC-67	0.01	0.0007	0.1	No	13	0.007852	0.004082	76.92	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-68A	0.01	0.0005	0.1	No	13	0.009269	0.002635	92.31	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-69	0.01	0.0012	0.1	No	14	0.008056	0.003865	78.57	None	No	0.01	NP (NDs)
Cobalt (mg/L)	DGWC-37	0.005	0.0005	0.032	No	13	0.003931	0.002032	76.92	None	No	0.01	NP (NDs)
Cobalt (mg/L)	DGWC-38	0.005	0.0014	0.032	No	13	0.002462	0.00246	15.38	None	No	0.01	NP (normality)
Cobalt (mg/L)	DGWC-39	0.0071	0.0059	0.032	No	13	0.006623	0.001171	15.38	None	No	0.01	NP (normality)
Cobalt (mg/L)	**DGWC-40**	**0.04568**	**0.037**	**0.032**	**Yes**	**13**	**0.04134**	**0.005839**	**0**	**None**	**No**	**0.01**	**Param.**
Cobalt (mg/L)	DGWC-67	0.0064	0.0013	0.032	No	13	0.003346	0.002605	15.38	None	No	0.01	NP (Cohens/xfrm)
Cobalt (mg/L)	DGWC-68A	0.005	0.0005	0.032	No	13	0.004023	0.001875	76.92	None	No	0.01	NP (NDs)
Cobalt (mg/L)	DGWC-69	0.005	0.0016	0.032	No	14	0.003643	0.001755	57.14	None	No	0.01	NP (normality)
Combined Radium 226 + 228 (pCi/L)	DGWC-37	1.167	0.4891	5.92	No	13	0.8278	0.4555	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-38	1.017	0.4363	5.92	No	13	0.7268	0.3906	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-39	1.426	0.6196	5.92	No	13	1.023	0.5424	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-40	1.577	0.5261	5.92	No	13	1.051	0.7064	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-67	0.9464	0.4432	5.92	No	13	0.6948	0.3384	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-68A	1.445	0.5348	5.92	No	13	0.9897	0.6118	0	None	No	0.01	Param.

Federal Confidence Interval Summary - All Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 10/29/2020, 4:00 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Combined Radium 226 + 228 (pCi/L)	DGWC-69	1.838	1.093	5.92	No	14	1.465	0.526	0	None	No	0.01	Param.
Fluoride (mg/L)	DGWC-37	0.21	0.054	4	No	14	0.1059	0.08236	7.143	None	No	0.01	NP (normality)
Fluoride (mg/L)	DGWC-38	0.23	0.057	4	No	14	0.1303	0.1187	14.29	None	No	0.01	NP (normality)
Fluoride (mg/L)	DGWC-39	0.33	0.085	4	No	14	0.1649	0.1261	7.143	None	No	0.01	NP (normality)
Fluoride (mg/L)	DGWC-40	0.3518	0.134	4	No	14	0.2539	0.1665	7.143	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	DGWC-67	0.07	0.03	4	No	14	0.092	0.1301	50	None	No	0.01	NP (normality)
Fluoride (mg/L)	DGWC-68A	0.15	0.082	4	No	14	0.1321	0.07898	7.143	None	No	0.01	NP (normality)
Fluoride (mg/L)	DGWC-69	0.1918	0.09644	4	No	15	0.1441	0.07038	6.667	None	No	0.01	Param.
Lead (mg/L)	DGWC-37	0.005	0.0014	0.015	No	13	0.004343	0.001626	84.62	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-38	0.005	0.000074	0.015	No	13	0.00349	0.002357	69.23	None	No	0.01	NP (normality)
Lead (mg/L)	DGWC-39	0.005	0.00022	0.015	No	13	0.004254	0.001822	84.62	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-40	0.005	0.00007	0.015	No	13	0.002375	0.002531	46.15	None	No	0.01	NP (normality)
Lead (mg/L)	DGWC-67	0.005	0.000056	0.015	No	13	0.003861	0.002164	76.92	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-68A	0.005	0.00035	0.015	No	13	0.004642	0.00129	92.31	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-69	0.005	0.00009	0.015	No	14	0.003251	0.002436	64.29	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-37	0.03	0.0018	0.04	No	13	0.01085	0.01329	30.77	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-38	0.0035	0.0029	0.04	No	13	0.005315	0.00742	7.692	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-39	0.03	0.03	0.04	No	13	0.03	0	100	None	No	0.01	NP (NDs)
Lithium (mg/L)	DGWC-40	0.0027	0.0021	0.04	No	13	0.006546	0.01041	15.38	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-67	0.0054	0.0043	0.04	No	13	0.006592	0.007043	7.692	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-68A	0.03	0.0016	0.04	No	13	0.02782	0.007877	92.31	None	No	0.01	NP (NDs)
Lithium (mg/L)	DGWC-69	0.0034	0.0025	0.04	No	14	0.004843	0.007249	7.143	None	No	0.01	NP (normality)
Mercury (mg/L)	DGWC-37	0.0005	0.00006	0.002	No	13	0.0003996	0.000191	76.92	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-38	0.0005	0.00007	0.002	No	13	0.0003996	0.000191	76.92	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-39	0.0005	0.000059	0.002	No	13	0.0004661	0.0001223	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-40	0.0005	0.000045	0.002	No	13	0.0003984	0.0001934	76.92	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-67	0.0005	0.00007	0.002	No	13	0.0004669	0.0001193	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-68A	0.0005	0.00007	0.002	No	13	0.0004669	0.0001193	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-69	0.0005	0.00007	0.002	No	14	0.0004693	0.0001149	92.86	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	DGWC-37	0.01	0.01	0.1	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	DGWC-38	0.01	0.001	0.1	No	13	0.005875	0.004637	53.85	None	No	0.01	NP (normality)
Molybdenum (mg/L)	DGWC-39	0.01	0.01	0.1	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	DGWC-40	0.01	0.01	0.1	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	DGWC-67	0.01	0.01	0.1	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	**DGWC-68A**	**0.226**	**0.19**	**0.1**	**Yes**	**13**	**0.2118**	**0.02249**	**0**	**None**	**No**	**0.01**	**NP (normality)**
Molybdenum (mg/L)	DGWC-69	0.01331	0.006682	0.1	No	14	0.01065	0.00614	7.143	None	ln(x)	0.01	Param.
Selenium (mg/L)	DGWC-37	0.01	0.01	0.05	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-38	0.01	0.01	0.05	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-39	0.01	0.01	0.05	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-40	0.01	0.0018	0.05	No	13	0.004638	0.003361	23.08	None	No	0.01	NP (normality)
Selenium (mg/L)	DGWC-67	0.01	0.01	0.05	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-68A	0.01	0.01	0.05	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-69	0.01	0.01	0.05	No	14	0.01	0	100	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-37	0.001	0.001	0.002	No	13	0.001	0	100	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-38	0.001	0.0001	0.002	No	13	0.0004623	0.000443	38.46	None	No	0.01	NP (normality)
Thallium (mg/L)	DGWC-39	0.001	0.000071	0.002	No	13	0.0006485	0.0004629	61.54	None	No	0.01	NP (normality)
Thallium (mg/L)	DGWC-40	0.001	0.000068	0.002	No	13	0.0006406	0.0004732	61.54	None	No	0.01	NP (normality)
Thallium (mg/L)	DGWC-67	0.001	0.001	0.002	No	13	0.001	0	100	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-68A	0.001	0.00015	0.002	No	13	0.0009346	0.0002357	92.31	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-69	0.001	0.001	0.002	No	14	0.001	0	100	None	No	0.01	NP (NDs)

State Confidence Interval Summary - Significant Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 10/29/2020, 4:04 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	**DGWC-69**	**0.04128**	**0.01078**	**0.01**	**Yes**	**15**	**0.03475**	**0.0442**	**0**	**None**	**ln(x)**	**0.01**	**Param.**
Cobalt (mg/L)	**DGWC-40**	**0.04568**	**0.037**	**0.032**	**Yes**	**13**	**0.04134**	**0.005839**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**DGWC-68A**	**0.226**	**0.19**	**0.041**	**Yes**	**13**	**0.2118**	**0.02249**	**0**	**None**	**No**	**0.01**	**NP (normality)**

State Confidence Interval Summary - All Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 10/29/2020, 4:04 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	DGWC-37	0.003	0.003	0.006	No	12	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-38	0.003	0.003	0.006	No	12	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-39	0.003	0.003	0.006	No	12	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-40	0.003	0.003	0.006	No	12	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-67	0.003	0.0008	0.006	No	12	0.002542	0.0009327	75	None	No	0.01	NP (normality)
Antimony (mg/L)	DGWC-68A	0.003	0.0008	0.006	No	12	0.002817	0.0006351	91.67	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-69	0.003	0.0019	0.006	No	13	0.002738	0.0006838	84.62	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-37	0.005	0.0019	0.01	No	13	0.004762	0.0008598	92.31	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-38	0.005	0.0005	0.01	No	13	0.004654	0.001248	92.31	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-39	0.005	0.00057	0.01	No	13	0.002714	0.002209	46.15	None	No	0.01	NP (normality)
Arsenic (mg/L)	DGWC-40	0.005	0.00065	0.01	No	13	0.004027	0.001853	76.92	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-67	0.005	0.00042	0.01	No	13	0.004648	0.00127	92.31	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-68A	0.005	0.005	0.01	No	13	0.005	0	100	None	No	0.01	NP (NDs)
Arsenic (mg/L)	**DGWC-69**	**0.04128**	**0.01078**	**0.01**	**Yes**	**15**	**0.03475**	**0.0442**	**0**	**None**	**ln(x)**	**0.01**	**Param.**
Barium (mg/L)	DGWC-37	0.1138	0.09252	2	No	13	0.1032	0.0143	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-38	0.03369	0.03234	2	No	13	0.03302	0.0009091	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-39	0.09753	0.08432	2	No	13	0.09092	0.008879	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-40	0.01815	0.0169	2	No	13	0.01752	0.0008408	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-67	0.1131	0.1014	2	No	13	0.1072	0.007854	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-68A	0.09052	0.08674	2	No	13	0.08863	0.00254	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-69	0.1065	0.07028	2	No	14	0.08841	0.0256	0	None	No	0.01	Param.
Beryllium (mg/L)	DGWC-37	0.003	0.000086	0.004	No	13	0.002103	0.0014	69.23	None	No	0.01	NP (normality)
Beryllium (mg/L)	DGWC-38	0.003	0.000058	0.004	No	13	0.002774	0.000816	92.31	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-39	0.003	0.003	0.004	No	13	0.003	0	100	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-40	0.003353	0.002862	0.004	No	13	0.003108	0.0003303	7.692	None	No	0.01	Param.
Beryllium (mg/L)	DGWC-67	0.003	0.003	0.004	No	13	0.003	0	100	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-68A	0.003	0.000084	0.004	No	13	0.002776	0.0008088	92.31	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-69	0.003	0.000063	0.004	No	14	0.001952	0.001459	64.29	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-37	0.0025	0.0002	0.005	No	13	0.001782	0.001121	69.23	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-38	0.001	0.00017	0.005	No	13	0.0004915	0.000659	15.38	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-39	0.0025	0.0025	0.005	No	13	0.0025	0	100	None	No	0.01	NP (NDs)
Cadmium (mg/L)	DGWC-40	0.001	0.0007	0.005	No	13	0.0009608	0.0004698	15.38	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-67	0.0025	0.00017	0.005	No	13	0.001785	0.001116	69.23	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-68A	0.0025	0.00017	0.005	No	13	0.00114	0.001141	46.15	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-69	0.0025	0.00017	0.005	No	14	0.001834	0.001094	71.43	None	No	0.01	NP (normality)
Chromium (mg/L)	DGWC-37	0.01	0.0007	0.1	No	13	0.00856	0.003515	84.62	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-38	0.01	0.0005	0.1	No	13	0.007835	0.004115	76.92	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-39	0.01	0.01	0.1	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-40	0.01	0.00061	0.1	No	13	0.004332	0.004667	38.46	None	No	0.01	NP (normality)
Chromium (mg/L)	DGWC-67	0.01	0.0007	0.1	No	13	0.007852	0.004082	76.92	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-68A	0.01	0.0005	0.1	No	13	0.009269	0.002635	92.31	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-69	0.01	0.0012	0.1	No	14	0.008056	0.003865	78.57	None	No	0.01	NP (NDs)
Cobalt (mg/L)	DGWC-37	0.005	0.0005	0.032	No	13	0.003931	0.002032	76.92	None	No	0.01	NP (NDs)
Cobalt (mg/L)	DGWC-38	0.005	0.0014	0.032	No	13	0.002462	0.00246	15.38	None	No	0.01	NP (normality)
Cobalt (mg/L)	DGWC-39	0.0071	0.0059	0.032	No	13	0.006623	0.001171	15.38	None	No	0.01	NP (normality)
Cobalt (mg/L)	**DGWC-40**	**0.04568**	**0.037**	**0.032**	**Yes**	**13**	**0.04134**	**0.005839**	**0**	**None**	**No**	**0.01**	**Param.**
Cobalt (mg/L)	DGWC-67	0.0064	0.0013	0.032	No	13	0.003346	0.002605	15.38	None	No	0.01	NP (Cohens/xfrm)
Cobalt (mg/L)	DGWC-68A	0.005	0.0005	0.032	No	13	0.004023	0.001875	76.92	None	No	0.01	NP (NDs)
Cobalt (mg/L)	DGWC-69	0.005	0.0016	0.032	No	14	0.003643	0.001755	57.14	None	No	0.01	NP (normality)
Combined Radium 226 + 228 (pCi/L)	DGWC-37	1.167	0.4891	5.92	No	13	0.8278	0.4555	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-38	1.017	0.4363	5.92	No	13	0.7268	0.3906	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-39	1.426	0.6196	5.92	No	13	1.023	0.5424	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-40	1.577	0.5261	5.92	No	13	1.051	0.7064	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-67	0.9464	0.4432	5.92	No	13	0.6948	0.3384	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-68A	1.445	0.5348	5.92	No	13	0.9897	0.6118	0	None	No	0.01	Param.

State Confidence Interval Summary - All Results

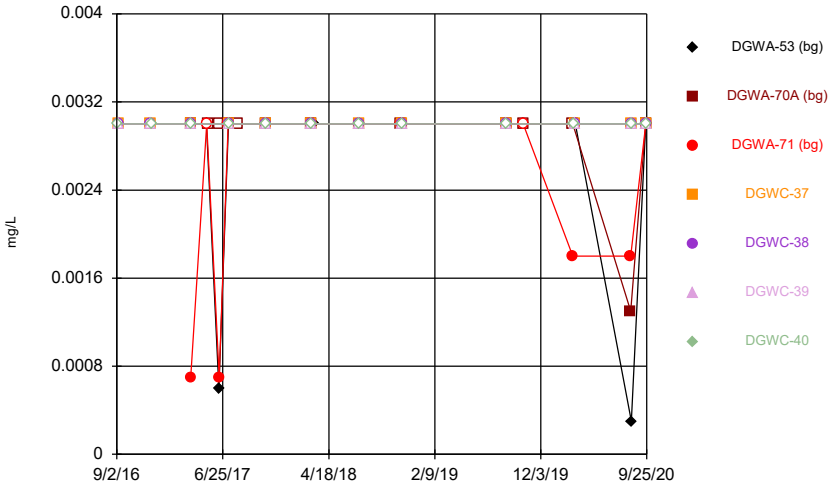
Plant McDonough Client: Southern Company Data: McDonough AP Printed 10/29/2020, 4:04 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Combined Radium 226 + 228 (pCi/L)	DGWC-69	1.838	1.093	5.92	No	14	1.465	0.526	0	None	No	0.01	Param.
Fluoride (mg/L)	DGWC-37	0.21	0.054	4	No	14	0.1059	0.08236	7.143	None	No	0.01	NP (normality)
Fluoride (mg/L)	DGWC-38	0.23	0.057	4	No	14	0.1303	0.1187	14.29	None	No	0.01	NP (normality)
Fluoride (mg/L)	DGWC-39	0.33	0.085	4	No	14	0.1649	0.1261	7.143	None	No	0.01	NP (normality)
Fluoride (mg/L)	DGWC-40	0.3518	0.134	4	No	14	0.2539	0.1665	7.143	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	DGWC-67	0.07	0.03	4	No	14	0.092	0.1301	50	None	No	0.01	NP (normality)
Fluoride (mg/L)	DGWC-68A	0.15	0.082	4	No	14	0.1321	0.07898	7.143	None	No	0.01	NP (normality)
Fluoride (mg/L)	DGWC-69	0.1918	0.09644	4	No	15	0.1441	0.07038	6.667	None	No	0.01	Param.
Lead (mg/L)	DGWC-37	0.005	0.0014	0.005	No	13	0.004343	0.001626	84.62	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-38	0.005	0.000074	0.005	No	13	0.00349	0.002357	69.23	None	No	0.01	NP (normality)
Lead (mg/L)	DGWC-39	0.005	0.00022	0.005	No	13	0.004254	0.001822	84.62	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-40	0.005	0.00007	0.005	No	13	0.002375	0.002531	46.15	None	No	0.01	NP (normality)
Lead (mg/L)	DGWC-67	0.005	0.000056	0.005	No	13	0.003861	0.002164	76.92	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-68A	0.005	0.00035	0.005	No	13	0.004642	0.00129	92.31	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-69	0.005	0.00009	0.005	No	14	0.003251	0.002436	64.29	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-37	0.03	0.0018	0.03	No	13	0.01085	0.01329	30.77	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-38	0.0035	0.0029	0.03	No	13	0.005315	0.00742	7.692	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-39	0.03	0.03	0.03	No	13	0.03	0	100	None	No	0.01	NP (NDs)
Lithium (mg/L)	DGWC-40	0.0027	0.0021	0.03	No	13	0.006546	0.01041	15.38	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-67	0.0054	0.0043	0.03	No	13	0.006592	0.007043	7.692	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-68A	0.03	0.0016	0.03	No	13	0.02782	0.007877	92.31	None	No	0.01	NP (NDs)
Lithium (mg/L)	DGWC-69	0.0034	0.0025	0.03	No	14	0.004843	0.007249	7.143	None	No	0.01	NP (normality)
Mercury (mg/L)	DGWC-37	0.0005	0.00006	0.002	No	13	0.0003996	0.000191	76.92	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-38	0.0005	0.00007	0.002	No	13	0.0003996	0.000191	76.92	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-39	0.0005	0.000059	0.002	No	13	0.0004661	0.0001223	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-40	0.0005	0.000045	0.002	No	13	0.0003984	0.0001934	76.92	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-67	0.0005	0.00007	0.002	No	13	0.0004669	0.0001193	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-68A	0.0005	0.00007	0.002	No	13	0.0004669	0.0001193	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-69	0.0005	0.00007	0.002	No	14	0.0004693	0.0001149	92.86	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	DGWC-37	0.01	0.01	0.041	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	DGWC-38	0.01	0.001	0.041	No	13	0.005875	0.004637	53.85	None	No	0.01	NP (normality)
Molybdenum (mg/L)	DGWC-39	0.01	0.01	0.041	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	DGWC-40	0.01	0.01	0.041	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	DGWC-67	0.01	0.01	0.041	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	**DGWC-68A**	**0.226**	**0.19**	**0.041**	**Yes**	**13**	**0.2118**	**0.02249**	**0**	**None**	**No**	**0.01**	**NP (normality)**
Molybdenum (mg/L)	DGWC-69	0.01331	0.006682	0.041	No	14	0.01065	0.00614	7.143	None	ln(x)	0.01	Param.
Selenium (mg/L)	DGWC-37	0.01	0.01	0.05	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-38	0.01	0.01	0.05	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-39	0.01	0.01	0.05	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-40	0.01	0.0018	0.05	No	13	0.004638	0.003361	23.08	None	No	0.01	NP (normality)
Selenium (mg/L)	DGWC-67	0.01	0.01	0.05	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-68A	0.01	0.01	0.05	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-69	0.01	0.01	0.05	No	14	0.01	0	100	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-37	0.001	0.001	0.002	No	13	0.001	0	100	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-38	0.001	0.0001	0.002	No	13	0.0004623	0.000443	38.46	None	No	0.01	NP (normality)
Thallium (mg/L)	DGWC-39	0.001	0.000071	0.002	No	13	0.0006485	0.0004629	61.54	None	No	0.01	NP (normality)
Thallium (mg/L)	DGWC-40	0.001	0.000068	0.002	No	13	0.0006406	0.0004732	61.54	None	No	0.01	NP (normality)
Thallium (mg/L)	DGWC-67	0.001	0.001	0.002	No	13	0.001	0	100	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-68A	0.001	0.00015	0.002	No	13	0.0009346	0.0002357	92.31	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-69	0.001	0.001	0.002	No	14	0.001	0	100	None	No	0.01	NP (NDs)

FIGURE A.

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

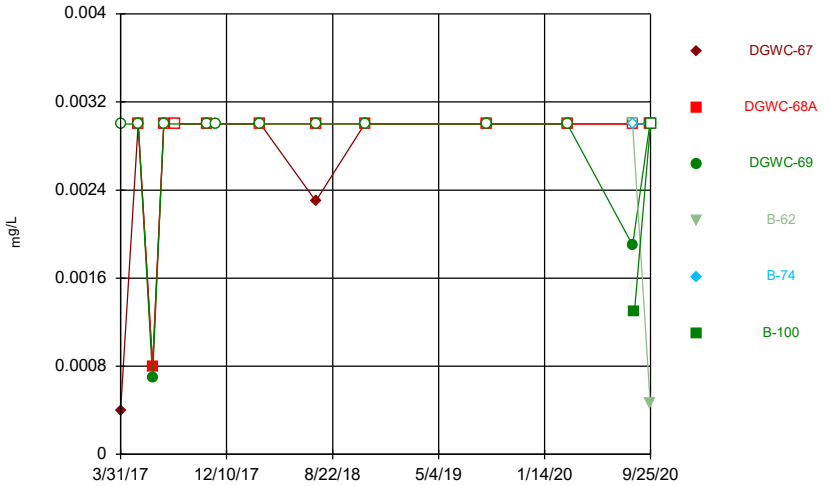
Time Series



Constituent: Antimony Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

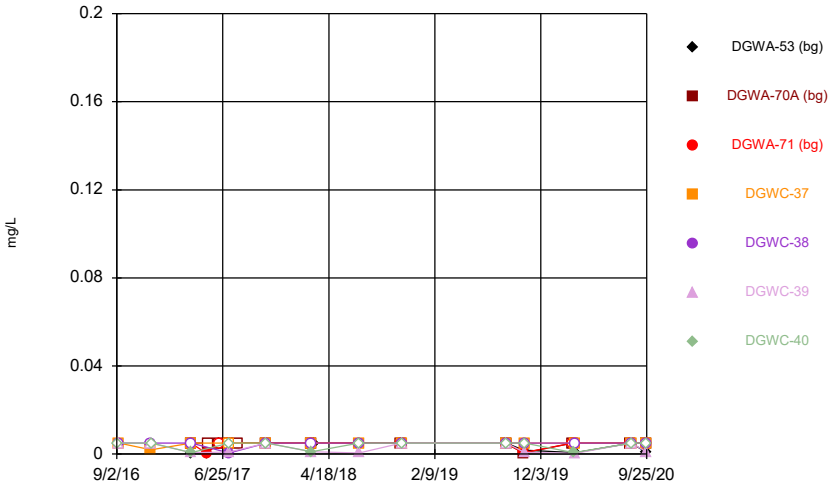
Time Series



Constituent: Antimony Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

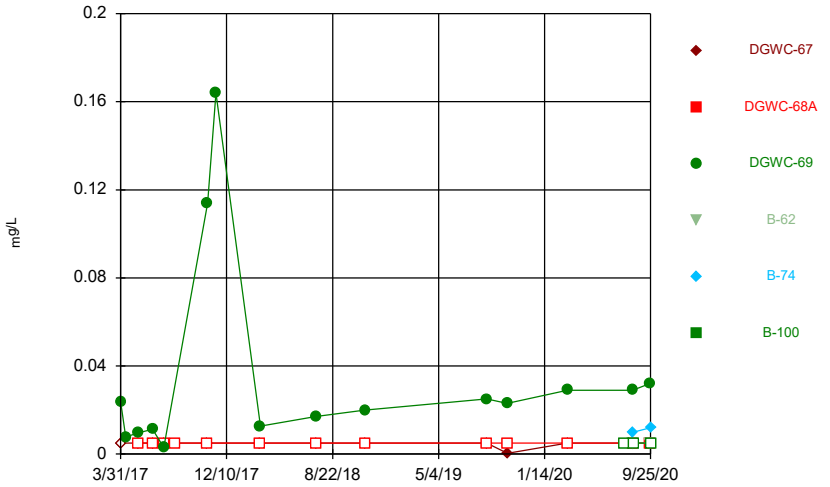
Time Series



Constituent: Arsenic Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

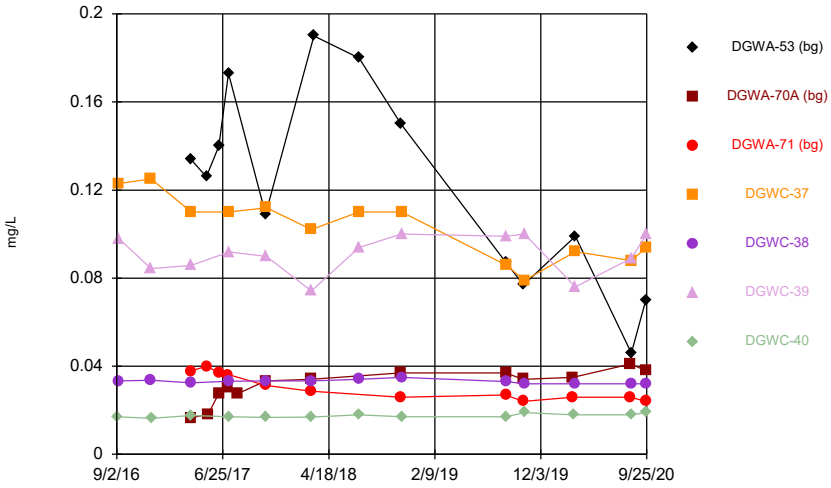
Time Series



Constituent: Arsenic Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

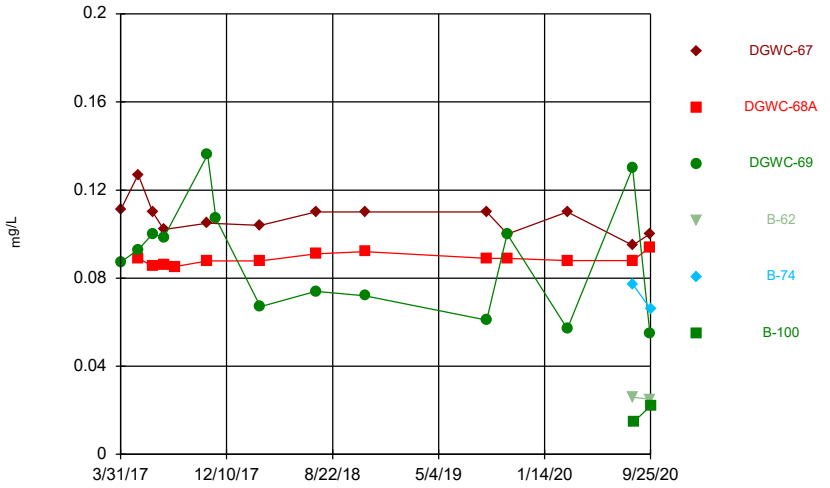
Time Series



Constituent: Barium Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

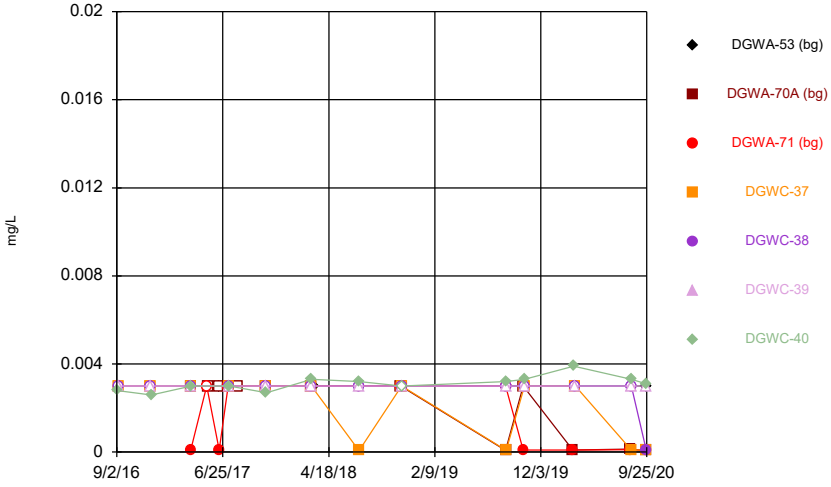
Time Series



Constituent: Barium Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

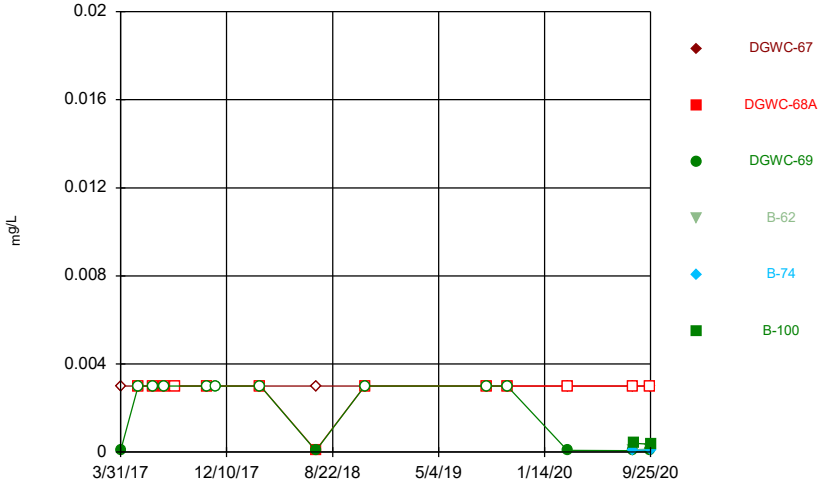
Time Series



Constituent: Beryllium Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

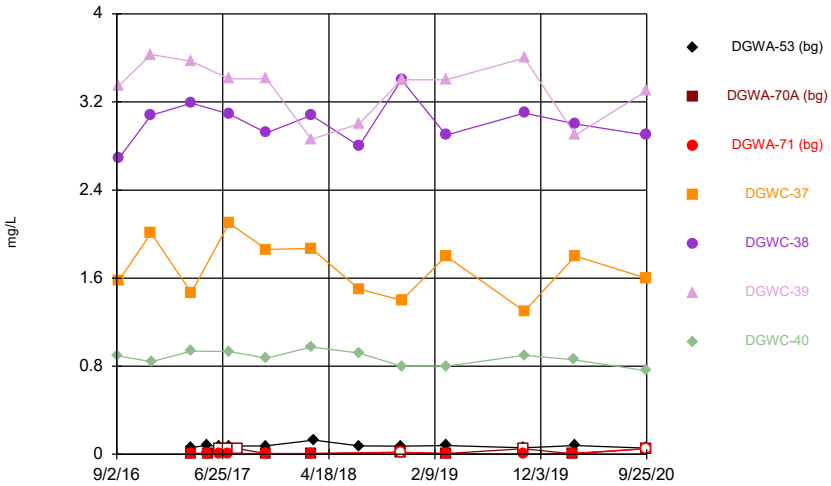
Time Series



Constituent: Beryllium Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

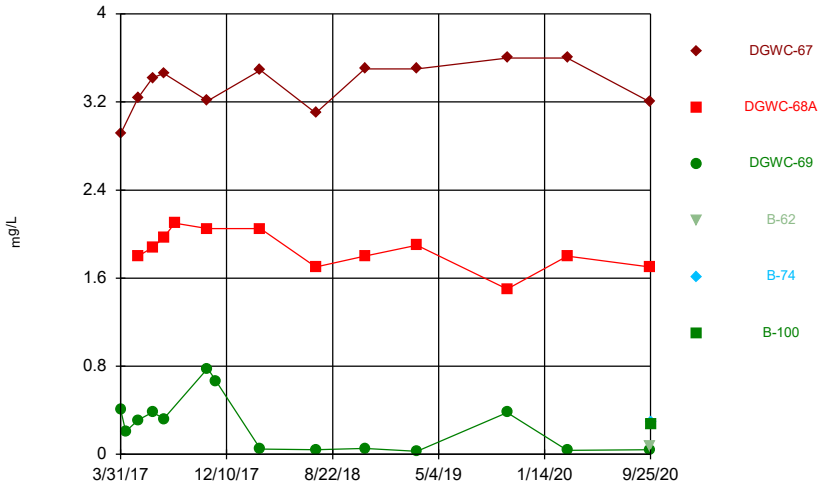
Time Series



Constituent: Boron Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

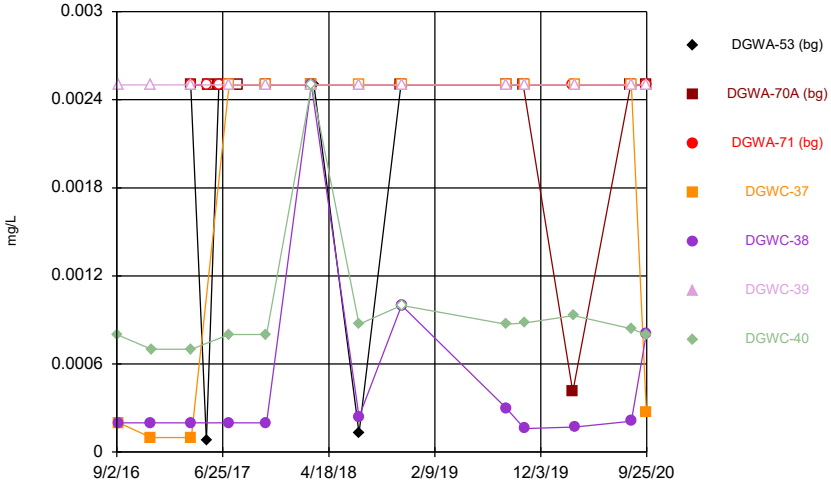
Time Series



Constituent: Boron Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

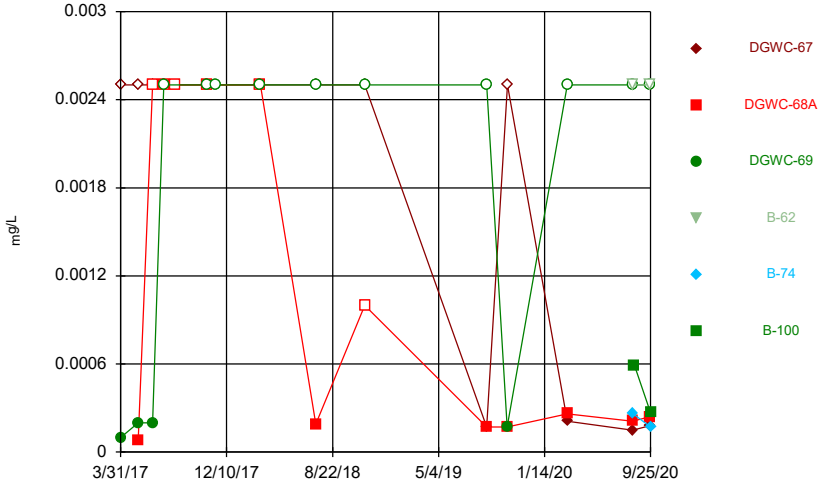
Time Series



Constituent: Cadmium Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

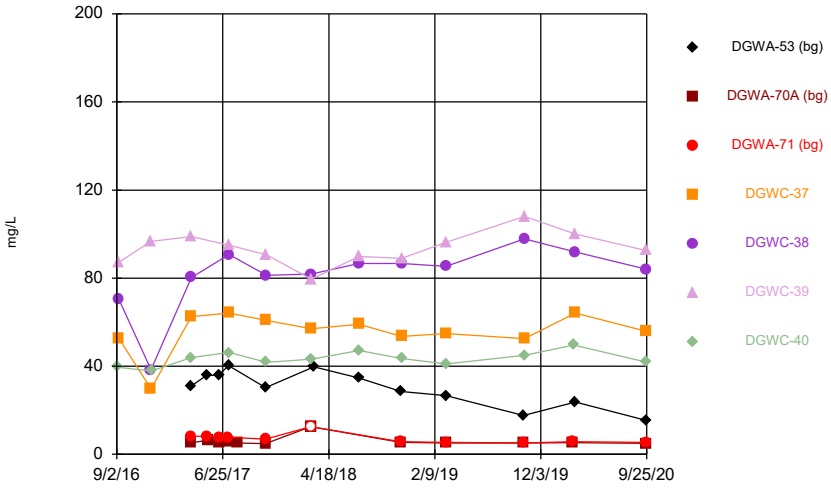
Time Series



Constituent: Cadmium Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

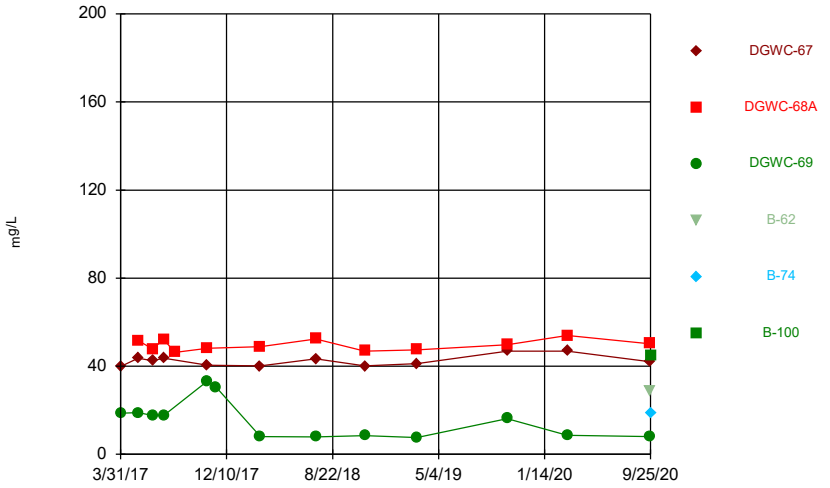
Time Series



Constituent: Calcium Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

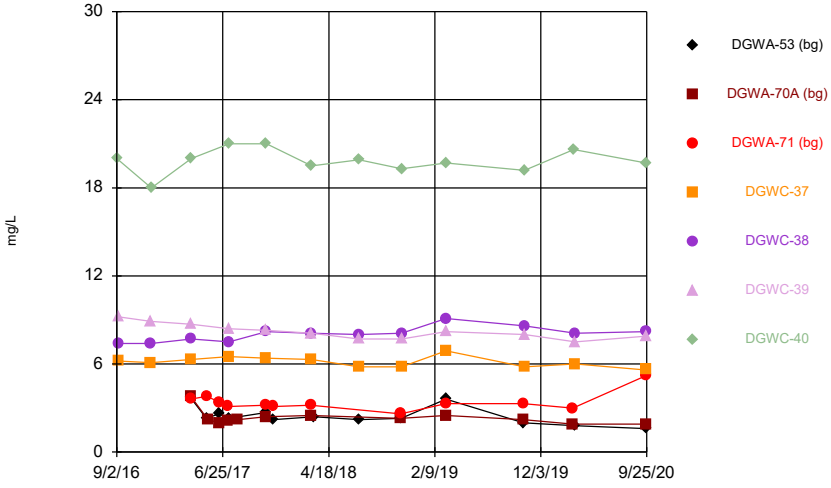
Time Series



Constituent: Calcium Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

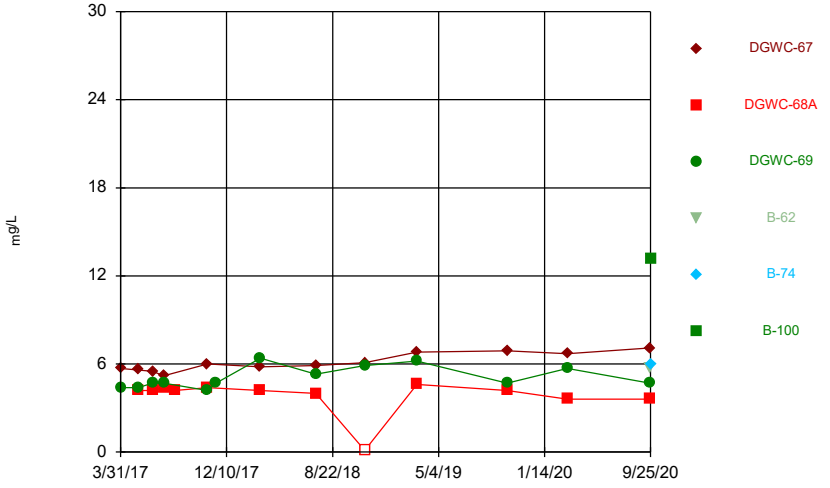
Time Series



Constituent: Chloride Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

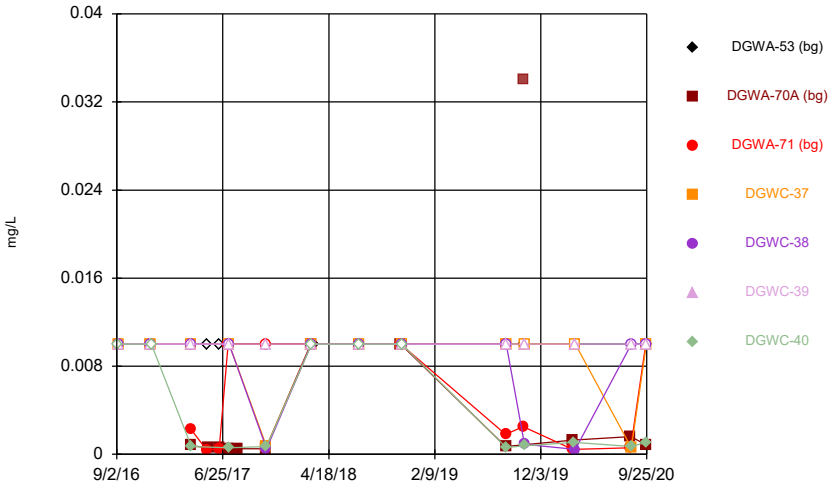
Time Series



Constituent: Chloride Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

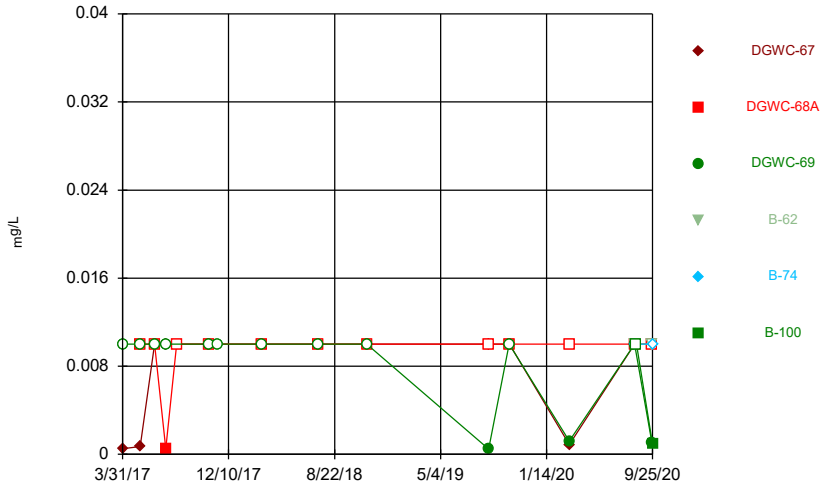
Time Series



Constituent: Chromium Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

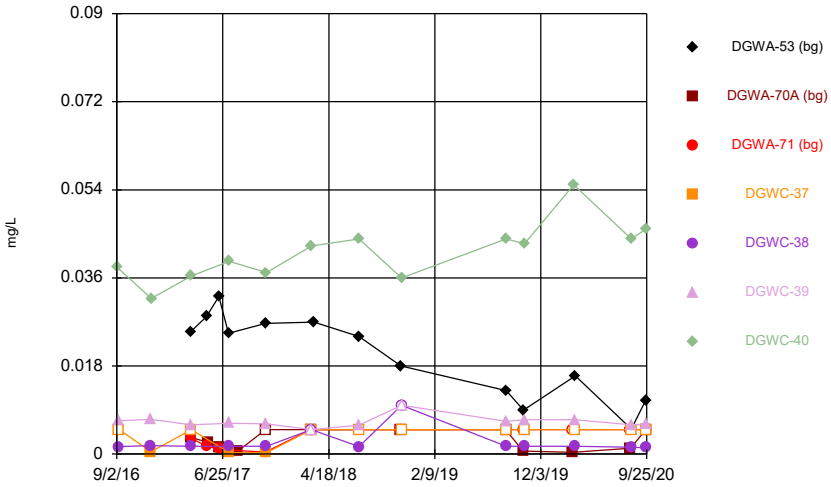
Time Series



Constituent: Chromium Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

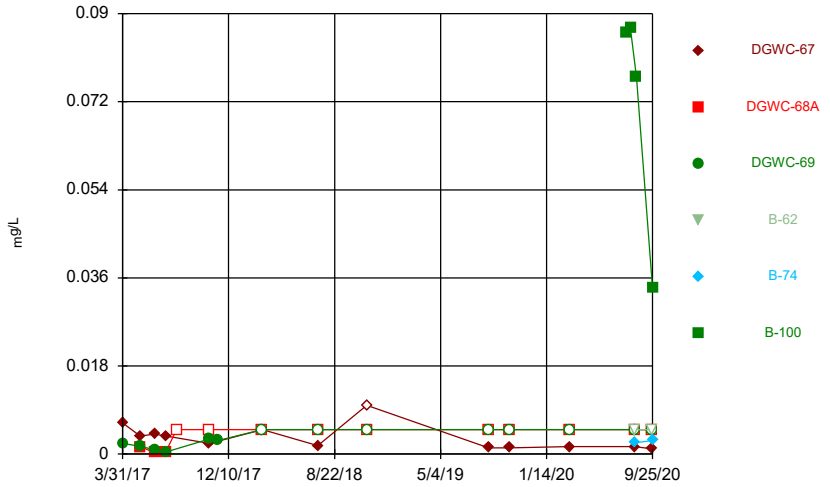
Time Series



Constituent: Cobalt Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

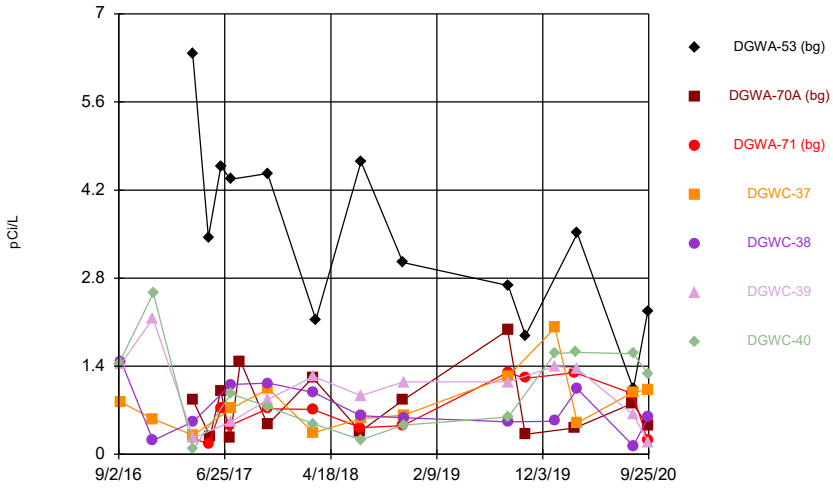
Time Series



Constituent: Cobalt Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

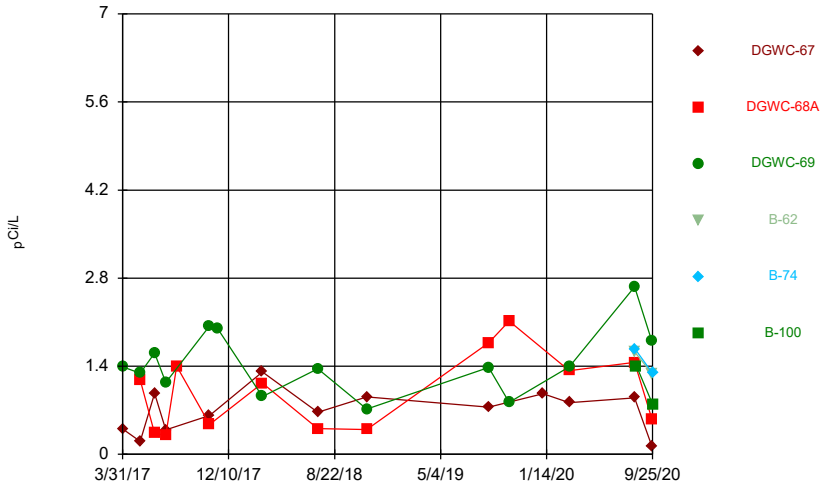
Time Series



Constituent: Combined Radium 226 + 228 Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

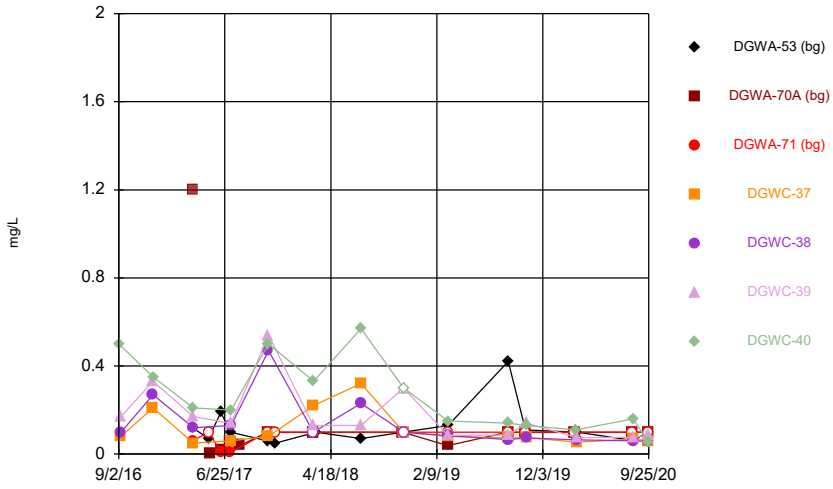
Time Series



Constituent: Combined Radium 226 + 228 Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

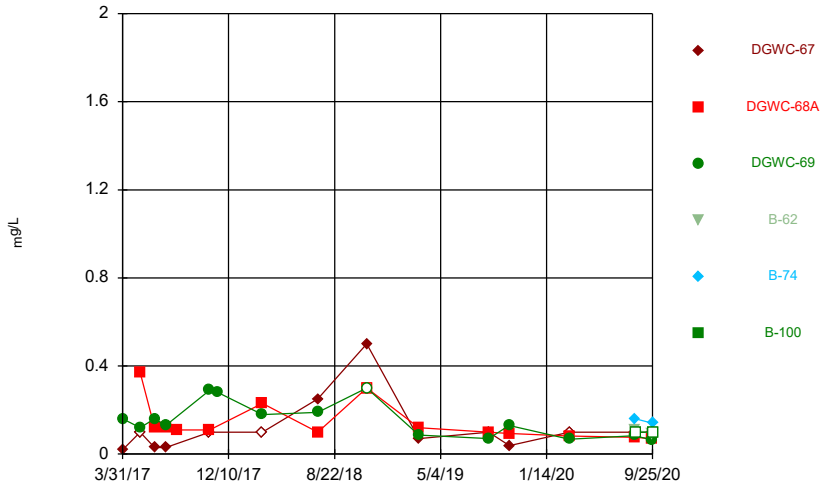
Time Series



Constituent: Fluoride Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

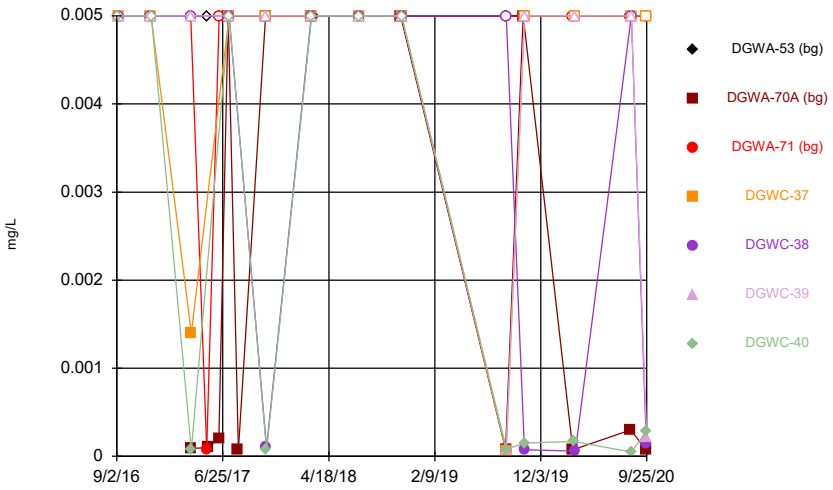
Time Series



Constituent: Fluoride Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

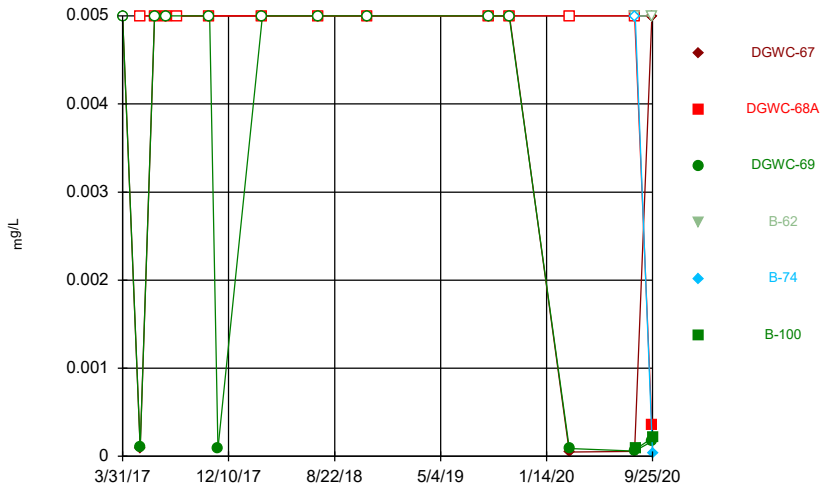
Time Series



Constituent: Lead Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

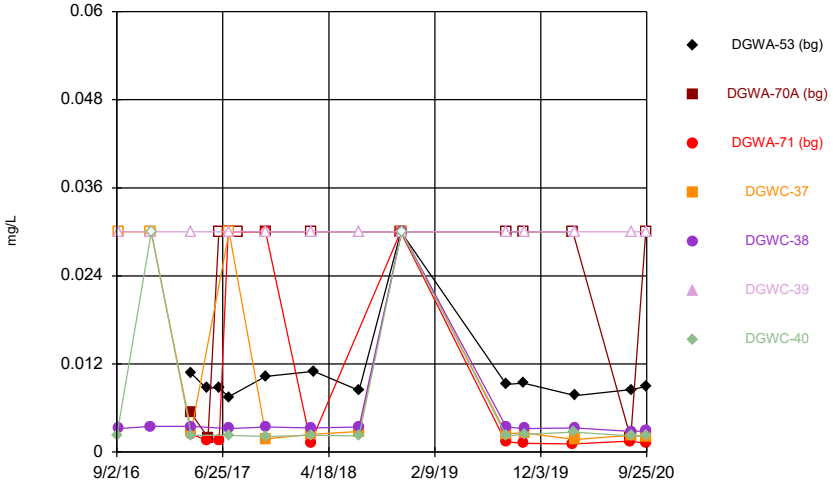
Time Series



Constituent: Lead Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

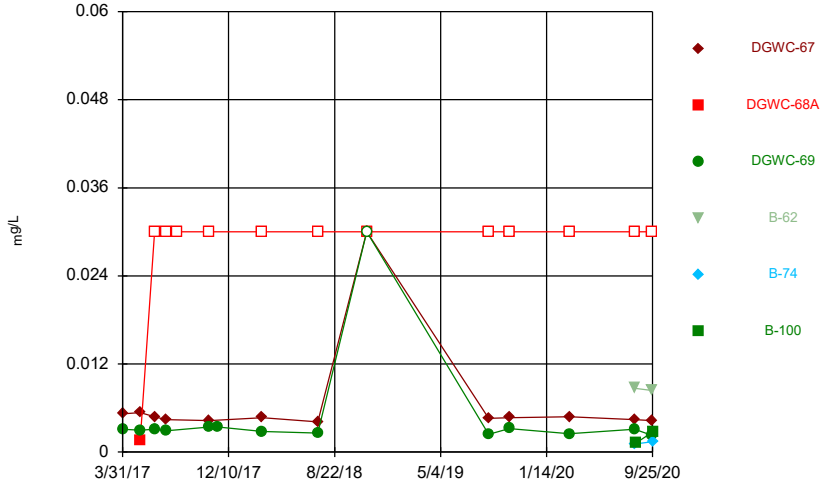
Time Series



Constituent: Lithium Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

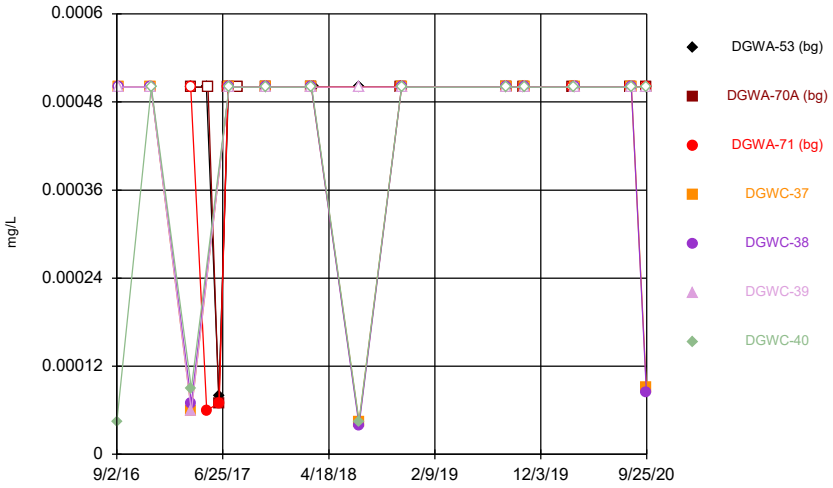
Time Series



Constituent: Lithium Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

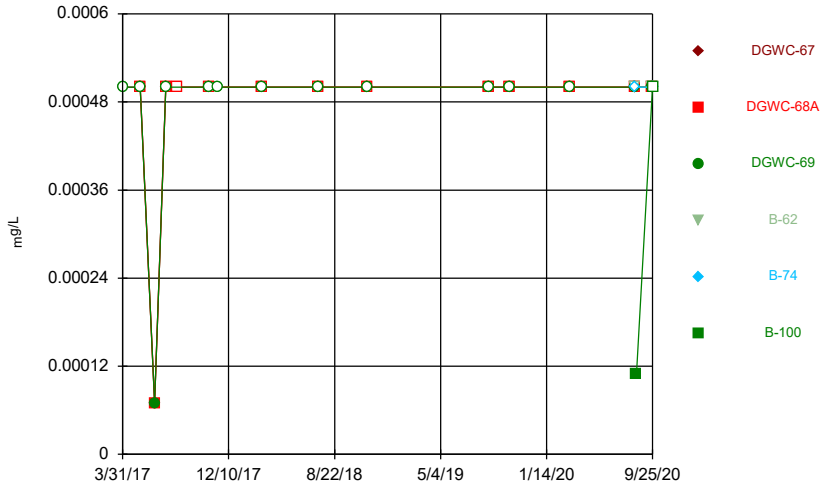
Time Series



Constituent: Mercury Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

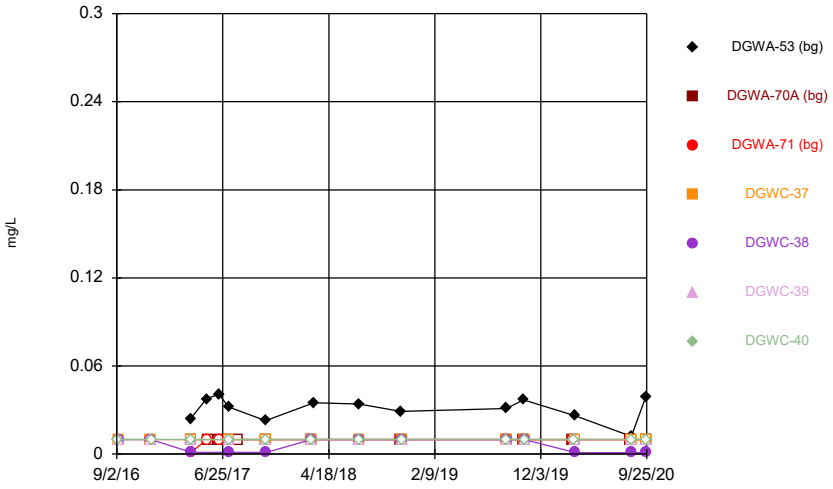
Time Series



Constituent: Mercury Analysis Run 11/4/2020 3:04 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

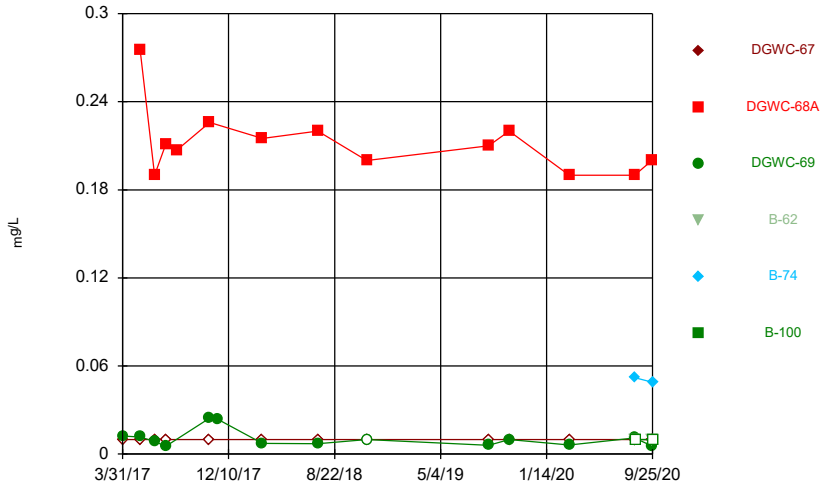
Time Series



Constituent: Molybdenum Analysis Run 11/4/2020 3:05 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

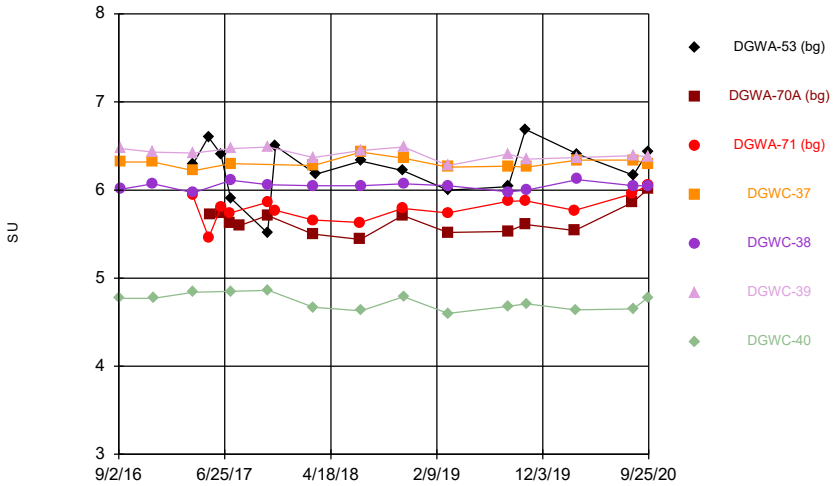
Time Series



Constituent: Molybdenum Analysis Run 11/4/2020 3:05 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

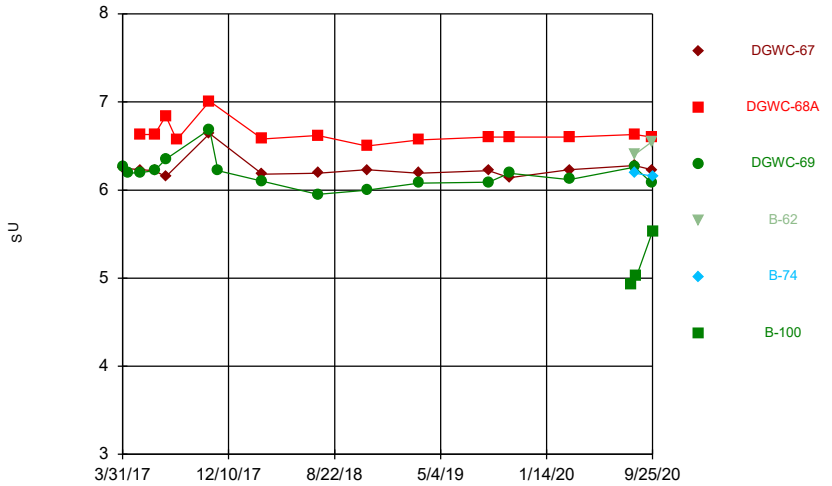
Time Series



Constituent: pH Analysis Run 11/4/2020 3:05 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

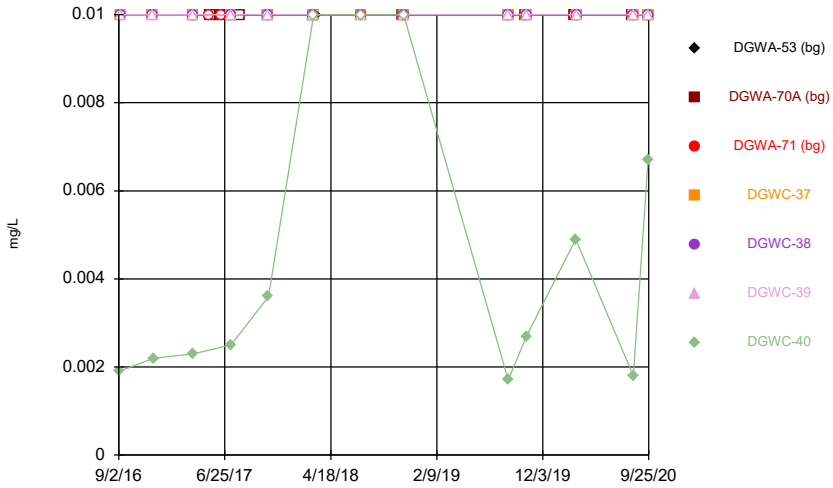
Time Series



Constituent: pH Analysis Run 11/4/2020 3:05 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

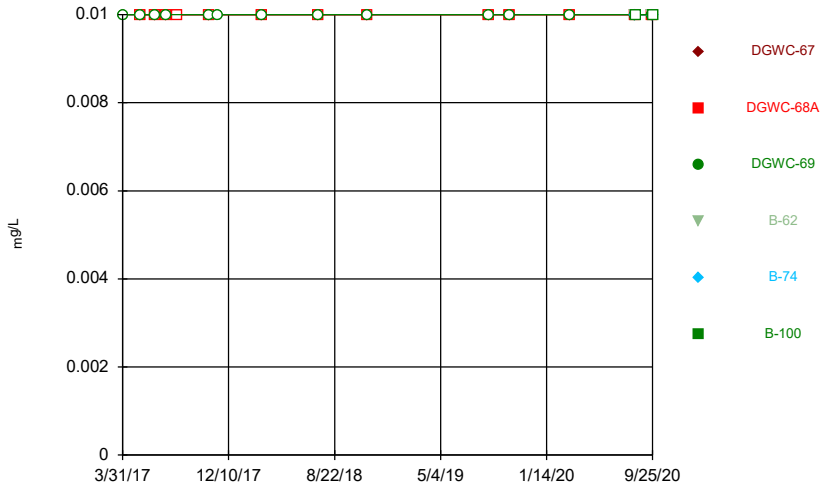
Time Series



Constituent: Selenium Analysis Run 11/4/2020 3:05 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

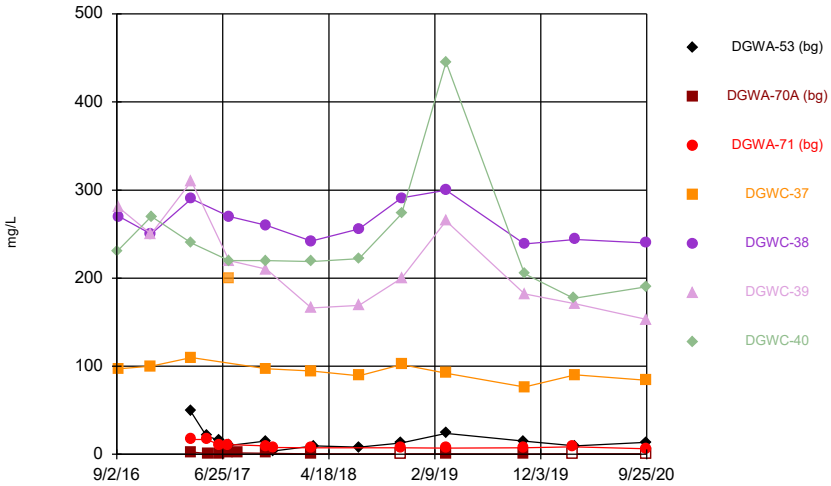
Time Series



Constituent: Selenium Analysis Run 11/4/2020 3:05 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

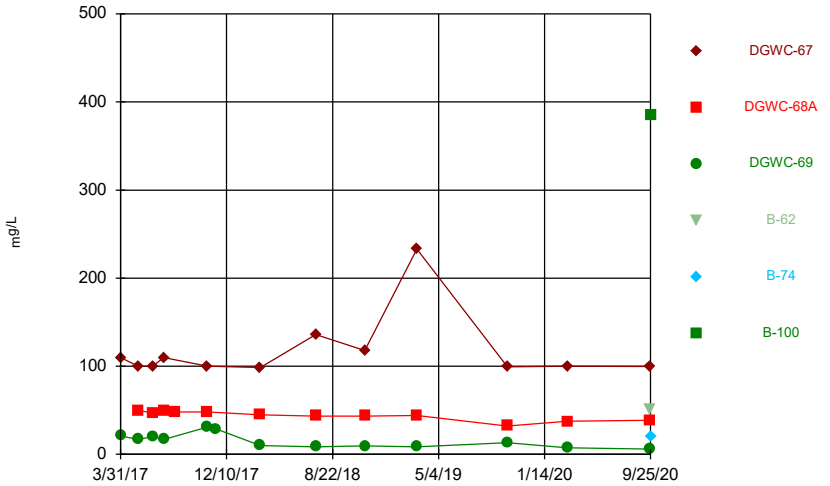
Time Series



Constituent: Sulfate Analysis Run 11/4/2020 3:05 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

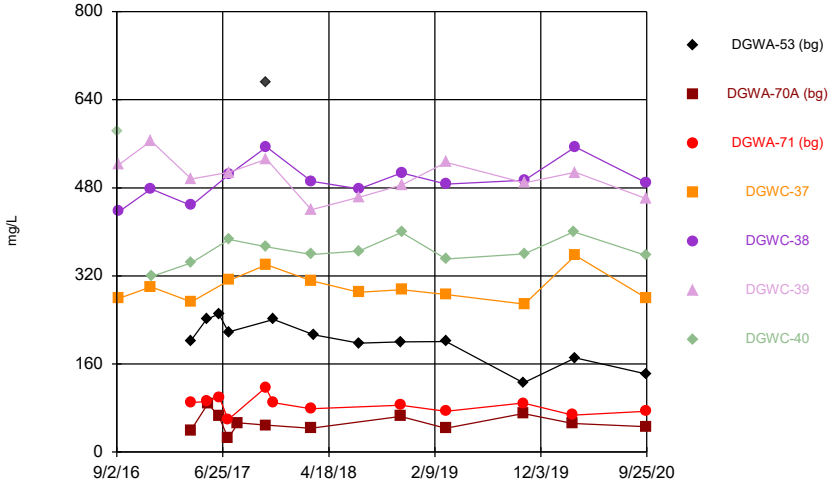
Time Series



Constituent: Sulfate Analysis Run 11/4/2020 3:05 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

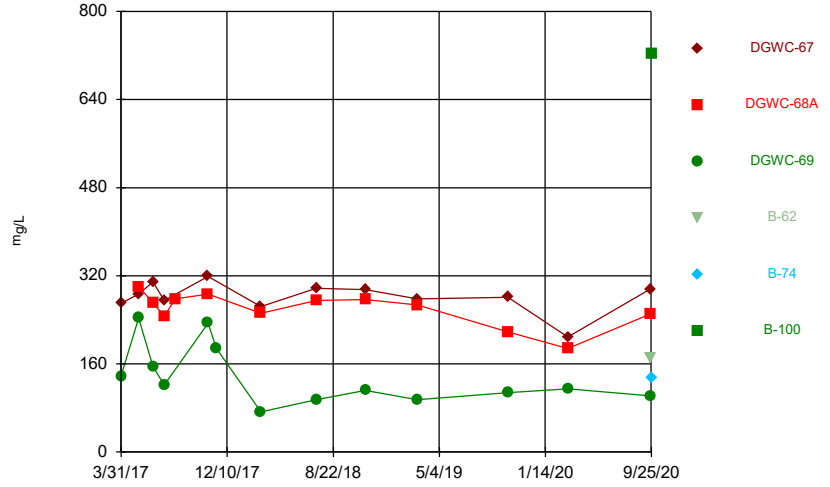
Time Series



Constituent: TDS Analysis Run 11/4/2020 3:05 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

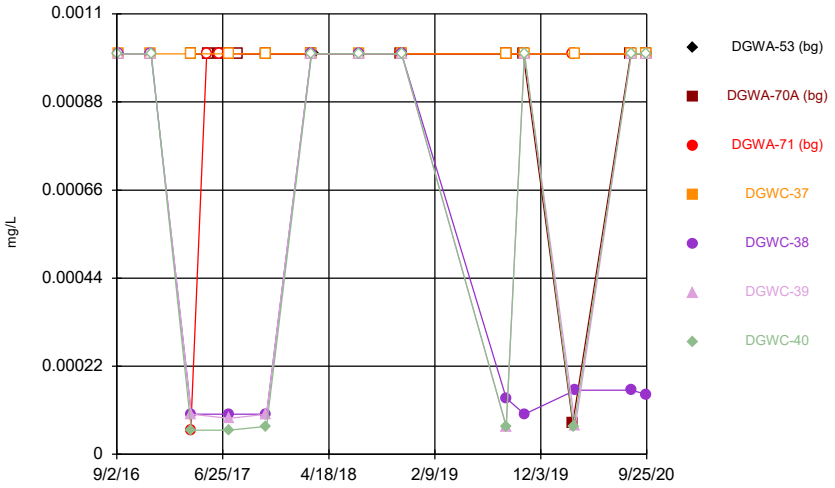
Time Series



Constituent: TDS Analysis Run 11/4/2020 3:05 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

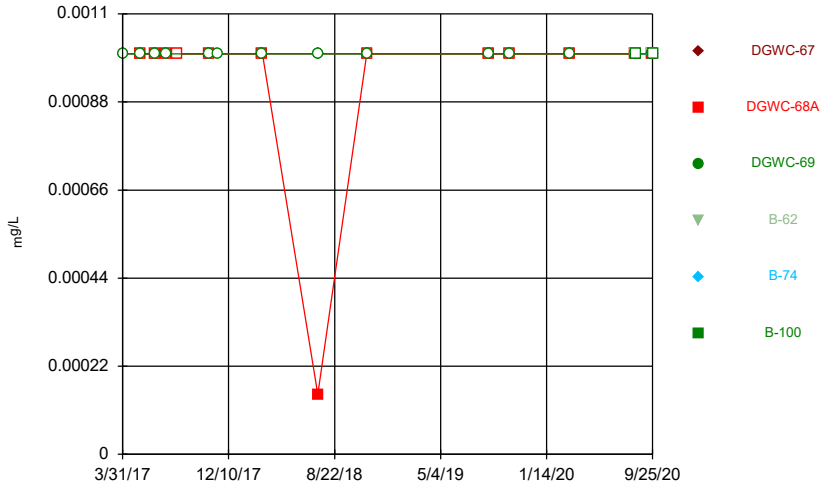
Time Series



Constituent: Thallium Analysis Run 11/4/2020 3:05 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Thallium Analysis Run 11/4/2020 3:05 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Time Series

Constituent: Antimony (mg/L) Analysis Run 11/4/2020 3:07 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							<0.003		
9/8/2016				<0.003	<0.003	<0.003			
12/7/2016				<0.003	<0.003	<0.003			
12/8/2016							<0.003		
3/28/2017	<0.003	<0.003	0.0007 (J)						
3/30/2017				<0.003	<0.003	<0.003	<0.003		
3/31/2017								0.0004 (J)	
5/11/2017	<0.003								
5/12/2017			<0.003					<0.003	<0.003
5/15/2017		<0.003							
6/15/2017	0.0006 (J)	<0.003							
6/16/2017			0.0007 (J)					0.0008 (J)	0.0008 (J)
7/11/2017		<0.003	<0.003						
7/12/2017	<0.003								
7/13/2017				<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
8/8/2017		<0.003							<0.003
10/24/2017	<0.003	<0.003	<0.003						
10/26/2017				<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
2/27/2018		<0.003	<0.003						
3/1/2018				<0.003	<0.003	<0.003			
3/2/2018							<0.003	<0.003	<0.003
3/8/2018	<0.003								
7/12/2018	<0.003			<0.003	<0.003	<0.003	<0.003		
7/13/2018								0.0023 (J)	<0.003
11/6/2018		<0.003	<0.003						
11/7/2018	<0.003								
11/8/2018				<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
8/27/2019		<0.003	<0.003						
8/28/2019	<0.003			<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
10/15/2019		<0.003	<0.003						
10/16/2019	<0.003								
3/2/2020		<0.003	0.0018 (J)						
3/4/2020							<0.003		
3/9/2020	<0.003			<0.003	<0.003	<0.003		<0.003	<0.003
8/11/2020		0.0013 (J)	0.0018 (J)						
8/13/2020	0.0003 (J)			<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
9/22/2020	<0.003	<0.003	<0.003						
9/23/2020							<0.003	<0.003	<0.003
9/24/2020				<0.003	<0.003				
9/25/2020						<0.003			

Time Series

Constituent: Antimony (mg/L) Analysis Run 11/4/2020 3:07 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-74	B-100
3/31/2017	<0.003			
5/12/2017	<0.003			
6/16/2017	0.0007 (J)			
7/13/2017	<0.003			
10/26/2017	<0.003			
11/15/2017	<0.003			
3/2/2018	<0.003			
7/13/2018	<0.003			
11/8/2018	<0.003			
8/28/2019	<0.003			
3/9/2020	<0.003			
8/13/2020	0.0019 (J)	<0.003		
8/14/2020			<0.003	
8/17/2020				0.0013 (J)
9/23/2020	<0.003			
9/24/2020		0.00046 (J)		
9/25/2020			<0.003	<0.003

Time Series

Constituent: Arsenic (mg/L) Analysis Run 11/4/2020 3:07 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							<0.005		
9/8/2016				<0.005	<0.005	<0.005			
12/7/2016				0.0019 (J)	<0.005	<0.005			
12/8/2016							<0.005		
3/28/2017	0.0005 (J)	<0.005	<0.005						
3/30/2017				<0.005	<0.005	0.0007 (J)	0.0006 (J)		
3/31/2017								<0.005	
5/11/2017	0.0005 (J)								
5/12/2017			0.0004 (J)					<0.005	<0.005
5/15/2017		<0.005							
6/15/2017	<0.005	<0.005							
6/16/2017			<0.005					<0.005	<0.005
7/11/2017		<0.005	<0.005						
7/12/2017	<0.005								
7/13/2017				<0.005	0.0005 (J)	0.0009 (J)	<0.005	<0.005	<0.005
8/8/2017		<0.005							<0.005
10/24/2017	<0.005	<0.005	<0.005						
10/26/2017				<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2/27/2018		<0.005	<0.005						
3/1/2018				<0.005	<0.005	0.0011 (J)			
3/2/2018							0.0011 (J)	<0.005	<0.005
3/8/2018	<0.005								
7/12/2018	<0.005			<0.005	<0.005	0.00057 (J)	<0.005		
7/13/2018								<0.005	<0.005
11/6/2018		<0.005	<0.005						
11/7/2018	<0.005 (J)								
11/8/2018				<0.005	<0.005	<0.005	<0.005	<0.005	<0.005 (J)
8/27/2019		<0.005	<0.005						
8/28/2019	<0.005			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
10/15/2019		0.00052 (J)	0.00071 (J)						
10/16/2019	0.0018 (J)								<0.005
10/17/2019								0.00042 (J)	
10/18/2019				<0.005	<0.005	0.00075 (J)	<0.005		
3/2/2020		<0.005	<0.005						
3/4/2020							0.00065 (J)		
3/9/2020	0.00068 (J)			<0.005	<0.005	0.00039 (J)		<0.005	<0.005
8/11/2020		<0.005	<0.005						
8/13/2020	<0.005			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
9/22/2020	0.00093 (J)	<0.005	<0.005						
9/23/2020							<0.005	<0.005	<0.005
9/24/2020				<0.005	<0.005				
9/25/2020						0.00087 (J)			

Time Series

Constituent: Arsenic (mg/L) Analysis Run 11/4/2020 3:07 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-74	B-100
3/31/2017	0.0239			
4/12/2017	0.0077			
5/12/2017	0.0097			
6/16/2017	0.0113			
7/13/2017	0.0029 (J)			
10/26/2017	0.114			
11/15/2017	0.164			
3/2/2018	0.0127			
7/13/2018	0.017			
11/8/2018	0.02			
8/28/2019	0.025			
10/16/2019	0.023			
3/9/2020	0.029			
7/23/2020				<0.005
8/13/2020	0.029	<0.005		
8/14/2020			0.01	
8/17/2020				<0.005
9/23/2020	0.032			
9/24/2020		<0.005		
9/25/2020			0.012	<0.005

Time Series

Constituent: Barium (mg/L) Analysis Run 11/4/2020 3:07 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							0.0171		
9/8/2016				0.123	0.0333	0.0978			
12/7/2016				0.125	0.0336	0.0844			
12/8/2016							0.0163		
3/28/2017	0.134	0.0166	0.0378						
3/30/2017				0.11	0.0325	0.0858	0.0177		
3/31/2017								0.111	
5/11/2017	0.126								
5/12/2017			0.04					0.127	0.089
5/15/2017		0.0181							
6/15/2017	0.14	0.0277							
6/16/2017			0.0369					0.11	0.0855
7/11/2017		0.0306	0.0362						
7/12/2017	0.173								
7/13/2017				0.11	0.0332	0.0919	0.017	0.102	0.0859
8/8/2017		0.0277							0.0852
10/24/2017	0.109	0.0333	0.0313						
10/26/2017				0.112	0.0333	0.0899	0.0168	0.105	0.0878
2/27/2018		0.0341	0.0287						
3/1/2018				0.102	0.0333	0.0742			
3/2/2018							0.0169	0.104	0.0878
3/8/2018	0.19								
7/12/2018	0.18			0.11	0.034	0.094	0.018		
7/13/2018								0.11	0.091
11/6/2018		0.037	0.026						
11/7/2018	0.15								
11/8/2018				0.11	0.035	0.1	0.017	0.11	0.092
8/27/2019		0.037	0.027						
8/28/2019	0.087			0.086	0.033	0.099	0.017	0.11	0.089
10/15/2019		0.034	0.024						
10/16/2019	0.077								0.089
10/17/2019								0.1	
10/18/2019				0.079	0.032	0.1	0.019		
3/2/2020		0.035	0.026						
3/4/2020							0.018		
3/9/2020	0.099			0.092	0.032	0.076		0.11	0.088
8/11/2020		0.041	0.026						
8/13/2020	0.046			0.088	0.032	0.089	0.018	0.095	0.088
9/22/2020	0.07	0.038	0.024						
9/23/2020							0.019	0.1	0.094
9/24/2020				0.094	0.032				
9/25/2020						0.1			

Time Series

Constituent: Barium (mg/L) Analysis Run 11/4/2020 3:07 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-74	B-100
3/31/2017	0.0872			
5/12/2017	0.0929			
6/16/2017	0.1			
7/13/2017	0.0985			
10/26/2017	0.136			
11/15/2017	0.107			
3/2/2018	0.0671			
7/13/2018	0.074			
11/8/2018	0.072			
8/28/2019	0.061			
10/16/2019	0.1			
3/9/2020	0.057			
8/13/2020	0.13	0.026		
8/14/2020			0.077	
8/17/2020				0.015
9/23/2020	0.055			
9/24/2020		0.025		
9/25/2020			0.066	0.022

Time Series

Constituent: Beryllium (mg/L) Analysis Run 11/4/2020 3:07 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							0.0028 (J)		
9/8/2016				<0.003	<0.003	<0.003			
12/7/2016				<0.003	<0.003	<0.003			
12/8/2016							0.0026 (J)		
3/28/2017	<0.003	<0.003	9E-05 (J)						
3/30/2017				<0.003	<0.003	<0.003	0.003		
3/31/2017								<0.003	
5/11/2017	<0.003								
5/12/2017			<0.003					<0.003	<0.003
5/15/2017		<0.003							
6/15/2017	<0.003	<0.003							
6/16/2017			0.0001 (J)					<0.003	<0.003
7/11/2017		<0.003	<0.003						
7/12/2017	<0.003								
7/13/2017				<0.003	<0.003	<0.003	0.003 (J)	<0.003	<0.003
8/8/2017		<0.003							<0.003
10/24/2017	<0.003	<0.003	<0.003						
10/26/2017				<0.003	<0.003	<0.003	0.0027 (J)	<0.003	<0.003
2/27/2018		<0.003	<0.003						
3/1/2018				<0.003	<0.003	<0.003			
3/2/2018							0.0033	<0.003	<0.003
3/8/2018	<0.003								
7/12/2018	<0.003			7E-05 (J)	<0.003	<0.003	0.0032		
7/13/2018								<0.003	8.4E-05 (J)
11/6/2018		<0.003 (J)	<0.003 (J)						
11/7/2018	<0.003								
11/8/2018				<0.003	<0.003	<0.003	<0.003 (J)	<0.003	<0.003
8/27/2019		7.9E-05 (J)	<0.003						
8/28/2019	<0.003			8.6E-05 (J)	<0.003	<0.003	0.0032	<0.003	<0.003
10/15/2019		<0.003	8.8E-05 (J)						
10/16/2019	<0.003								<0.003
10/17/2019								<0.003	
10/18/2019				<0.003	<0.003	<0.003	0.0033		
3/2/2020		9.6E-05 (J)	0.0001 (J)						
3/4/2020							0.0039		
3/9/2020	<0.003			<0.003	<0.003	<0.003		<0.003	<0.003
8/11/2020		0.00013 (J)	0.00011 (J)						
8/13/2020	<0.003			0.0001 (J)	<0.003	<0.003	0.0033	<0.003	<0.003
9/22/2020	<0.003	6.8E-05 (J)	6.9E-05 (J)						
9/23/2020							0.0031	<0.003	<0.003
9/24/2020				8.8E-05 (J)	5.8E-05 (J)				
9/25/2020						<0.003			

Time Series

Constituent: Beryllium (mg/L) Analysis Run 11/4/2020 3:07 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-74	B-100
3/31/2017	7E-05 (J)			
5/12/2017	<0.003			
6/16/2017	<0.003			
7/13/2017	<0.003			
10/26/2017	<0.003			
11/15/2017	<0.003			
3/2/2018	<0.003			
7/13/2018	5.8E-05 (J)			
11/8/2018	<0.003			
8/28/2019	<0.003			
10/16/2019	<0.003			
3/9/2020	7.5E-05 (J)			
8/13/2020	6.3E-05 (J)	0.00011 (J)		
8/14/2020			7.6E-05 (J)	
8/17/2020				0.0004 (J)
9/23/2020	6.1E-05 (J)			
9/24/2020		0.00013 (J)		
9/25/2020			9.7E-05 (J)	0.00035 (J)

Time Series

Constituent: Boron (mg/L) Analysis Run 11/4/2020 3:07 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							0.895		
9/8/2016				1.58	2.69	3.35			
12/7/2016				2.01	3.08	3.63			
12/8/2016							0.841		
3/28/2017	0.0612	0.0067 (J)	0.0097 (J)						
3/30/2017				1.47	3.19	3.57	0.937		
3/31/2017								2.91	
5/11/2017	0.0805								
5/12/2017			0.0082 (J)					3.24	1.8
5/15/2017		0.0073 (J)							
6/15/2017	0.0725	<0.1							
6/16/2017			0.0085 (J)					3.42	1.88
7/11/2017		<0.1	0.0077 (J)						
7/12/2017	0.0735								
7/13/2017				2.1	3.09	3.41	0.933	3.46	1.97
8/8/2017		<0.1							2.1
10/24/2017	0.077	0.0082 (J)	0.0083 (J)						
10/26/2017				1.86	2.92	3.41	0.873	3.21	2.05
2/27/2018		0.0062 (J)	0.0069 (J)						
3/1/2018				1.87	3.08	2.86			
3/2/2018							0.974	3.49	2.05
3/8/2018	0.13 (J)								
7/12/2018	0.076			1.5	2.8	3	0.92		
7/13/2018								3.1	1.7
11/6/2018		<0.04 (J)	<0.04 (J)						
11/7/2018	0.073								
11/8/2018				1.4	3.4	3.4	0.8	3.5	1.8
3/12/2019		0.0073 (J)	0.0068 (J)						
3/13/2019	0.08			1.8	2.9	3.4	0.8	3.5	1.9
10/15/2019		<0.1	0.0054 (J)						
10/16/2019	0.059								1.5
10/17/2019								3.6	
10/18/2019				1.3	3.1	3.6	0.9		
3/2/2020		0.0055 (J)	0.01 (J)						
3/4/2020							0.86		
3/9/2020	0.08 (J)			1.8	3	2.9		3.6	1.8
9/22/2020	0.056 (J)	<0.1	<0.1						
9/23/2020							0.76	3.2	1.7
9/24/2020				1.6	2.9				
9/25/2020						3.3			

Time Series

Constituent: Boron (mg/L) Analysis Run 11/4/2020 3:07 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-74	B-100
3/31/2017	0.407			
4/12/2017	0.207			
5/12/2017	0.311			
6/16/2017	0.381			
7/13/2017	0.323			
10/26/2017	0.779			
11/15/2017	0.667			
3/2/2018	0.0478			
7/13/2018	0.043			
11/8/2018	0.054			
3/13/2019	0.028 (J)			
10/16/2019	0.38			
3/9/2020	0.035 (J)			
9/23/2020	0.041 (J)			
9/24/2020		0.074 (J)		
9/25/2020			0.3	0.27

Time Series

Constituent: Cadmium (mg/L) Analysis Run 11/4/2020 3:07 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							0.0008 (J)		
9/8/2016				0.0002 (J)	0.0002 (J)	<0.0025			
12/7/2016				0.0001 (J)	0.0002 (J)	<0.0025			
12/8/2016							0.0007 (J)		
3/28/2017	<0.0025	<0.0025	<0.0025						
3/30/2017				0.0001 (J)	0.0002 (J)	<0.0025	0.0007 (J)		
3/31/2017								<0.0025	
5/11/2017	8E-05 (J)								
5/12/2017			<0.0025					<0.0025	8E-05 (J)
5/15/2017		<0.0025							
6/15/2017	<0.0025	<0.0025							
6/16/2017			<0.0025					<0.0025	<0.0025
7/11/2017		<0.0025	<0.0025						
7/12/2017	<0.0025								
7/13/2017				<0.0025	0.0002 (J)	<0.0025	0.0008 (J)	<0.0025	<0.0025
8/8/2017		<0.0025							<0.0025
10/24/2017	<0.0025	<0.0025	<0.0025						
10/26/2017				<0.0025	0.0002 (J)	<0.0025	0.0008 (J)	<0.0025	<0.0025
2/27/2018		<0.0025	<0.0025						
3/1/2018				<0.0025	<0.0025	<0.0025			
3/2/2018							<0.0025	<0.0025	<0.0025
3/8/2018	<0.0025								
7/12/2018	0.00013 (J)			<0.0025	0.00024 (J)	<0.0025	0.00087 (J)		
7/13/2018								<0.0025	0.00019 (J)
11/6/2018		<0.0025	<0.0025						
11/7/2018	<0.0025								
11/8/2018				<0.0025	<0.001 (J)	<0.0025	<0.001 (J)	<0.0025	<0.001 (J)
8/27/2019		<0.0025	<0.0025						
8/28/2019	<0.0025			<0.0025	0.0003 (J)	<0.0025	0.00087 (J)	0.00017 (J)	0.00017 (J)
10/15/2019		<0.0025	<0.0025						
10/16/2019	<0.0025								0.00017 (J)
10/17/2019								<0.0025	
10/18/2019				<0.0025	0.00016 (J)	<0.0025	0.00088 (J)		
3/2/2020		0.00041 (J)	<0.0025						
3/4/2020							0.00093 (J)		
3/9/2020	<0.0025			<0.0025	0.00017 (J)	<0.0025		0.00021 (J)	0.00026 (J)
8/11/2020		<0.0025	<0.0025						
8/13/2020	<0.0025			<0.0025	0.00021 (J)	<0.0025	0.00084 (J)	0.00015 (J)	0.00021 (J)
9/22/2020	<0.0025	<0.0025	<0.0025						
9/23/2020							0.0008 (J)	0.00018 (J)	0.00024 (J)
9/24/2020				0.00027 (J)	0.00081 (J)				
9/25/2020						<0.0025			

Time Series

Constituent: Cadmium (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-74	B-100
3/31/2017	0.0001 (J)			
5/12/2017	0.0002 (J)			
6/16/2017	0.0002 (J)			
7/13/2017	<0.0025			
10/26/2017	<0.0025			
11/15/2017	<0.0025			
3/2/2018	<0.0025			
7/13/2018	<0.0025			
11/8/2018	<0.0025			
8/28/2019	<0.0025			
10/16/2019	0.00017 (J)			
3/9/2020	<0.0025			
8/13/2020	<0.0025	<0.0025		
8/14/2020			0.00026 (J)	
8/17/2020				0.00059 (J)
9/23/2020	<0.0025			
9/24/2020		<0.0025		
9/25/2020			0.00017 (J)	0.00027 (J)

Time Series

Constituent: Calcium (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							39.6		
9/8/2016				52.5	70.3	87.2			
12/7/2016				29.7	38.4	96.7			
12/8/2016							37.9		
3/28/2017	30.8	5.14	8.31						
3/30/2017				62.6	80.3	98.9	43.9		
3/31/2017								39.9	
5/11/2017	35.8								
5/12/2017			8.04					43.6	51.7
5/15/2017		6.5							
6/15/2017	36	5.38							
6/16/2017			7.66					42.5	47.9
7/11/2017		5.96	7.71						
7/12/2017	40.3								
7/13/2017				64.1	90.8	95	46.2	43.7	52.3
8/8/2017		5.2							46.3
10/24/2017	30.3	4.93	6.86						
10/26/2017				60.8	81.3	90.6	41.8	40.4	48.2
2/27/2018		<25	<25						
3/1/2018				57	81.8	79.6			
3/2/2018							43.2	40.1	48.9
3/8/2018	39.8								
7/12/2018	34.7			59.1	86.7	89.8	47.1		
7/13/2018								43.3	52.4
11/6/2018		5.5	5.7						
11/7/2018	28.6								
11/8/2018				53.6	86.6	89	43.5	40.1	46.8
3/12/2019		5.1	5.5						
3/13/2019	26.7			54.8	85.3	96.3	41	41.2	47.5
10/15/2019		5.1	5.1						
10/16/2019	17.7								49.7
10/17/2019								46.9	
10/18/2019				52.5	97.8	108	44.9		
3/2/2020		5.3	5.8						
3/4/2020							49.6		
3/9/2020	23.7			64.2	91.9	100		46.9	54
9/22/2020	15.5	5	5.4						
9/23/2020							41.9	42	50.2
9/24/2020				55.9	84.1				
9/25/2020						92.5			

Time Series

Constituent: Calcium (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-74	B-100
3/31/2017	18.6 (J)			
5/12/2017	18.9 (J)			
6/16/2017	17.7			
7/13/2017	17.6			
10/26/2017	33.3			
11/15/2017	30.6			
3/2/2018	8.09			
7/13/2018	7.9			
11/8/2018	8.5			
3/13/2019	7.6			
10/16/2019	16.2			
3/9/2020	8.6			
9/23/2020	8			
9/24/2020		28.8		
9/25/2020			18.6	44.7

Time Series

Constituent: Chloride (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							20		
9/8/2016				6.2	7.4	9.2			
12/7/2016				6.1	7.4	8.9			
12/8/2016							18		
3/28/2017	3.7	3.8	3.6						
3/30/2017				6.3	7.7	8.7	20		
3/31/2017								5.7	
5/11/2017	2.3								
5/12/2017			3.8					5.6	4.2
5/15/2017		2.2							
6/15/2017	2.6	2							
6/16/2017			3.4					5.5	4.2
7/11/2017		2.1	3.1						
7/12/2017	2.3								
7/13/2017				6.5	7.5	8.4	21	5.2	4.4
8/8/2017		2.2							4.2
10/24/2017	2.7	2.4	3.2						
10/26/2017				6.4	8.2	8.3	21	6	4.4
11/15/2017	2.2		3.1						
2/27/2018		2.5	3.2						
3/1/2018				6.3	8.1	8.1			
3/2/2018							19.5	5.8	4.2
3/8/2018	2.4								
7/12/2018	2.2			5.8	8	7.7	19.9		
7/13/2018								5.9	4
11/6/2018		2.3	2.6						
11/7/2018	2.3								
11/8/2018				5.8	8.1	7.7	19.3	6.1	<0.25
3/12/2019		2.5	3.3						
3/13/2019	3.6			6.9	9.1	8.2	19.7	6.8	4.6
10/15/2019		2.2	3.3						
10/16/2019	2								4.2
10/17/2019								6.9	
10/18/2019				5.8	8.6	8	19.2		
3/2/2020		1.9	3						
3/4/2020							20.6		
3/9/2020	1.8			6	8.1	7.5		6.7	3.6
9/22/2020	1.6	1.9	5.2						
9/23/2020							19.7	7.1	3.6
9/24/2020				5.6	8.2				
9/25/2020						7.9			

Time Series

Constituent: Chloride (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-74	B-100
3/31/2017	4.4			
5/12/2017	4.4			
6/16/2017	4.7			
7/13/2017	4.7			
10/26/2017	4.2			
11/15/2017	4.7			
3/2/2018	6.4			
7/13/2018	5.3			
11/8/2018	5.9			
3/13/2019	6.2			
10/16/2019	4.7			
3/9/2020	5.7			
9/23/2020	4.7			
9/24/2020		5.7		
9/25/2020			6	13.2

Time Series

Constituent: Chromium (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							<0.01		
9/8/2016				<0.01	<0.01	<0.01			
12/7/2016				<0.01	<0.01	<0.01			
12/8/2016							<0.01		
3/28/2017	<0.01	0.0008 (J)	0.0023 (J)						
3/30/2017				<0.01	<0.01	<0.01	0.0007 (J)		
3/31/2017								0.0005 (J)	
5/11/2017	<0.01								
5/12/2017			0.0004 (J)					0.0007 (J)	<0.01
5/15/2017		0.0006 (J)							
6/15/2017	<0.01	0.0006 (J)							
6/16/2017			0.0005 (J)					<0.01	<0.01
7/11/2017		0.0005 (J)	<0.01						
7/12/2017	<0.01								
7/13/2017				<0.01	<0.01	<0.01	0.0006 (J)	<0.01	0.0005 (J)
8/8/2017		0.0005 (J)							<0.01
10/24/2017	<0.01	0.0005 (J)	<0.01						
10/26/2017				0.0007 (J)	0.0005 (J)	<0.01	0.0007 (J)	<0.01	<0.01
2/27/2018		<0.01	<0.01						
3/1/2018				<0.01	<0.01	<0.01			
3/2/2018							<0.01	<0.01	<0.01
3/8/2018	<0.01								
7/12/2018	<0.01			<0.01	<0.01	<0.01	<0.01		
7/13/2018								<0.01	<0.01
11/6/2018		<0.01	<0.01						
11/7/2018	<0.01								
11/8/2018				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
8/27/2019		0.00071 (J)	0.0018 (J)						
8/28/2019	<0.01			<0.01	<0.01	<0.01	0.00061 (J)	<0.01	<0.01
10/15/2019		0.034 (O)	0.0025 (J)						
10/16/2019	<0.01								<0.01
10/17/2019								<0.01	
10/18/2019				<0.01	0.00092 (J)	<0.01	0.00078 (J)		
3/2/2020		0.0013 (J)	0.00045 (J)						
3/4/2020							0.0011 (J)		
3/9/2020	<0.01			<0.01	0.00044 (J)	<0.01		0.00088 (J)	<0.01
8/11/2020		0.0016 (J)	0.0006 (J)						
8/13/2020	<0.01			0.00058 (J)	<0.01	<0.01	0.00072 (J)	<0.01	<0.01
9/22/2020	<0.01	0.00089 (J)	<0.01						
9/23/2020							0.0011 (J)	<0.01	<0.01
9/24/2020				<0.01	<0.01				
9/25/2020						<0.01			

Time Series

Constituent: Chromium (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-74	B-100
3/31/2017	<0.01			
5/12/2017	<0.01			
6/16/2017	<0.01			
7/13/2017	<0.01			
10/26/2017	<0.01			
11/15/2017	<0.01			
3/2/2018	<0.01			
7/13/2018	<0.01			
11/8/2018	<0.01			
8/28/2019	0.00049 (J)			
10/16/2019	<0.01			
3/9/2020	0.0012 (J)			
8/13/2020	<0.01	<0.01		
8/14/2020			<0.01	
8/17/2020				<0.01
9/23/2020	0.0011 (J)			
9/24/2020		<0.01		
9/25/2020			<0.01	0.00094 (J)

Time Series

Constituent: Cobalt (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							0.0382		
9/8/2016				<0.005	0.0015 (J)	0.0068 (J)			
12/7/2016				0.0005 (J)	0.0017 (J)	0.0071 (J)			
12/8/2016							0.0318		
3/28/2017	0.025	0.0034 (J)	0.0033 (J)						
3/30/2017				<0.005	0.0016 (J)	0.006 (J)	0.0364		
3/31/2017								0.0064 (J)	
5/11/2017	0.0281								
5/12/2017			0.0016 (J)					0.0037 (J)	0.0015 (J)
5/15/2017		0.0024 (J)							
6/15/2017	0.0322	0.0014 (J)							
6/16/2017			0.0011 (J)					0.0041 (J)	0.0003 (J)
7/11/2017		0.0007 (J)	0.0008 (J)						
7/12/2017	0.0247								
7/13/2017				0.0003 (J)	0.0016 (J)	0.0063 (J)	0.0394	0.0037 (J)	0.0005 (J)
8/8/2017		0.0007 (J)							<0.005
10/24/2017	0.0267	<0.005	0.0004 (J)						
10/26/2017				0.0003 (J)	0.0016 (J)	0.0062 (J)	0.0371	0.0022 (J)	<0.005
2/27/2018		<0.005	<0.005						
3/1/2018				<0.005	<0.005	<0.005			
3/2/2018							0.0425	<0.005	<0.005
3/8/2018	0.027								
7/12/2018	0.024			<0.005	0.0015 (J)	0.0059 (J)	0.044		
7/13/2018								0.0017 (J)	<0.005
11/6/2018		<0.005	<0.005						
11/7/2018	0.018								
11/8/2018				<0.005	<0.01 (J)	<0.01 (J)	0.036	<0.01 (J)	<0.005
8/27/2019		<0.005	<0.005						
8/28/2019	0.013			<0.005	0.0016 (J)	0.0067	0.044	0.0013 (J)	<0.005
10/15/2019		0.00064 (J)	<0.005						
10/16/2019	0.009								<0.005
10/17/2019								0.0013 (J)	
10/18/2019				<0.005	0.0016 (J)	0.007	0.043		
3/2/2020		0.00037 (J)	<0.005						
3/4/2020							0.055		
3/9/2020	0.016			<0.005	0.0016 (J)	0.007		0.0015 (J)	<0.005
8/11/2020		0.0012 (J)	<0.005						
8/13/2020	0.0051			<0.005	0.0014 (J)	0.006	0.044	0.0015 (J)	<0.005
9/22/2020	0.011	<0.005	<0.005						
9/23/2020							0.046	0.0011 (J)	<0.005
9/24/2020				<0.005	0.0013 (J)				
9/25/2020						0.0061			

Time Series

Constituent: Cobalt (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-74	B-100
3/31/2017	0.0022 (J)			
5/12/2017	0.0016 (J)			
6/16/2017	0.0009 (J)			
7/13/2017	0.0004 (J)			
10/26/2017	0.0031 (J)			
11/15/2017	0.0028 (J)			
3/2/2018	<0.005			
7/13/2018	<0.005			
11/8/2018	<0.005			
8/28/2019	<0.005			
10/16/2019	<0.005			
3/9/2020	<0.005			
7/23/2020				0.086
8/3/2020				0.087
8/13/2020	<0.005	<0.005		
8/14/2020			0.0023 (J)	
8/17/2020				0.077
9/23/2020	<0.005			
9/24/2020		<0.005		
9/25/2020			0.0028 (J)	0.034

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							1.44		
9/8/2016				0.827 (U)	1.48	1.44			
12/7/2016				0.56 (U)	0.22 (U)	2.16			
12/8/2016							2.56		
3/28/2017	6.36	0.866 (U)	0.257 (U)						
3/30/2017				0.302 (U)	0.519 (U)	0.264 (U)	0.0844 (U)		
3/31/2017								0.404 (U)	
5/11/2017	3.45								
5/12/2017			0.165 (U)					0.206 (U)	1.18
5/15/2017		0.288 (U)							
6/15/2017	4.58	1.01 (U)							
6/16/2017			0.732 (U)					0.966 (U)	0.332 (U)
7/11/2017		0.254 (U)	0.461 (U)						
7/12/2017	4.37								
7/13/2017				0.731 (U)	1.11	0.517 (U)	0.963 (U)	0.387 (U)	0.304 (U)
8/8/2017		1.48							1.4
10/24/2017	4.46	0.472 (U)	0.724 (U)						
10/26/2017				1.04 (U)	1.13 (U)	0.875 (U)	0.748 (U)	0.619 (U)	0.477 (U)
2/27/2018		1.22	0.714 (U)						
3/1/2018				0.344 (U)	0.985 (U)	1.24			
3/2/2018							0.485 (U)	1.31	1.13
3/8/2018	2.14								
7/10/2018		0.362 (U)	0.426 (U)						
7/12/2018	4.65			0.566 (U)	0.615 (U)	0.935 (U)	0.231 (U)		
7/13/2018								0.667 (U)	0.407 (U)
11/6/2018		0.859 (U)	0.455 (U)						
11/7/2018	3.05								
11/8/2018				0.623 (U)	0.58 (U)	1.15 (U)	0.465 (U)	0.911 (U)	0.393 (U)
8/27/2019		1.97	1.3 (U)						
8/28/2019	2.68			1.24 (U)	0.517 (U)	1.15 (U)	0.592 (U)	0.751 (U)	1.77
10/15/2019		0.319 (U)	1.21 (U)						
10/16/2019	1.89								2.12
1/6/2020				2.01	0.527 (U)	1.4	1.6	0.965 (U)	
3/2/2020		0.419 (U)	1.3						
3/4/2020							1.62		
3/9/2020	3.51			0.499 (U)	1.04	1.36		0.819 (U)	1.33
8/11/2020		0.812 (U)	0.965 (U)						
8/13/2020	1.04			0.99	0.132 (U)	0.626 (U)	1.6	0.897 (U)	1.46
9/22/2020	2.27	0.45 (U)	0.216 (U)						
9/23/2020							1.28 (U)	0.131 (U)	0.563 (U)
9/24/2020				1.03 (U)	0.593 (U)				
9/25/2020						0.181 (U)			

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-74	B-100
3/31/2017	1.39			
5/12/2017	1.29			
6/16/2017	1.61			
7/13/2017	1.14			
10/26/2017	2.04			
11/15/2017	1.99			
3/2/2018	0.918 (U)			
7/13/2018	1.36 (U)			
11/8/2018	0.719 (U)			
8/28/2019	1.38			
10/16/2019	0.826 (U)			
3/9/2020	1.39			
8/13/2020	2.66	1.63		
8/14/2020			1.67	
8/17/2020				1.4 (U)
9/23/2020	1.8			
9/24/2020		1.28 (U)		
9/25/2020			1.29 (U)	0.799 (U)

Time Series

Constituent: Fluoride (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							0.5		
9/8/2016				0.08 (J)	0.1 (J)	0.17 (J)			
12/7/2016				0.21 (J)	0.27 (J)	0.33			
12/8/2016							0.35		
3/28/2017	0.12 (J)	1.2 (o)	0.06 (J)						
3/30/2017				0.05 (J)	0.12 (J)	0.17 (J)	0.21 (J)		
3/31/2017								0.02 (J)	
5/11/2017	0.07 (J)								
5/12/2017			<0.1					<0.1	0.37
5/15/2017		0.005 (J)							
6/15/2017	0.19 (J)	0.02 (J)							
6/16/2017			0.008 (J)					0.03 (J)	0.12 (J)
7/11/2017		0.06 (J)	0.007 (J)						
7/12/2017	0.1 (J)								
7/13/2017				0.06 (J)	0.13 (J)	0.14 (J)	0.2 (J)	0.03 (J)	0.12 (J)
8/8/2017		0.04 (J)							0.11 (J)
10/24/2017	0.06 (J)	<0.1	<0.1						
10/26/2017				0.08 (J)	0.47	0.54	0.5	<0.1	0.11 (J)
11/15/2017	0.05 (J)		<0.1						
2/27/2018		<0.1	<0.1						
3/1/2018				0.22	<0.1	0.13			
3/2/2018							0.33	<0.1	0.23
3/8/2018	<0.1								
7/12/2018	0.071 (J)			0.32	0.23 (J)	0.13 (J)	0.57		
7/13/2018								0.25 (J)	0.099 (J)
11/6/2018		<0.1	<0.1						
11/7/2018	<0.1								
11/8/2018				<0.1	<0.1	<0.3 (J)	<0.3 (J)	0.5	<0.3 (J)
3/12/2019		0.039 (J)	<0.1						
3/13/2019	0.13 (J)			0.08 (J)	0.084 (J)	0.085 (J)	0.15 (J)	0.07 (J)	0.12 (J)
8/27/2019		<0.1	<0.1						
8/28/2019	0.42			0.074 (J)	0.066 (J)	0.086 (J)	0.14	<0.1	0.1
10/15/2019		<0.1	<0.1						
10/16/2019	0.11 (J)								0.093 (J)
10/17/2019								0.038 (J)	
10/18/2019				0.075 (J)	0.073 (J)	0.14 (J)	0.13 (J)		
3/2/2020		<0.1	<0.1						
3/4/2020							0.11 (J)		
3/9/2020	0.1 (J)			0.054 (J)	0.064 (J)	0.075 (J)		<0.1	0.082 (J)
8/11/2020		<0.1	<0.1						
8/13/2020	0.062 (J)			0.068 (J)	0.06 (J)	0.076 (J)	0.16	<0.1	0.076 (J)
9/22/2020	0.099 (J)	<0.1	<0.1						
9/23/2020							0.054 (J)	<0.1	0.07 (J)
9/24/2020				0.061 (J)	0.057 (J)				
9/25/2020						0.086 (J)			

Time Series

Constituent: Fluoride (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-74	B-100
3/31/2017	0.16 (J)			
5/12/2017	0.12 (J)			
6/16/2017	0.16 (J)			
7/13/2017	0.13 (J)			
10/26/2017	0.29 (J)			
11/15/2017	0.28 (J)			
3/2/2018	0.18			
7/13/2018	0.19 (J)			
11/8/2018	<0.3 (J)			
3/13/2019	0.086 (J)			
8/28/2019	0.07 (J)			
10/16/2019	0.13 (J)			
3/9/2020	0.068 (J)			
8/13/2020	0.084 (J)	0.11		
8/14/2020			0.16	
8/17/2020				<0.1
9/23/2020	0.064 (J)			
9/24/2020		0.093 (J)		
9/25/2020			0.14	<0.1

Time Series

Constituent: Lead (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							<0.005		
9/8/2016				<0.005	<0.005	<0.005			
12/7/2016				<0.005	<0.005	<0.005			
12/8/2016							<0.005		
3/28/2017	<0.005	9E-05 (J)	<0.005						
3/30/2017				0.0014 (J)	<0.005	<0.005	7E-05 (J)		
3/31/2017								<0.005	
5/11/2017	<0.005								
5/12/2017			8E-05 (J)					9E-05 (J)	<0.005
5/15/2017		0.0001 (J)							
6/15/2017	<0.005	0.0002 (J)							
6/16/2017			<0.005					<0.005	<0.005
7/11/2017		<0.005	<0.005						
7/12/2017	<0.005								
7/13/2017				<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
8/8/2017		7E-05 (J)							<0.005
10/24/2017	<0.005	<0.005	<0.005						
10/26/2017				<0.005	0.0001 (J)	<0.005	7E-05 (J)	<0.005	<0.005
2/27/2018		<0.005	<0.005						
3/1/2018				<0.005	<0.005	<0.005			
3/2/2018							<0.005	<0.005	<0.005
3/8/2018	<0.005								
7/12/2018	<0.005			<0.005	<0.005	<0.005	<0.005		
7/13/2018								<0.005	<0.005
11/6/2018		<0.005	<0.005						
11/7/2018	<0.005								
11/8/2018				<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
8/27/2019		7.8E-05 (J)	<0.005						
8/28/2019	<0.005			6.1E-05 (J)	<0.005	8E-05 (J)	8.1E-05 (J)	<0.005	<0.005
10/15/2019		<0.005	<0.005						
10/16/2019	<0.005								<0.005
10/17/2019								<0.005	
10/18/2019				<0.005	7.4E-05 (J)	<0.005	0.00015 (J)		
3/2/2020		7.4E-05 (J)	<0.005						
3/4/2020							0.00017 (J)		
3/9/2020	<0.005			<0.005	6.1E-05 (J)	<0.005		4.7E-05 (J)	<0.005
8/11/2020		0.0003 (J)	<0.005						
8/13/2020	<0.005			<0.005	<0.005	<0.005	4.9E-05 (J)	5.6E-05 (J)	<0.005
9/22/2020	<0.005	7.8E-05 (J)	<0.005						
9/23/2020							0.00028 (J)	<0.005	0.00035 (J)
9/24/2020				<0.005	0.00014 (J)				
9/25/2020						0.00022 (J)			

Time Series

Constituent: Lead (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-74	B-100
3/31/2017	<0.005			
5/12/2017	0.0001 (J)			
6/16/2017	<0.005			
7/13/2017	<0.005			
10/26/2017	<0.005			
11/15/2017	9E-05 (J)			
3/2/2018	<0.005			
7/13/2018	<0.005			
11/8/2018	<0.005			
8/28/2019	<0.005			
10/16/2019	<0.005			
3/9/2020	9E-05 (J)			
8/13/2020	5.9E-05 (J)	<0.005		
8/14/2020			<0.005	
8/17/2020				8.8E-05 (J)
9/23/2020	0.00017 (J)			
9/24/2020		<0.005		
9/25/2020			4.1E-05 (J)	0.00021 (J)

Time Series

Constituent: Lithium (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							0.0022 (J)		
9/8/2016				<0.03	0.0032 (J)	<0.03			
12/7/2016				<0.03	0.0035 (J)	<0.03			
12/8/2016							<0.03		
3/28/2017	0.0108 (J)	0.0054 (J)	0.0025 (J)						
3/30/2017				0.0029 (J)	0.0035 (J)	<0.03	0.0023 (J)		
3/31/2017								0.0052 (J)	
5/11/2017	0.0087 (J)								
5/12/2017			0.0016 (J)					0.0054 (J)	0.0016 (J)
5/15/2017		0.002 (J)							
6/15/2017	0.0088 (J)	<0.03							
6/16/2017			0.0016 (J)					0.0048 (J)	<0.03
7/11/2017		<0.03	<0.03						
7/12/2017	0.0075 (J)								
7/13/2017				<0.03	0.0032 (J)	<0.03	0.0023 (J)	0.0044 (J)	<0.03
8/8/2017		<0.03							<0.03
10/24/2017	0.0103 (J)	<0.03	<0.03						
10/26/2017				0.0018 (J)	0.0034 (J)	<0.03	0.0021 (J)	0.0043 (J)	<0.03
2/27/2018		<0.03	0.0013 (J)						
3/1/2018				0.0024 (J)	0.0033 (J)	<0.03			
3/2/2018							0.0023 (J)	0.0047 (J)	<0.03
3/8/2018	0.011 (J)								
7/12/2018	0.0084 (J)			0.0028 (J)	0.0034 (J)	<0.03	0.0022 (J)		
7/13/2018								0.0041 (J)	<0.03
11/6/2018		<0.03	<0.03						
11/7/2018	<0.03								
11/8/2018				<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
8/27/2019		<0.03	0.0014 (J)						
8/28/2019	0.0092 (J)			0.0025 (J)	0.0034 (J)	<0.03	0.0022 (J)	0.0046 (J)	<0.03
10/15/2019		<0.03	0.0012 (J)						
10/16/2019	0.0094 (J)								<0.03
10/17/2019								0.0047 (J)	
10/18/2019				0.0026 (J)	0.0032 (J)	<0.03	0.0024 (J)		
3/2/2020		<0.03	0.0011 (J)						
3/4/2020							0.0027 (J)		
3/9/2020	0.0077 (J)			0.0017 (J)	0.0033 (J)	<0.03		0.0048 (J)	<0.03
8/11/2020		0.0019 (J)	0.0015 (J)						
8/13/2020	0.0085 (J)			0.0023 (J)	0.0028 (J)	<0.03	0.0022 (J)	0.0044 (J)	<0.03
9/22/2020	0.0089 (J)	<0.03	0.0012 (J)						
9/23/2020							0.0022 (J)	0.0043 (J)	<0.03
9/24/2020				0.0021 (J)	0.0029 (J)				
9/25/2020						<0.03			

Time Series

Constituent: Lithium (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-74	B-100
3/31/2017	0.0031 (J)			
5/12/2017	0.003 (J)			
6/16/2017	0.0031 (J)			
7/13/2017	0.0029 (J)			
10/26/2017	0.0034 (J)			
11/15/2017	0.0034 (J)			
3/2/2018	0.0028 (J)			
7/13/2018	0.0026 (J)			
11/8/2018	<0.03			
8/28/2019	0.0024 (J)			
10/16/2019	0.0032 (J)			
3/9/2020	0.0025 (J)			
8/13/2020	0.0031 (J)	0.0087 (J)		
8/14/2020			0.0011 (J)	
8/17/2020				0.0013 (J)
9/23/2020	0.0023 (J)			
9/24/2020		0.0084 (J)		
9/25/2020			0.0014 (J)	0.0027 (J)

Time Series

Constituent: Mercury (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							4.4E-05 (J)		
9/8/2016				<0.0005	<0.0005	<0.0005			
12/7/2016				<0.0005	<0.0005	<0.0005			
12/8/2016							<0.0005		
3/28/2017	<0.0005	<0.0005	<0.0005						
3/30/2017				6E-05 (J)	7E-05 (J)	5.9E-05 (J)	9E-05 (J)		
3/31/2017								<0.0005	
5/11/2017	<0.0005								
5/12/2017			6E-05 (J)					<0.0005	<0.0005
5/15/2017		<0.0005							
6/15/2017	8E-05 (J)	7E-05 (J)							
6/16/2017			7E-05 (J)					7E-05 (J)	7E-05 (J)
7/11/2017		<0.0005	<0.0005						
7/12/2017	<0.0005								
7/13/2017				<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8/8/2017		<0.0005							<0.0005
10/24/2017	<0.0005	<0.0005	<0.0005						
10/26/2017				<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
2/27/2018		<0.0005	<0.0005						
3/1/2018				<0.0005	<0.0005	<0.0005			
3/2/2018							<0.0005	<0.0005	<0.0005
3/8/2018	<0.0005								
7/12/2018	<0.0005			4.4E-05 (J)	4E-05 (J)	<0.0005	4.5E-05 (J)		
7/13/2018								<0.0005	<0.0005
11/6/2018		<0.0005	<0.0005						
11/7/2018	<0.0005								
11/8/2018				<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8/27/2019		<0.0005	<0.0005						
8/28/2019	<0.0005			<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10/15/2019		<0.0005	<0.0005						
10/16/2019	<0.0005								<0.0005
10/17/2019								<0.0005	
10/18/2019				<0.0005	<0.0005	<0.0005	<0.0005		
3/2/2020		<0.0005	<0.0005						
3/4/2020							<0.0005		
3/9/2020	<0.0005			<0.0005	<0.0005	<0.0005		<0.0005	<0.0005
8/11/2020		<0.0005	<0.0005						
8/13/2020	<0.0005			<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
9/22/2020	<0.0005	<0.0005	<0.0005						
9/23/2020							<0.0005	<0.0005	<0.0005
9/24/2020				9.1E-05 (J)	8.5E-05 (J)				
9/25/2020						<0.0005			

Time Series

Constituent: Mercury (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-74	B-100
3/31/2017	<0.0005			
5/12/2017	<0.0005			
6/16/2017	7E-05 (J)			
7/13/2017	<0.0005			
10/26/2017	<0.0005			
11/15/2017	<0.0005			
3/2/2018	<0.0005			
7/13/2018	<0.0005			
11/8/2018	<0.0005			
8/28/2019	<0.0005			
10/16/2019	<0.0005			
3/9/2020	<0.0005			
8/13/2020	<0.0005	<0.0005		
8/14/2020			<0.0005	
8/17/2020				0.00011 (J)
9/23/2020	<0.0005			
9/24/2020		<0.0005		
9/25/2020			<0.0005	<0.0005

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							<0.01		
9/8/2016				<0.01	<0.01	<0.01			
12/7/2016				<0.01	<0.01	<0.01			
12/8/2016							<0.01		
3/28/2017	0.0242	<0.01	0.0009 (J)						
3/30/2017				<0.01	0.0011 (J)	<0.01	<0.01		
3/31/2017								<0.01	
5/11/2017	0.0375								
5/12/2017			<0.01					<0.01	0.275
5/15/2017		<0.01							
6/15/2017	0.0409	<0.01							
6/16/2017			<0.01					<0.01	0.19
7/11/2017		<0.01	<0.01						
7/12/2017	0.0321								
7/13/2017				<0.01	0.0012 (J)	<0.01	<0.01	<0.01	0.211
8/8/2017		<0.01							0.207
10/24/2017	0.0227	<0.01	<0.01						
10/26/2017				<0.01	0.0011 (J)	<0.01	<0.01	<0.01	0.226
2/27/2018		<0.01	<0.01						
3/1/2018				<0.01	<0.01	<0.01			
3/2/2018							<0.01	<0.01	0.215
3/8/2018	0.035								
7/12/2018	0.034			<0.01	<0.01	<0.01	<0.01		
7/13/2018								<0.01	0.22
11/6/2018		<0.01	<0.01						
11/7/2018	0.029								
11/8/2018				<0.01	<0.01	<0.01	<0.01	<0.01	0.2
8/27/2019		<0.01	<0.01						
8/28/2019	0.031			<0.01	<0.01	<0.01	<0.01	<0.01	0.21
10/15/2019		<0.01	<0.01						
10/16/2019	0.037								0.22
10/17/2019								<0.01	
10/18/2019				<0.01	<0.01	<0.01	<0.01		
3/2/2020		<0.01	<0.01						
3/4/2020							<0.01		
3/9/2020	0.026			<0.01	0.001 (J)	<0.01		<0.01	0.19
8/11/2020		<0.01	<0.01						
8/13/2020	0.012			<0.01	0.00098 (J)	<0.01	<0.01	<0.01	0.19
9/22/2020	0.039	<0.01	<0.01						
9/23/2020							<0.01	<0.01	0.2
9/24/2020				<0.01	0.001 (J)				
9/25/2020						<0.01			

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-74	B-100
3/31/2017	0.0124			
5/12/2017	0.0117			
6/16/2017	0.0087 (J)			
7/13/2017	0.0053 (J)			
10/26/2017	0.0244			
11/15/2017	0.0237			
3/2/2018	0.0072 (J)			
7/13/2018	0.007 (J)			
11/8/2018	<0.01 (J)			
8/28/2019	0.0059 (J)			
10/16/2019	0.01			
3/9/2020	0.0062 (J)			
8/13/2020	0.011	<0.01		
8/14/2020			0.052	
8/17/2020				<0.01
9/23/2020	0.0056 (J)			
9/24/2020		<0.01		
9/25/2020			0.049	<0.01

Time Series

Constituent: pH (SU) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							4.77		
9/8/2016				6.32	6.01	6.47			
12/7/2016				6.32	6.07	6.43			
12/8/2016							4.77		
3/28/2017	6.29		5.94						
3/30/2017				6.22	5.97	6.42	4.84		
3/31/2017								6.25	
5/11/2017	6.6								
5/12/2017			5.46					6.23	6.63
5/15/2017		5.72							
6/15/2017	6.41	5.74							
6/16/2017			5.81					6.22	6.63
7/11/2017		5.62	5.74						
7/12/2017	5.91								
7/13/2017				6.3	6.11	6.47	4.85	6.15	6.84
8/8/2017		5.6							6.57
10/24/2017	5.51	5.71	5.86						
10/26/2017					6.06	6.49	4.86	6.64	7.01
11/15/2017	6.5		5.77						
2/27/2018		5.5	5.66						
3/1/2018				6.28	6.05	6.37			
3/2/2018							4.67	6.18	6.58
3/8/2018	6.18								
7/10/2018		5.44	5.63						
7/12/2018	6.33			6.43	6.05	6.45	4.63		
7/13/2018								6.19	6.62
11/6/2018		5.71	5.79						
11/7/2018	6.22								
11/8/2018				6.36	6.07	6.49	4.79	6.23	6.5
3/12/2019		5.52	5.74						
3/13/2019	6			6.26	6.05	6.28	4.6	6.19	6.57
8/27/2019		5.53	5.87						
8/28/2019	6.04			6.27	5.98	6.41	4.68	6.22	6.6
10/15/2019		5.61	5.88						
10/16/2019	6.69								6.6
10/17/2019								6.14	
10/18/2019				6.26	6	6.35	4.71		
3/2/2020		5.54	5.77						
3/4/2020							4.64		
3/9/2020	6.41 (D)			6.34	6.12	6.37		6.23	6.6
8/11/2020		5.86	5.96						
8/13/2020	6.17			6.34	6.05	6.39	4.65	6.28	6.63
9/22/2020	6.43	6.01	6.06						
9/23/2020							4.78	6.23	6.6
9/24/2020				6.3	6.05				
9/25/2020						6.38			

Time Series

Constituent: pH (SU) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-74	B-100
3/31/2017	6.26			
4/12/2017	6.19			
5/12/2017	6.2			
6/16/2017	6.22			
7/13/2017	6.35			
10/26/2017	6.69			
11/15/2017	6.22			
3/2/2018	6.1			
7/13/2018	5.95			
11/8/2018	6			
3/13/2019	6.08			
8/28/2019	6.09			
10/16/2019	6.19			
3/9/2020	6.12			
8/3/2020				4.93
8/13/2020	6.26	6.4		
8/14/2020			6.19	
8/17/2020				5.02
9/23/2020	6.08			
9/24/2020		6.55		
9/25/2020			6.16	5.53

Time Series

Constituent: Selenium (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							0.0019 (J)		
9/8/2016				<0.01	<0.01	<0.01			
12/7/2016				<0.01	<0.01	<0.01			
12/8/2016							0.0022 (J)		
3/28/2017	<0.01	<0.01	<0.01						
3/30/2017				<0.01	<0.01	<0.01	0.0023 (J)		
3/31/2017								<0.01	
5/11/2017	<0.01								
5/12/2017			<0.01					<0.01	<0.01
5/15/2017		<0.01							
6/15/2017	<0.01	<0.01							
6/16/2017			<0.01					<0.01	<0.01
7/11/2017		<0.01	<0.01						
7/12/2017	<0.01								
7/13/2017				<0.01	<0.01	<0.01	0.0025 (J)	<0.01	<0.01
8/8/2017		<0.01							<0.01
10/24/2017	<0.01	<0.01	<0.01						
10/26/2017				<0.01	<0.01	<0.01	0.0036 (J)	<0.01	<0.01
2/27/2018		<0.01	<0.01						
3/1/2018				<0.01	<0.01	<0.01			
3/2/2018							<0.01	<0.01	<0.01
3/8/2018	<0.01								
7/12/2018	<0.01			<0.01	<0.01	<0.01	<0.01		
7/13/2018								<0.01	<0.01
11/6/2018		<0.01	<0.01						
11/7/2018	<0.01								
11/8/2018				<0.01	<0.01	<0.01	<0.01 (J)	<0.01	<0.01
8/27/2019		<0.01	<0.01						
8/28/2019	<0.01			<0.01	<0.01	<0.01	0.0017 (J)	<0.01	<0.01
10/15/2019		<0.01	<0.01						
10/16/2019	<0.01								<0.01
10/17/2019								<0.01	
10/18/2019				<0.01	<0.01	<0.01	0.0027 (J)		
3/2/2020		<0.01	<0.01						
3/4/2020							0.0049 (J)		
3/9/2020	<0.01			<0.01	<0.01	<0.01		<0.01	<0.01
8/11/2020		<0.01	<0.01						
8/13/2020	<0.01			<0.01	<0.01	<0.01	0.0018 (J)	<0.01	<0.01
9/22/2020	<0.01	<0.01	<0.01						
9/23/2020							0.0067 (J)	<0.01	<0.01
9/24/2020				<0.01	<0.01				
9/25/2020						<0.01			

Time Series

Constituent: Selenium (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-74	B-100
3/31/2017	<0.01			
5/12/2017	<0.01			
6/16/2017	<0.01			
7/13/2017	<0.01			
10/26/2017	<0.01			
11/15/2017	<0.01			
3/2/2018	<0.01			
7/13/2018	<0.01			
11/8/2018	<0.01			
8/28/2019	<0.01			
10/16/2019	<0.01			
3/9/2020	<0.01			
8/13/2020	<0.01	<0.01		
8/14/2020			<0.01	
8/17/2020				<0.01
9/23/2020	<0.01			
9/24/2020		<0.01		
9/25/2020			<0.01	<0.01

Time Series

Constituent: Sulfate (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							230		
9/8/2016				97	270	280			
12/7/2016				100	250	250			
12/8/2016							270		
3/28/2017	49	2.7	17						
3/30/2017				110	290	310	240		
3/31/2017								110	
5/11/2017	21								
5/12/2017			17					100	50
5/15/2017		1							
6/15/2017	16	0.86 (J)							
6/16/2017			11					100	47
7/11/2017		1.4	11						
7/12/2017	10								
7/13/2017				200 (o)	270	220	220	110	49
8/8/2017		1.5							48
10/24/2017	15	1.4	9.6						
10/26/2017				97	260	210	220	100	48
11/15/2017	3.8		7.8						
2/27/2018		0.54 (J)	7.4						
3/1/2018				94.6	242	166			
3/2/2018							219	98.5	44.7
3/8/2018	9.7								
7/12/2018	8			89.2	256	169	222		
7/13/2018								136	43.3
11/6/2018		<1 (J)	7.3						
11/7/2018	12.8								
11/8/2018				102	291	200	273	118	43.5
3/12/2019		0.35 (J)	7						
3/13/2019	23.7			92.2	300	265	445	233	44.1
10/15/2019		0.16 (J)	7.4						
10/16/2019	15.1								32.1
10/17/2019								99.4	
10/18/2019				76.4	239	182	205		
3/2/2020		<1	8.5						
3/4/2020							177		
3/9/2020	9.5			90.3	244	171		100	37.4
9/22/2020	13.5	<1	6.5						
9/23/2020							190	99.8	38.7
9/24/2020				84.1	240				
9/25/2020						153			

Time Series

Constituent: Sulfate (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-74	B-100
3/31/2017	21			
5/12/2017	17			
6/16/2017	20			
7/13/2017	17			
10/26/2017	31			
11/15/2017	29			
3/2/2018	10.1			
7/13/2018	8.6			
11/8/2018	9.7			
3/13/2019	8.4			
10/16/2019	13.3			
3/9/2020	7.6			
9/23/2020	5.9			
9/24/2020		50.6		
9/25/2020			20.1	385

Time Series

Constituent: TDS (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							583 (o)		
9/8/2016				279	437	522			
12/7/2016				300	478	565			
12/8/2016							319		
3/28/2017	202	39	90						
3/30/2017				273	448	496	344		
3/31/2017								270	
5/11/2017	241								
5/12/2017			92					287	300
5/15/2017		88							
6/15/2017	251	65							
6/16/2017			100					309	271
7/11/2017		25	59						
7/12/2017	218								
7/13/2017				312	504	508	386	275	246
8/8/2017		53							278
10/24/2017	671 (o)	49	117						
10/26/2017				340	554	532	373	319	287
11/15/2017	241		90						
2/27/2018		43	79						
3/1/2018				311	492	440			
3/2/2018							359	264	252
3/8/2018	213								
7/12/2018	198			290	478	463	365		
7/13/2018								297	275
11/6/2018		65	85						
11/7/2018	200								
11/8/2018				295	507	485	399	295	277
3/12/2019		43	74						
3/13/2019	201			286	487	526	351	278	267
10/15/2019		70	89						
10/16/2019	126								218
10/17/2019								281	
10/18/2019				269	494	489	360		
3/2/2020		52	67						
3/4/2020							400		
3/9/2020	171			357	554	508		209	188
9/22/2020	142	46	74						
9/23/2020							357	296	251
9/24/2020				280	489				
9/25/2020						460			

Time Series

Constituent: TDS (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-74	B-100
3/31/2017	138			
5/12/2017	243			
6/16/2017	155			
7/13/2017	122			
10/26/2017	234			
11/15/2017	188			
3/2/2018	73			
7/13/2018	95			
11/8/2018	112			
3/13/2019	95			
10/16/2019	108			
3/9/2020	115			
9/23/2020	102			
9/24/2020		170		
9/25/2020			134	724

Time Series

Constituent: Thallium (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							<0.001		
9/8/2016				<0.001	<0.001	<0.001			
12/7/2016				<0.001	<0.001	<0.001			
12/8/2016							<0.001		
3/28/2017	<0.001	<0.001	6E-05 (J)						
3/30/2017				<0.001	0.0001 (J)	0.0001 (J)	6E-05 (J)		
3/31/2017								<0.001	
5/11/2017	<0.001								
5/12/2017			<0.001					<0.001	<0.001
5/15/2017		<0.001							
6/15/2017	<0.001	<0.001							
6/16/2017			<0.001					<0.001	<0.001
7/11/2017		<0.001	<0.001						
7/12/2017	<0.001								
7/13/2017				<0.001	0.0001 (J)	9E-05 (J)	6E-05 (J)	<0.001	<0.001
8/8/2017		<0.001							<0.001
10/24/2017	<0.001	<0.001	<0.001						
10/26/2017				<0.001	0.0001 (J)	0.0001 (J)	7E-05 (J)	<0.001	<0.001
2/27/2018		<0.001	<0.001						
3/1/2018				<0.001	<0.001	<0.001			
3/2/2018							<0.001	<0.001	<0.001
3/8/2018	<0.001								
7/12/2018	<0.001			<0.001	<0.001	<0.001	<0.001		
7/13/2018								<0.001	0.00015 (J)
11/6/2018		<0.001	<0.001						
11/7/2018	<0.001								
11/8/2018				<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
8/27/2019		<0.001	<0.001						
8/28/2019	<0.001			<0.001	0.00014 (J)	6.9E-05 (J)	7E-05 (J)	<0.001	<0.001
10/15/2019		<0.001	<0.001						
10/16/2019	<0.001								<0.001
10/17/2019								<0.001	
10/18/2019				<0.001	0.0001 (J)	<0.001	<0.001		
3/2/2020		7.8E-05 (J)	<0.001						
3/4/2020							6.8E-05 (J)		
3/9/2020	<0.001			<0.001	0.00016 (J)	7.1E-05 (J)		<0.001	<0.001
8/11/2020		<0.001	<0.001						
8/13/2020	<0.001			<0.001	0.00016 (J)	<0.001	<0.001	<0.001	<0.001
9/22/2020	<0.001	<0.001	<0.001						
9/23/2020							<0.001	<0.001	<0.001
9/24/2020				<0.001	0.00015 (J)				
9/25/2020						<0.001			

Time Series

Constituent: Thallium (mg/L) Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

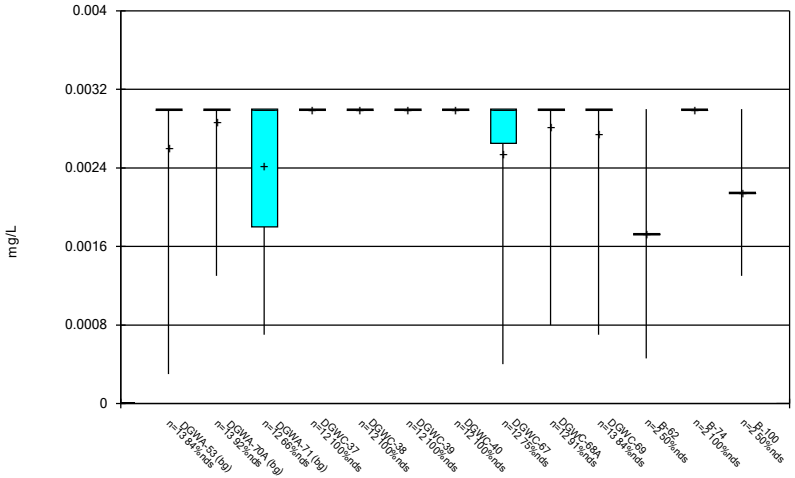
Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-74	B-100
3/31/2017	<0.001			
5/12/2017	<0.001			
6/16/2017	<0.001			
7/13/2017	<0.001			
10/26/2017	<0.001			
11/15/2017	<0.001			
3/2/2018	<0.001			
7/13/2018	<0.001			
11/8/2018	<0.001			
8/28/2019	<0.001			
10/16/2019	<0.001			
3/9/2020	<0.001			
8/13/2020	<0.001	<0.001		
8/14/2020			<0.001	
8/17/2020				<0.001
9/23/2020	<0.001			
9/24/2020		<0.001		
9/25/2020			<0.001	<0.001

FIGURE B.

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

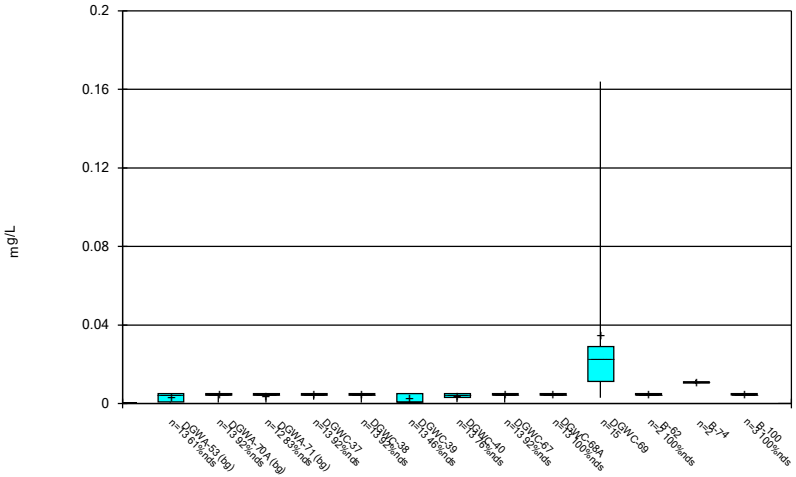
Box & Whiskers Plot



Constituent: Antimony Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

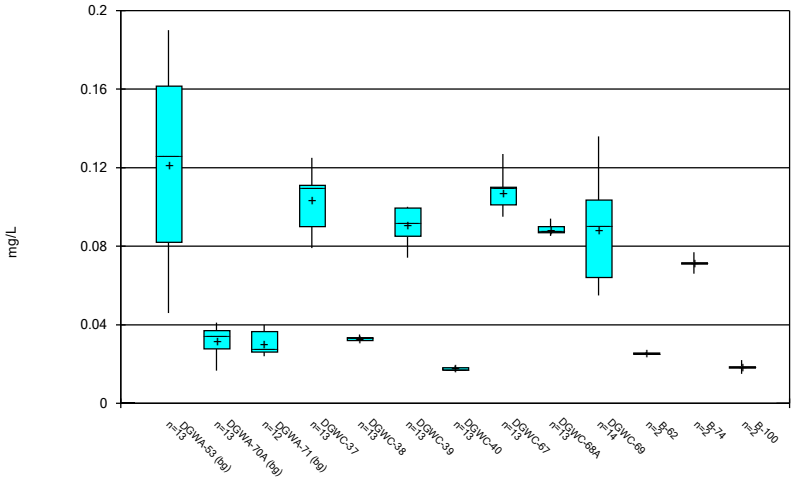
Box & Whiskers Plot



Constituent: Arsenic Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

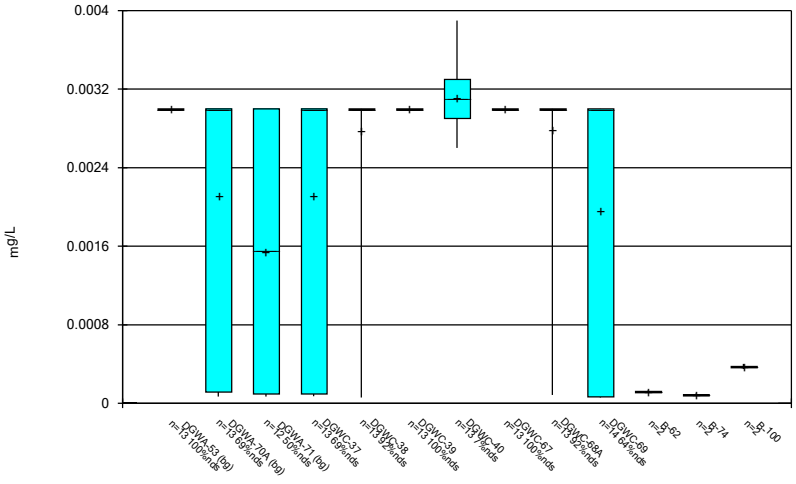
Box & Whiskers Plot



Constituent: Barium Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

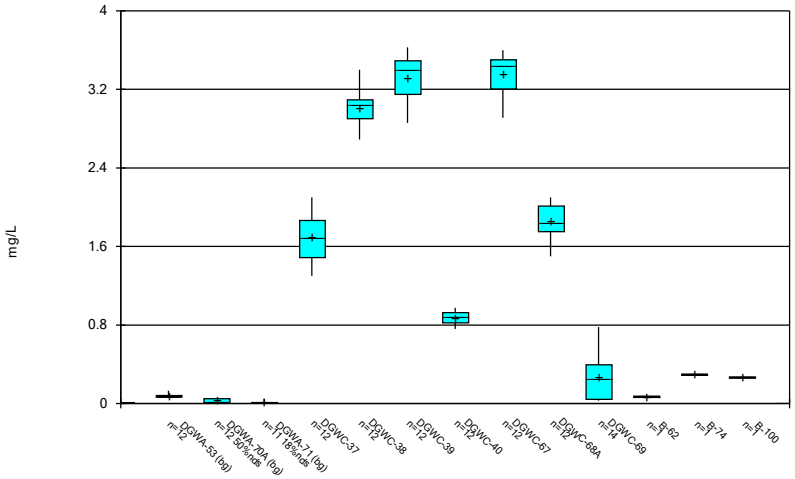
Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Beryllium Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

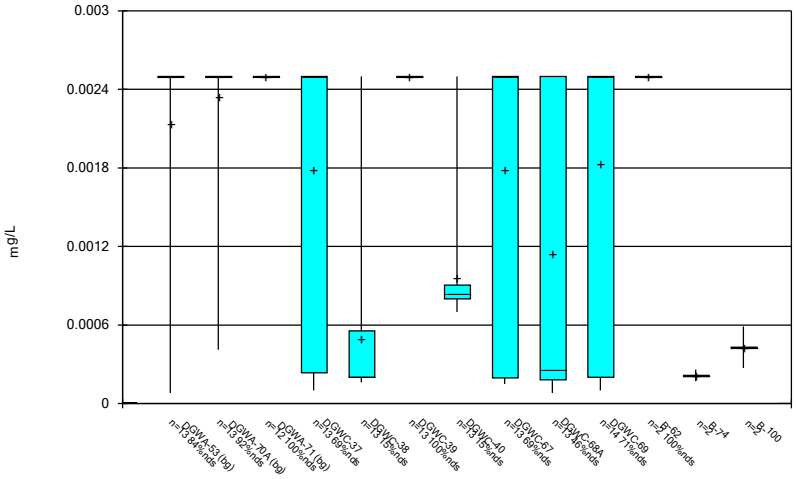
Box & Whiskers Plot



Constituent: Boron Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

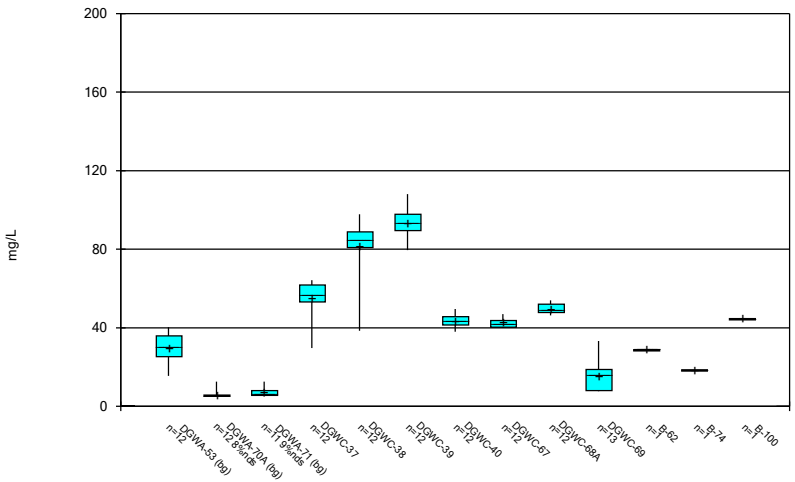
Box & Whiskers Plot



Constituent: Cadmium Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

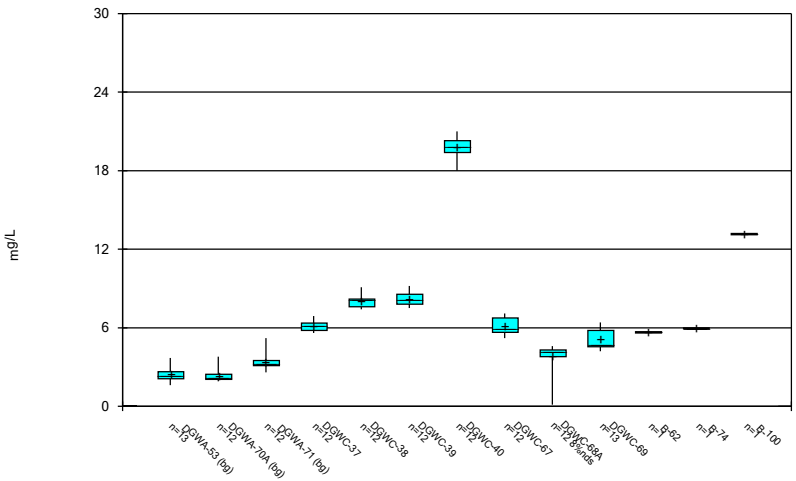
Box & Whiskers Plot



Constituent: Calcium Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

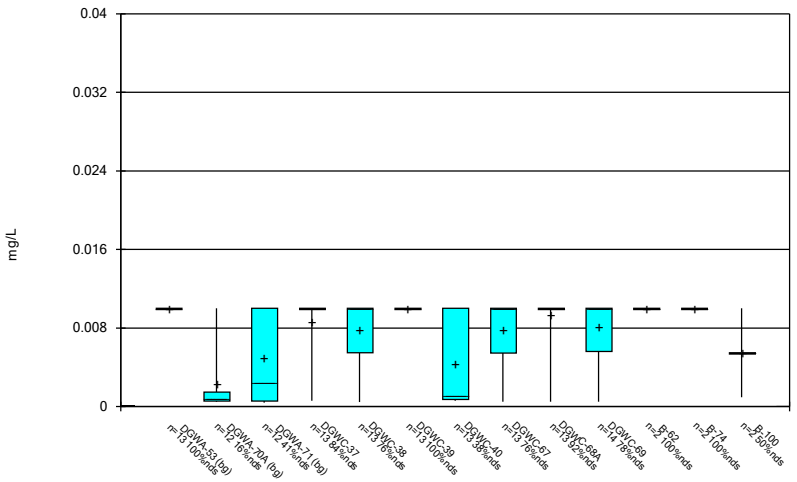
Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Chloride Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

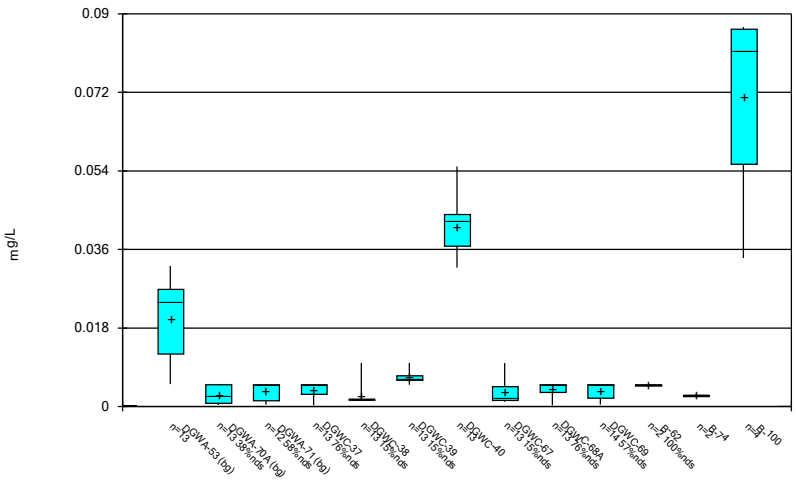
Box & Whiskers Plot



Constituent: Chromium Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

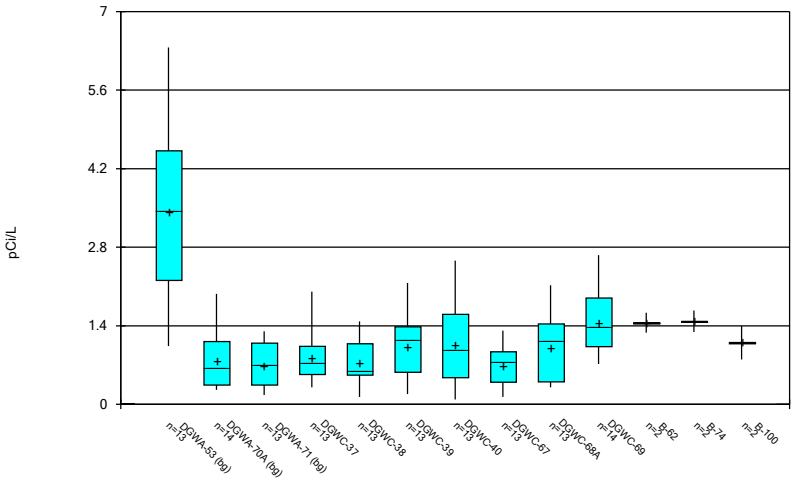
Box & Whiskers Plot



Constituent: Cobalt Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

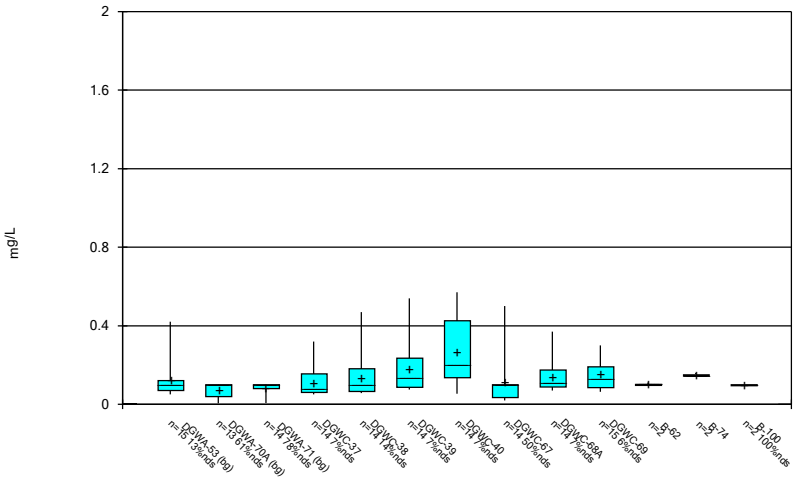
Box & Whiskers Plot



Constituent: Combined Radium 226 + 228 Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

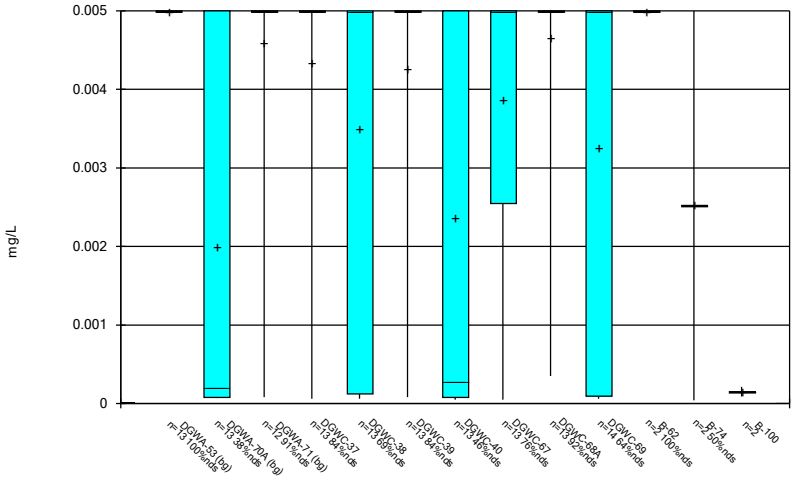
Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Fluoride Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

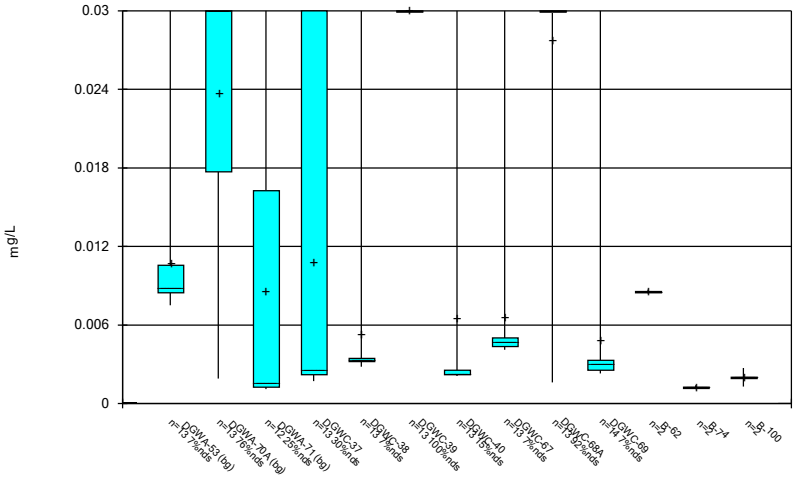
Box & Whiskers Plot



Constituent: Lead Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

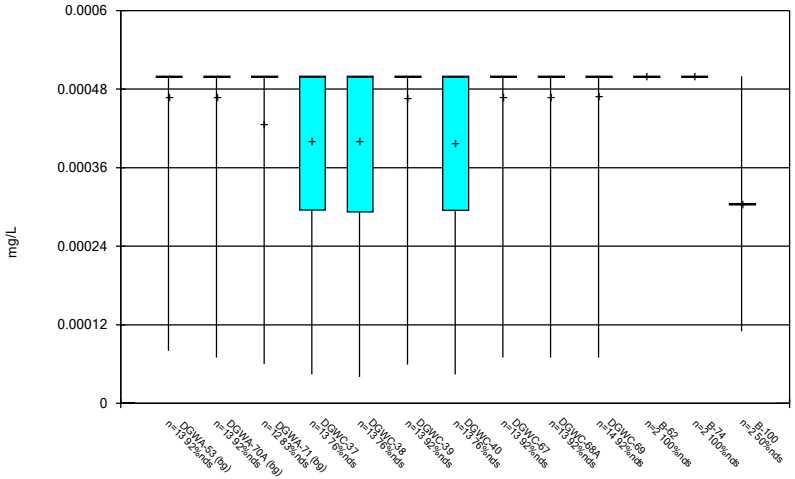
Box & Whiskers Plot



Constituent: Lithium Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

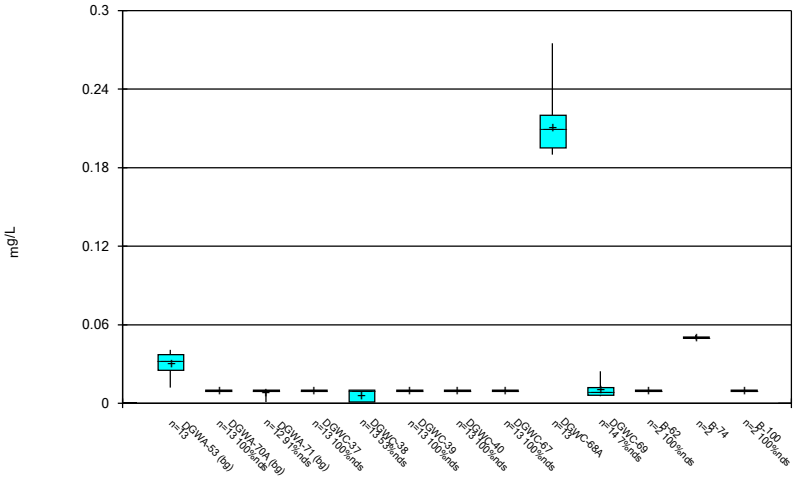
Box & Whiskers Plot



Constituent: Mercury Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

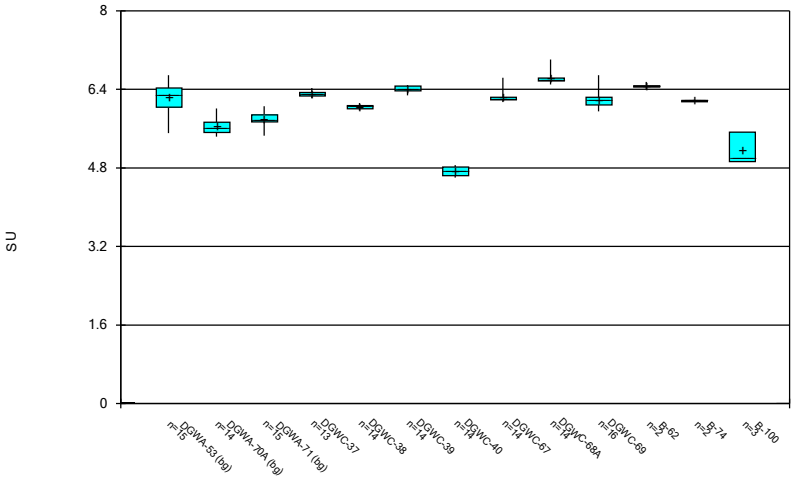
Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Molybdenum Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

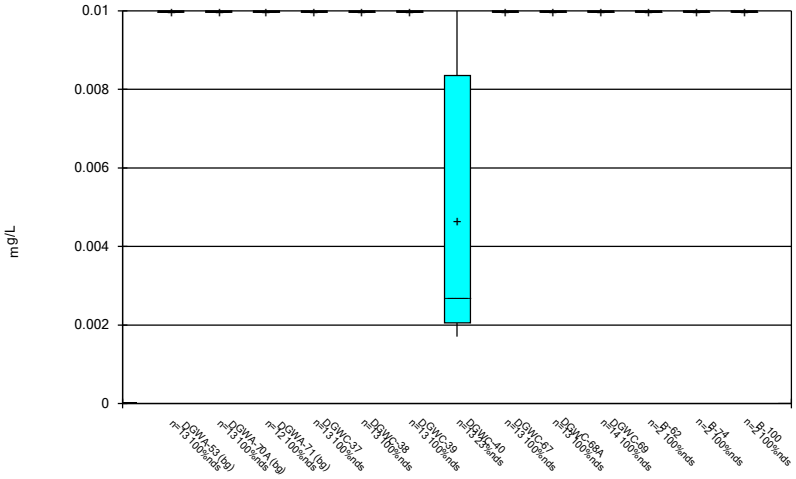
Box & Whiskers Plot



Constituent: pH Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

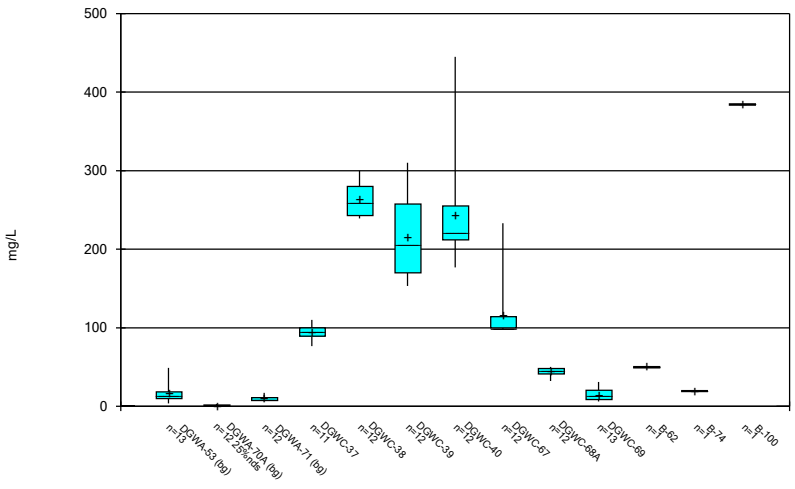
Box & Whiskers Plot



Constituent: Selenium Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

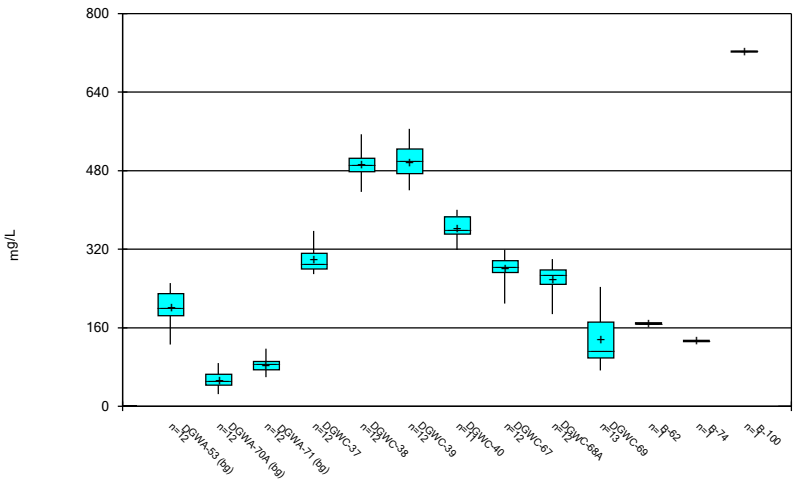
Box & Whiskers Plot



Constituent: Sulfate Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

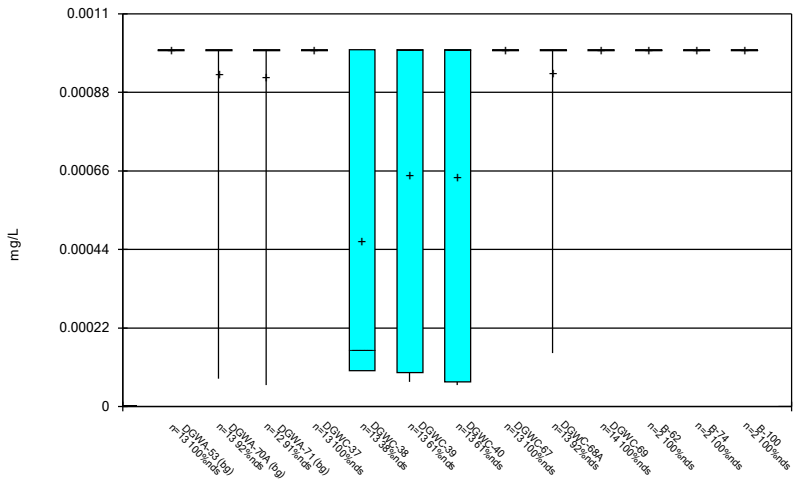
Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: TDS Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Box & Whiskers Plot



Constituent: Thallium Analysis Run 11/4/2020 3:08 PM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

FIGURE C.

Outlier Summary

Plant McDonough Client: Southern Company Data: McDonough AP Printed 11/4/2020, 3:00 PM

	DGWA-70A Chromium (mg/L)	DGWA-70A Fluoride (mg/L)	DGWC-37 Sulfate (mg/L)	DGWA-53 TDS (mg/L)	DGWC-40 TDS (mg/L)
9/2/2016					583 (o)
3/28/2017		1.2 (o)			
7/13/2017			200 (o)		
10/24/2017				671 (o)	
10/15/2019	0.034 (O)				

FIGURE D.

Interwell Prediction Limit Summary - Significant Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 11/4/2020, 3:03 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	DGWC-37	0.13	n/a	9/24/2020	1.6	Yes	35	n/a	n/a	22.86	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Boron (mg/L)	DGWC-38	0.13	n/a	9/24/2020	2.9	Yes	35	n/a	n/a	22.86	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Boron (mg/L)	DGWC-39	0.13	n/a	9/25/2020	3.3	Yes	35	n/a	n/a	22.86	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Boron (mg/L)	DGWC-40	0.13	n/a	9/23/2020	0.76	Yes	35	n/a	n/a	22.86	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Boron (mg/L)	DGWC-67	0.13	n/a	9/23/2020	3.2	Yes	35	n/a	n/a	22.86	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Boron (mg/L)	DGWC-68A	0.13	n/a	9/23/2020	1.7	Yes	35	n/a	n/a	22.86	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Calcium (mg/L)	DGWC-37	40	n/a	9/24/2020	55.9	Yes	35	n/a	n/a	5.714	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Calcium (mg/L)	DGWC-38	40	n/a	9/24/2020	84.1	Yes	35	n/a	n/a	5.714	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Calcium (mg/L)	DGWC-39	40	n/a	9/25/2020	92.5	Yes	35	n/a	n/a	5.714	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Calcium (mg/L)	DGWC-40	40	n/a	9/23/2020	41.9	Yes	35	n/a	n/a	5.714	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Calcium (mg/L)	DGWC-67	40	n/a	9/23/2020	42	Yes	35	n/a	n/a	5.714	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Calcium (mg/L)	DGWC-68A	40	n/a	9/23/2020	50.2	Yes	35	n/a	n/a	5.714	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Chloride (mg/L)	DGWC-37	4.3	n/a	9/24/2020	5.6	Yes	37	1.634	0.2181	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	DGWC-38	4.3	n/a	9/24/2020	8.2	Yes	37	1.634	0.2181	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	DGWC-39	4.3	n/a	9/25/2020	7.9	Yes	37	1.634	0.2181	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	DGWC-40	4.3	n/a	9/23/2020	19.7	Yes	37	1.634	0.2181	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	DGWC-67	4.3	n/a	9/23/2020	7.1	Yes	37	1.634	0.2181	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	DGWC-69	4.3	n/a	9/23/2020	4.7	Yes	37	1.634	0.2181	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
pH (SU)	DGWC-40	6.6	5.3	9/23/2020	4.78	Yes	44	5.903	0.3302	0	None	No	0.0005373	Param Inter 1 of 2
Sulfate (mg/L)	DGWC-37	31	n/a	9/24/2020	84.1	Yes	37	2.639	1.476	8.108	None	sqrt(x)	0.001075	Param Inter 1 of 2
Sulfate (mg/L)	DGWC-38	31	n/a	9/24/2020	240	Yes	37	2.639	1.476	8.108	None	sqrt(x)	0.001075	Param Inter 1 of 2
Sulfate (mg/L)	DGWC-39	31	n/a	9/25/2020	153	Yes	37	2.639	1.476	8.108	None	sqrt(x)	0.001075	Param Inter 1 of 2
Sulfate (mg/L)	DGWC-40	31	n/a	9/23/2020	190	Yes	37	2.639	1.476	8.108	None	sqrt(x)	0.001075	Param Inter 1 of 2
Sulfate (mg/L)	DGWC-67	31	n/a	9/23/2020	99.8	Yes	37	2.639	1.476	8.108	None	sqrt(x)	0.001075	Param Inter 1 of 2
Sulfate (mg/L)	DGWC-68A	31	n/a	9/23/2020	38.7	Yes	37	2.639	1.476	8.108	None	sqrt(x)	0.001075	Param Inter 1 of 2
TDS (mg/L)	DGWC-38	280	n/a	9/24/2020	489	Yes	36	4.642	0.9577	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
TDS (mg/L)	DGWC-39	280	n/a	9/25/2020	460	Yes	36	4.642	0.9577	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
TDS (mg/L)	DGWC-40	280	n/a	9/23/2020	357	Yes	36	4.642	0.9577	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
TDS (mg/L)	DGWC-67	280	n/a	9/23/2020	296	Yes	36	4.642	0.9577	0	None	x^(1/3)	0.001075	Param Inter 1 of 2

Interwell Prediction Limit Summary - All Results

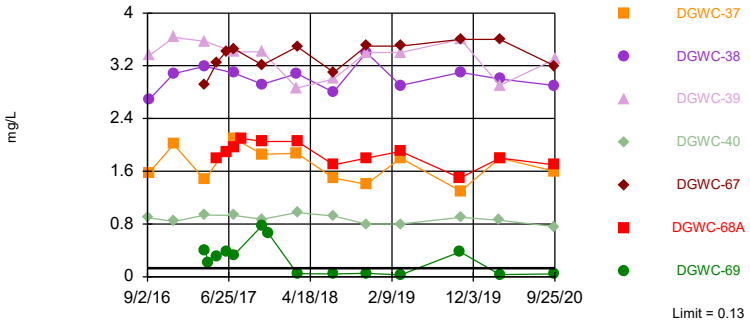
Plant McDonough Client: Southern Company Data: McDonough AP Printed 11/4/2020, 3:03 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	**DGWC-37**	**0.13**	**n/a**	**9/24/2020**	**1.6**	**Yes**	**35**	**n/a**	**n/a**	**22.86**	**n/a**	**n/a**	**0.001441**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**DGWC-38**	**0.13**	**n/a**	**9/24/2020**	**2.9**	**Yes**	**35**	**n/a**	**n/a**	**22.86**	**n/a**	**n/a**	**0.001441**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**DGWC-39**	**0.13**	**n/a**	**9/25/2020**	**3.3**	**Yes**	**35**	**n/a**	**n/a**	**22.86**	**n/a**	**n/a**	**0.001441**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**DGWC-40**	**0.13**	**n/a**	**9/23/2020**	**0.76**	**Yes**	**35**	**n/a**	**n/a**	**22.86**	**n/a**	**n/a**	**0.001441**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**DGWC-67**	**0.13**	**n/a**	**9/23/2020**	**3.2**	**Yes**	**35**	**n/a**	**n/a**	**22.86**	**n/a**	**n/a**	**0.001441**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**DGWC-68A**	**0.13**	**n/a**	**9/23/2020**	**1.7**	**Yes**	**35**	**n/a**	**n/a**	**22.86**	**n/a**	**n/a**	**0.001441**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	DGWC-69	0.13	n/a	9/23/2020	0.041J	No	35	n/a	n/a	22.86	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Calcium (mg/L)	**DGWC-37**	**40**	**n/a**	**9/24/2020**	**55.9**	**Yes**	**35**	**n/a**	**n/a**	**5.714**	**n/a**	**n/a**	**0.001441**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**DGWC-38**	**40**	**n/a**	**9/24/2020**	**84.1**	**Yes**	**35**	**n/a**	**n/a**	**5.714**	**n/a**	**n/a**	**0.001441**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**DGWC-39**	**40**	**n/a**	**9/25/2020**	**92.5**	**Yes**	**35**	**n/a**	**n/a**	**5.714**	**n/a**	**n/a**	**0.001441**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**DGWC-40**	**40**	**n/a**	**9/23/2020**	**41.9**	**Yes**	**35**	**n/a**	**n/a**	**5.714**	**n/a**	**n/a**	**0.001441**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**DGWC-67**	**40**	**n/a**	**9/23/2020**	**42**	**Yes**	**35**	**n/a**	**n/a**	**5.714**	**n/a**	**n/a**	**0.001441**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**DGWC-68A**	**40**	**n/a**	**9/23/2020**	**50.2**	**Yes**	**35**	**n/a**	**n/a**	**5.714**	**n/a**	**n/a**	**0.001441**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	DGWC-69	40	n/a	9/23/2020	8	No	35	n/a	n/a	5.714	n/a	n/a	0.001441	NP Inter (normality) 1 of 2
Chloride (mg/L)	**DGWC-37**	**4.3**	**n/a**	**9/24/2020**	**5.6**	**Yes**	**37**	**1.634**	**0.2181**	**0**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Chloride (mg/L)	**DGWC-38**	**4.3**	**n/a**	**9/24/2020**	**8.2**	**Yes**	**37**	**1.634**	**0.2181**	**0**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Chloride (mg/L)	**DGWC-39**	**4.3**	**n/a**	**9/25/2020**	**7.9**	**Yes**	**37**	**1.634**	**0.2181**	**0**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Chloride (mg/L)	**DGWC-40**	**4.3**	**n/a**	**9/23/2020**	**19.7**	**Yes**	**37**	**1.634**	**0.2181**	**0**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Chloride (mg/L)	**DGWC-67**	**4.3**	**n/a**	**9/23/2020**	**7.1**	**Yes**	**37**	**1.634**	**0.2181**	**0**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Chloride (mg/L)	DGWC-68A	4.3	n/a	9/23/2020	3.6	No	37	1.634	0.2181	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	**DGWC-69**	**4.3**	**n/a**	**9/23/2020**	**4.7**	**Yes**	**37**	**1.634**	**0.2181**	**0**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Fluoride (mg/L)	DGWC-37	0.42	n/a	9/24/2020	0.061J	No	42	n/a	n/a	50	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Fluoride (mg/L)	DGWC-38	0.42	n/a	9/24/2020	0.057J	No	42	n/a	n/a	50	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Fluoride (mg/L)	DGWC-39	0.42	n/a	9/25/2020	0.086J	No	42	n/a	n/a	50	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Fluoride (mg/L)	DGWC-40	0.42	n/a	9/23/2020	0.054J	No	42	n/a	n/a	50	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Fluoride (mg/L)	DGWC-67	0.42	n/a	9/23/2020	0.1ND	No	42	n/a	n/a	50	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Fluoride (mg/L)	DGWC-68A	0.42	n/a	9/23/2020	0.07J	No	42	n/a	n/a	50	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Fluoride (mg/L)	DGWC-69	0.42	n/a	9/23/2020	0.064J	No	42	n/a	n/a	50	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
pH (SU)	DGWC-37	6.6	5.3	9/24/2020	6.3	No	44	5.903	0.3302	0	None	No	0.0005373	Param Inter 1 of 2
pH (SU)	DGWC-38	6.6	5.3	9/24/2020	6.05	No	44	5.903	0.3302	0	None	No	0.0005373	Param Inter 1 of 2
pH (SU)	DGWC-39	6.6	5.3	9/25/2020	6.38	No	44	5.903	0.3302	0	None	No	0.0005373	Param Inter 1 of 2
pH (SU)	**DGWC-40**	**6.6**	**5.3**	**9/23/2020**	**4.78**	**Yes**	**44**	**5.903**	**0.3302**	**0**	**None**	**No**	**0.0005373**	**Param Inter 1 of 2**
pH (SU)	DGWC-67	6.6	5.3	9/23/2020	6.23	No	44	5.903	0.3302	0	None	No	0.0005373	Param Inter 1 of 2
pH (SU)	DGWC-68A	6.6	5.3	9/23/2020	6.6	No	44	5.903	0.3302	0	None	No	0.0005373	Param Inter 1 of 2
pH (SU)	DGWC-69	6.6	5.3	9/23/2020	6.08	No	44	5.903	0.3302	0	None	No	0.0005373	Param Inter 1 of 2
Sulfate (mg/L)	**DGWC-37**	**31**	**n/a**	**9/24/2020**	**84.1**	**Yes**	**37**	**2.639**	**1.476**	**8.108**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Sulfate (mg/L)	**DGWC-38**	**31**	**n/a**	**9/24/2020**	**240**	**Yes**	**37**	**2.639**	**1.476**	**8.108**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Sulfate (mg/L)	**DGWC-39**	**31**	**n/a**	**9/25/2020**	**153**	**Yes**	**37**	**2.639**	**1.476**	**8.108**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Sulfate (mg/L)	**DGWC-40**	**31**	**n/a**	**9/23/2020**	**190**	**Yes**	**37**	**2.639**	**1.476**	**8.108**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Sulfate (mg/L)	**DGWC-67**	**31**	**n/a**	**9/23/2020**	**99.8**	**Yes**	**37**	**2.639**	**1.476**	**8.108**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Sulfate (mg/L)	**DGWC-68A**	**31**	**n/a**	**9/23/2020**	**38.7**	**Yes**	**37**	**2.639**	**1.476**	**8.108**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Sulfate (mg/L)	DGWC-69	31	n/a	9/23/2020	5.9	No	37	2.639	1.476	8.108	None	sqrt(x)	0.001075	Param Inter 1 of 2
TDS (mg/L)	DGWC-37	280	n/a	9/24/2020	280	No	36	4.642	0.9577	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
TDS (mg/L)	**DGWC-38**	**280**	**n/a**	**9/24/2020**	**489**	**Yes**	**36**	**4.642**	**0.9577**	**0**	**None**	**x^(1/3)**	**0.001075**	**Param Inter 1 of 2**
TDS (mg/L)	**DGWC-39**	**280**	**n/a**	**9/25/2020**	**460**	**Yes**	**36**	**4.642**	**0.9577**	**0**	**None**	**x^(1/3)**	**0.001075**	**Param Inter 1 of 2**
TDS (mg/L)	**DGWC-40**	**280**	**n/a**	**9/23/2020**	**357**	**Yes**	**36**	**4.642**	**0.9577**	**0**	**None**	**x^(1/3)**	**0.001075**	**Param Inter 1 of 2**
TDS (mg/L)	**DGWC-67**	**280**	**n/a**	**9/23/2020**	**296**	**Yes**	**36**	**4.642**	**0.9577**	**0**	**None**	**x^(1/3)**	**0.001075**	**Param Inter 1 of 2**
TDS (mg/L)	DGWC-68A	280	n/a	9/23/2020	251	No	36	4.642	0.9577	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
TDS (mg/L)	DGWC-69	280	n/a	9/23/2020	102	No	36	4.642	0.9577	0	None	x^(1/3)	0.001075	Param Inter 1 of 2

Exceeds Limit: DGWC-37, DGWC-38, DGWC-39, DGWC-40, DGWC-67, DGWC-68A

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 35 background values. 22.86% NDs. Annual per-constituent alpha = 0.01998. Individual comparison alpha = 0.001441 (1 of 2). Comparing 7 points to limit.

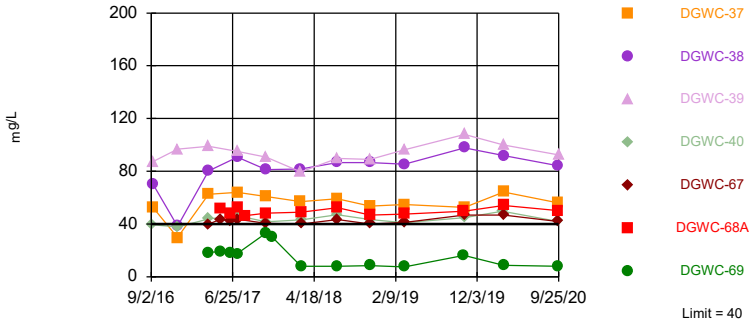
Constituent: Boron Analysis Run 11/4/2020 3:01 PM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

Exceeds Limit: DGWC-37, DGWC-38, DGWC-39, DGWC-40, DGWC-67, DGWC-68A

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 35 background values. 5.714% NDs. Annual per-constituent alpha = 0.01998. Individual comparison alpha = 0.001441 (1 of 2). Comparing 7 points to limit.

Constituent: Calcium Analysis Run 11/4/2020 3:01 PM View: Interwell PLs AP-1

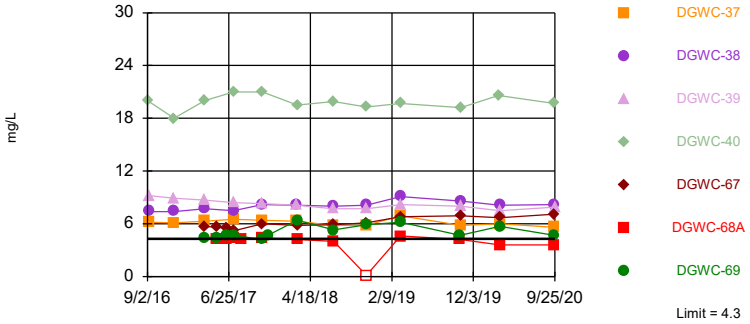
Plant McDonough Client: Southern Company Data: McDonough AP

Hollow symbols indicate censored values.

Exceeds Limit: DGWC-37, DGWC-38, DGWC-39, DGWC-40, DGWC-67, DGWC-69

Prediction Limit

Interwell Parametric



Background Data Summary (based on square root transformation): Mean=1.634, Std. Dev.=0.2181, n=37. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9429, critical = 0.914. Kappa = 1.985 (c=7, w=7, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001075. Comparing 7 points to limit.

Constituent: Chloride Analysis Run 11/4/2020 3:01 PM View: Interwell PLs AP-1

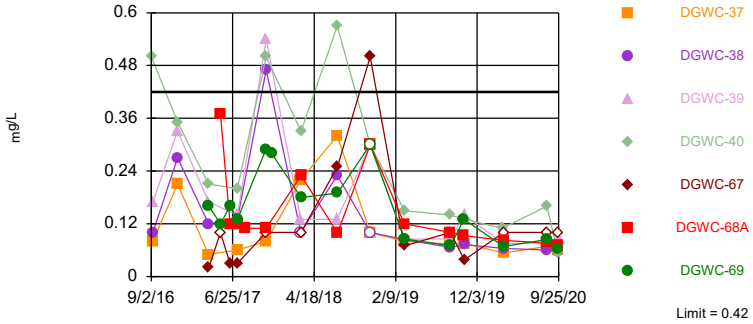
Plant McDonough Client: Southern Company Data: McDonough AP

Hollow symbols indicate censored values.

Within Limit

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 42 background values. 50% NDs. Annual per-constituent alpha = 0.01455. Individual comparison alpha = 0.001046 (1 of 2). Comparing 7 points to limit.

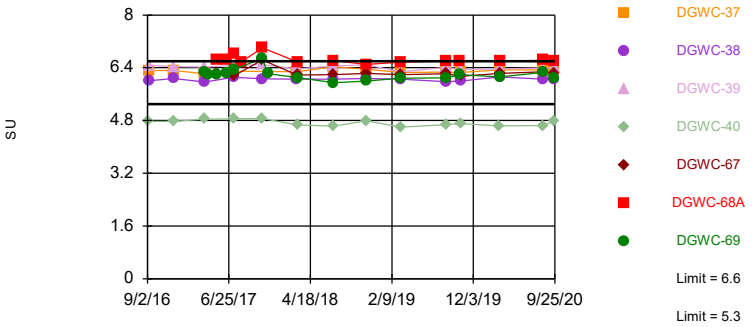
Constituent: Fluoride Analysis Run 11/4/2020 3:01 PM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

Exceeds Limits: DGWC-40

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=5.903, Std. Dev.=0.3302, n=44. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9275, critical = 0.924. Kappa = 1.959 (c=7, w=7, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.0005373. Comparing 7 points to limit.

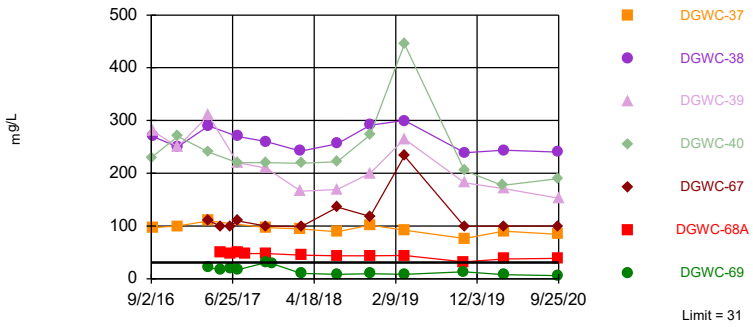
Constituent: pH Analysis Run 11/4/2020 3:01 PM View: Interwell PLs AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Exceeds Limit: DGWC-37, DGWC-38, DGWC-39, DGWC-40, DGWC-67, DGWC-68A

Prediction Limit

Interwell Parametric



Background Data Summary (based on square root transformation): Mean=2.639, Std. Dev.=1.476, n=37, 8.108% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9367, critical = 0.914. Kappa = 1.985 (c=7, w=7, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001075. Comparing 7 points to limit.

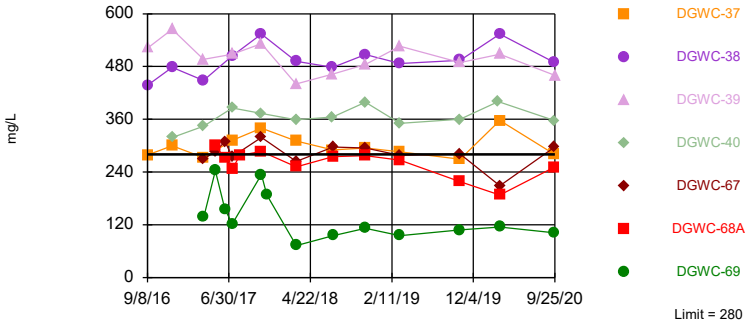
Constituent: Sulfate Analysis Run 11/4/2020 3:01 PM View: Interwell PLs AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Exceeds Limit: DGWC-38, DGWC-39, DGWC-40, DGWC-67

Prediction Limit

Interwell Parametric



Background Data Summary (based on cube root transformation): Mean=4.642, Std. Dev.=0.9577, n=36. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9221, critical = 0.912. Kappa = 1.99 (c=7, w=7, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001075. Comparing 7 points to limit.

Constituent: TDS Analysis Run 11/4/2020 3:01 PM View: Interwell PLs AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 11/4/2020 3:03 PM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-40	DGWC-39	DGWC-38	DGWC-37	DGWA-71 (bg)	DGWA-70A (bg)	DGWA-53 (bg)	DGWC-67	DGWC-69
9/2/2016	0.895								
9/8/2016		3.35	2.69	1.58					
12/7/2016		3.63	3.08	2.01					
12/8/2016	0.841								
3/28/2017					0.0097 (J)	0.0067 (J)	0.0612		
3/30/2017	0.937	3.57	3.19	1.47					
3/31/2017								2.91	0.407
4/12/2017									0.207
5/11/2017							0.0805		
5/12/2017					0.0082 (J)			3.24	0.311
5/15/2017						0.0073 (J)			
6/15/2017						<0.1	0.0725		
6/16/2017					0.0085 (J)			3.42	0.381
7/11/2017					0.0077 (J)	<0.1			
7/12/2017							0.0735		
7/13/2017	0.933	3.41	3.09	2.1				3.46	0.323
8/8/2017						<0.1			
10/24/2017					0.0083 (J)	0.0082 (J)	0.077		
10/26/2017	0.873	3.41	2.92	1.86				3.21	0.779
11/15/2017									0.667
2/27/2018					0.0069 (J)	0.0062 (J)			
3/1/2018		2.86	3.08	1.87					
3/2/2018	0.974							3.49	0.0478
3/8/2018							0.13 (J)		
7/12/2018	0.92	3	2.8	1.5			0.076		
7/13/2018								3.1	0.043
11/6/2018					<0.04 (J)	<0.04 (J)			
11/7/2018							0.073		
11/8/2018	0.8	3.4	3.4	1.4				3.5	0.054
3/12/2019					0.0068 (J)	0.0073 (J)			
3/13/2019	0.8	3.4	2.9	1.8			0.08	3.5	0.028 (J)
10/15/2019					0.0054 (J)	<0.1			
10/16/2019							0.059		0.38
10/17/2019								3.6	
10/18/2019	0.9	3.6	3.1	1.3					
3/2/2020					0.01 (J)	0.0055 (J)			
3/4/2020	0.86								
3/9/2020		2.9	3	1.8			0.08 (J)	3.6	0.035 (J)
9/22/2020					<0.1	<0.1	0.056 (J)		
9/23/2020	0.76							3.2	0.041 (J)
9/24/2020			2.9	1.6					
9/25/2020		3.3							

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 11/4/2020 3:03 PM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-68A
9/2/2016	
9/8/2016	
12/7/2016	
12/8/2016	
3/28/2017	
3/30/2017	
3/31/2017	
4/12/2017	
5/11/2017	
5/12/2017	1.8
5/15/2017	
6/15/2017	
6/16/2017	1.88
7/11/2017	
7/12/2017	
7/13/2017	1.97
8/8/2017	2.1
10/24/2017	
10/26/2017	2.05
11/15/2017	
2/27/2018	
3/1/2018	
3/2/2018	2.05
3/8/2018	
7/12/2018	
7/13/2018	1.7
11/6/2018	
11/7/2018	
11/8/2018	1.8
3/12/2019	
3/13/2019	1.9
10/15/2019	
10/16/2019	1.5
10/17/2019	
10/18/2019	
3/2/2020	
3/4/2020	
3/9/2020	1.8
9/22/2020	
9/23/2020	1.7
9/24/2020	
9/25/2020	

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 11/4/2020 3:03 PM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-40	DGWC-39	DGWC-38	DGWC-37	DGWA-71 (bg)	DGWA-70A (bg)	DGWA-53 (bg)	DGWC-67	DGWC-69
9/2/2016	39.6								
9/8/2016		87.2	70.3	52.5					
12/7/2016		96.7	38.4	29.7					
12/8/2016	37.9								
3/28/2017					8.31	5.14	30.8		
3/30/2017	43.9	98.9	80.3	62.6					
3/31/2017								39.9	18.6 (J)
5/11/2017							35.8		
5/12/2017					8.04			43.6	18.9 (J)
5/15/2017						6.5			
6/15/2017						5.38	36		
6/16/2017					7.66			42.5	17.7
7/11/2017					7.71	5.96			
7/12/2017							40.3		
7/13/2017	46.2	95	90.8	64.1				43.7	17.6
8/8/2017						5.2			
10/24/2017					6.86	4.93	30.3		
10/26/2017	41.8	90.6	81.3	60.8				40.4	33.3
11/15/2017									30.6
2/27/2018					<25	<25			
3/1/2018		79.6	81.8	57					
3/2/2018	43.2							40.1	8.09
3/8/2018							39.8		
7/12/2018	47.1	89.8	86.7	59.1			34.7		
7/13/2018								43.3	7.9
11/6/2018					5.7	5.5			
11/7/2018							28.6		
11/8/2018	43.5	89	86.6	53.6				40.1	8.5
3/12/2019					5.5	5.1			
3/13/2019	41	96.3	85.3	54.8			26.7	41.2	7.6
10/15/2019					5.1	5.1			
10/16/2019							17.7		16.2
10/17/2019								46.9	
10/18/2019	44.9	108	97.8	52.5					
3/2/2020					5.8	5.3			
3/4/2020	49.6								
3/9/2020		100	91.9	64.2			23.7	46.9	8.6
9/22/2020					5.4	5	15.5		
9/23/2020	41.9							42	8
9/24/2020			84.1	55.9					
9/25/2020		92.5							

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 11/4/2020 3:03 PM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-68A
9/2/2016	
9/8/2016	
12/7/2016	
12/8/2016	
3/28/2017	
3/30/2017	
3/31/2017	
5/11/2017	
5/12/2017	51.7
5/15/2017	
6/15/2017	
6/16/2017	47.9
7/11/2017	
7/12/2017	
7/13/2017	52.3
8/8/2017	46.3
10/24/2017	
10/26/2017	48.2
11/15/2017	
2/27/2018	
3/1/2018	
3/2/2018	48.9
3/8/2018	
7/12/2018	
7/13/2018	52.4
11/6/2018	
11/7/2018	
11/8/2018	46.8
3/12/2019	
3/13/2019	47.5
10/15/2019	
10/16/2019	49.7
10/17/2019	
10/18/2019	
3/2/2020	
3/4/2020	
3/9/2020	54
9/22/2020	
9/23/2020	50.2
9/24/2020	
9/25/2020	

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 11/4/2020 3:03 PM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-40	DGWC-39	DGWC-37	DGWC-38	DGWA-70A (bg)	DGWA-71 (bg)	DGWA-53 (bg)	DGWC-67	DGWC-69
9/2/2016	20								
9/8/2016		9.2	6.2	7.4					
12/7/2016		8.9	6.1	7.4					
12/8/2016	18								
3/28/2017					3.8	3.6	3.7		
3/30/2017	20	8.7	6.3	7.7					
3/31/2017								5.7	4.4
5/11/2017							2.3		
5/12/2017						3.8		5.6	4.4
5/15/2017					2.2				
6/15/2017					2		2.6		
6/16/2017						3.4		5.5	4.7
7/11/2017					2.1	3.1			
7/12/2017							2.3		
7/13/2017	21	8.4	6.5	7.5				5.2	4.7
8/8/2017					2.2				
10/24/2017					2.4	3.2	2.7		
10/26/2017	21	8.3	6.4	8.2				6	4.2
11/15/2017						3.1	2.2		4.7
2/27/2018					2.5	3.2			
3/1/2018		8.1	6.3	8.1					
3/2/2018	19.5							5.8	6.4
3/8/2018							2.4		
7/12/2018	19.9	7.7	5.8	8			2.2		
7/13/2018								5.9	5.3
11/6/2018					2.3	2.6			
11/7/2018							2.3		
11/8/2018	19.3	7.7	5.8	8.1				6.1	5.9
3/12/2019					2.5	3.3			
3/13/2019	19.7	8.2	6.9	9.1			3.6	6.8	6.2
10/15/2019					2.2	3.3			
10/16/2019							2		4.7
10/17/2019								6.9	
10/18/2019	19.2	8	5.8	8.6					
3/2/2020					1.9	3			
3/4/2020	20.6								
3/9/2020		7.5	6	8.1			1.8	6.7	5.7
9/22/2020					1.9	5.2	1.6		
9/23/2020	19.7							7.1	4.7
9/24/2020			5.6	8.2					
9/25/2020		7.9							

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 11/4/2020 3:03 PM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-68A
9/2/2016	
9/8/2016	
12/7/2016	
12/8/2016	
3/28/2017	
3/30/2017	
3/31/2017	
5/11/2017	
5/12/2017	4.2
5/15/2017	
6/15/2017	
6/16/2017	4.2
7/11/2017	
7/12/2017	
7/13/2017	4.4
8/8/2017	4.2
10/24/2017	
10/26/2017	4.4
11/15/2017	
2/27/2018	
3/1/2018	
3/2/2018	4.2
3/8/2018	
7/12/2018	
7/13/2018	4
11/6/2018	
11/7/2018	
11/8/2018	<0.25
3/12/2019	
3/13/2019	4.6
10/15/2019	
10/16/2019	4.2
10/17/2019	
10/18/2019	
3/2/2020	
3/4/2020	
3/9/2020	3.6
9/22/2020	
9/23/2020	3.6
9/24/2020	
9/25/2020	

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 11/4/2020 3:03 PM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-40	DGWC-39	DGWC-38	DGWC-37	DGWA-71 (bg)	DGWA-53 (bg)	DGWC-67	DGWC-69	DGWC-68A
9/2/2016	0.5								
9/8/2016		0.17 (J)	0.1 (J)	0.08 (J)					
12/7/2016		0.33	0.27 (J)	0.21 (J)					
12/8/2016	0.35								
3/28/2017					0.06 (J)	0.12 (J)			
3/30/2017	0.21 (J)	0.17 (J)	0.12 (J)	0.05 (J)					
3/31/2017							0.02 (J)	0.16 (J)	
5/11/2017						0.07 (J)			
5/12/2017					<0.1		<0.1	0.12 (J)	0.37
5/15/2017									
6/15/2017						0.19 (J)			
6/16/2017					0.008 (J)		0.03 (J)	0.16 (J)	0.12 (J)
7/11/2017					0.007 (J)				
7/12/2017						0.1 (J)			
7/13/2017	0.2 (J)	0.14 (J)	0.13 (J)	0.06 (J)			0.03 (J)	0.13 (J)	0.12 (J)
8/8/2017									0.11 (J)
10/24/2017					<0.1	0.06 (J)			
10/26/2017	0.5	0.54	0.47	0.08 (J)			<0.1	0.29 (J)	0.11 (J)
11/15/2017					<0.1	0.05 (J)		0.28 (J)	
2/27/2018					<0.1				
3/1/2018		0.13	<0.1	0.22					
3/2/2018	0.33						<0.1	0.18	0.23
3/8/2018						<0.1			
7/12/2018	0.57	0.13 (J)	0.23 (J)	0.32		0.071 (J)			
7/13/2018							0.25 (J)	0.19 (J)	0.099 (J)
11/6/2018					<0.1				
11/7/2018						<0.1			
11/8/2018	<0.3 (J)	<0.3 (J)	<0.1	<0.1			0.5	<0.3 (J)	<0.3 (J)
3/12/2019					<0.1				
3/13/2019	0.15 (J)	0.085 (J)	0.084 (J)	0.08 (J)		0.13 (J)	0.07 (J)	0.086 (J)	0.12 (J)
8/27/2019					<0.1				
8/28/2019	0.14	0.086 (J)	0.066 (J)	0.074 (J)		0.42	<0.1	0.07 (J)	0.1
10/15/2019					<0.1				
10/16/2019						0.11 (J)		0.13 (J)	0.093 (J)
10/17/2019							0.038 (J)		
10/18/2019	0.13 (J)	0.14 (J)	0.073 (J)	0.075 (J)					
3/2/2020					<0.1				
3/4/2020	0.11 (J)								
3/9/2020		0.075 (J)	0.064 (J)	0.054 (J)		0.1 (J)	<0.1	0.068 (J)	0.082 (J)
8/11/2020					<0.1				
8/13/2020	0.16	0.076 (J)	0.06 (J)	0.068 (J)		0.062 (J)	<0.1	0.084 (J)	0.076 (J)
9/22/2020					<0.1	0.099 (J)			
9/23/2020	0.054 (J)						<0.1	0.064 (J)	0.07 (J)
9/24/2020			0.057 (J)	0.061 (J)					
9/25/2020		0.086 (J)							

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 11/4/2020 3:03 PM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-70A (bg)
9/2/2016	
9/8/2016	
12/7/2016	
12/8/2016	
3/28/2017	1.2 (o)
3/30/2017	
3/31/2017	
5/11/2017	
5/12/2017	
5/15/2017	0.005 (J)
6/15/2017	0.02 (J)
6/16/2017	
7/11/2017	0.06 (J)
7/12/2017	
7/13/2017	
8/8/2017	0.04 (J)
10/24/2017	<0.1
10/26/2017	
11/15/2017	
2/27/2018	<0.1
3/1/2018	
3/2/2018	
3/8/2018	
7/12/2018	
7/13/2018	
11/6/2018	<0.1
11/7/2018	
11/8/2018	
3/12/2019	0.039 (J)
3/13/2019	
8/27/2019	<0.1
8/28/2019	
10/15/2019	<0.1
10/16/2019	
10/17/2019	
10/18/2019	
3/2/2020	<0.1
3/4/2020	
3/9/2020	
8/11/2020	<0.1
8/13/2020	
9/22/2020	<0.1
9/23/2020	
9/24/2020	
9/25/2020	

Prediction Limit

Constituent: pH (SU) Analysis Run 11/4/2020 3:03 PM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-40	DGWC-39	DGWC-38	DGWC-37	DGWA-71 (bg)	DGWA-53 (bg)	DGWC-67	DGWC-69	DGWC-68A
9/2/2016	4.77								
9/8/2016		6.47	6.01	6.32					
12/7/2016		6.43	6.07	6.32					
12/8/2016	4.77								
3/28/2017					5.94	6.29			
3/30/2017	4.84	6.42	5.97	6.22					
3/31/2017							6.25	6.26	
4/12/2017								6.19	
5/11/2017						6.6			
5/12/2017					5.46		6.23	6.2	6.63
5/15/2017									
6/15/2017						6.41			
6/16/2017					5.81		6.22	6.22	6.63
7/11/2017					5.74				
7/12/2017						5.91			
7/13/2017	4.85	6.47	6.11	6.3			6.15	6.35	6.84
8/8/2017									6.57
10/24/2017					5.86	5.51			
10/26/2017	4.86	6.49	6.06				6.64	6.69	7.01
11/15/2017					5.77	6.5		6.22	
2/27/2018					5.66				
3/1/2018		6.37	6.05	6.28					
3/2/2018	4.67						6.18	6.1	6.58
3/8/2018						6.18			
7/10/2018					5.63				
7/12/2018	4.63	6.45	6.05	6.43		6.33			
7/13/2018							6.19	5.95	6.62
11/6/2018					5.79				
11/7/2018						6.22			
11/8/2018	4.79	6.49	6.07	6.36			6.23	6	6.5
3/12/2019					5.74				
3/13/2019	4.6	6.28	6.05	6.26		6	6.19	6.08	6.57
8/27/2019					5.87				
8/28/2019	4.68	6.41	5.98	6.27		6.04	6.22	6.09	6.6
10/15/2019					5.88				
10/16/2019						6.69		6.19	6.6
10/17/2019							6.14		
10/18/2019	4.71	6.35	6	6.26					
3/2/2020					5.77				
3/4/2020	4.64								
3/9/2020		6.37	6.12	6.34		6.41 (D)	6.23	6.12	6.6
8/11/2020					5.96				
8/13/2020	4.65	6.39	6.05	6.34		6.17	6.28	6.26	6.63
9/22/2020					6.06	6.43			
9/23/2020	4.78						6.23	6.08	6.6
9/24/2020			6.05	6.3					
9/25/2020		6.38							

Prediction Limit

Constituent: pH (SU) Analysis Run 11/4/2020 3:03 PM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-70A (bg)
9/2/2016	
9/8/2016	
12/7/2016	
12/8/2016	
3/28/2017	
3/30/2017	
3/31/2017	
4/12/2017	
5/11/2017	
5/12/2017	
5/15/2017	5.72
6/15/2017	5.74
6/16/2017	
7/11/2017	5.62
7/12/2017	
7/13/2017	
8/8/2017	5.6
10/24/2017	5.71
10/26/2017	
11/15/2017	
2/27/2018	5.5
3/1/2018	
3/2/2018	
3/8/2018	
7/10/2018	5.44
7/12/2018	
7/13/2018	
11/6/2018	5.71
11/7/2018	
11/8/2018	
3/12/2019	5.52
3/13/2019	
8/27/2019	5.53
8/28/2019	
10/15/2019	5.61
10/16/2019	
10/17/2019	
10/18/2019	
3/2/2020	5.54
3/4/2020	
3/9/2020	
8/11/2020	5.86
8/13/2020	
9/22/2020	6.01
9/23/2020	
9/24/2020	
9/25/2020	

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 11/4/2020 3:03 PM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-40	DGWC-39	DGWC-38	DGWC-37	DGWA-71 (bg)	DGWA-70A (bg)	DGWA-53 (bg)	DGWC-69	DGWC-67
9/2/2016	230								
9/8/2016		280	270	97					
12/7/2016		250	250	100					
12/8/2016	270								
3/28/2017					17	2.7	49		
3/30/2017	240	310	290	110					
3/31/2017								21	110
5/11/2017							21		
5/12/2017					17			17	100
5/15/2017						1			
6/15/2017						0.86 (J)	16		
6/16/2017					11			20	100
7/11/2017					11	1.4			
7/12/2017							10		
7/13/2017	220	220	270	200 (o)				17	110
8/8/2017						1.5			
10/24/2017					9.6	1.4	15		
10/26/2017	220	210	260	97				31	100
11/15/2017					7.8		3.8	29	
2/27/2018					7.4	0.54 (J)			
3/1/2018		166	242	94.6					
3/2/2018	219							10.1	98.5
3/8/2018							9.7		
7/12/2018	222	169	256	89.2			8		
7/13/2018								8.6	136
11/6/2018					7.3	<1 (J)			
11/7/2018							12.8		
11/8/2018	273	200	291	102				9.7	118
3/12/2019					7	0.35 (J)			
3/13/2019	445	265	300	92.2			23.7	8.4	233
10/15/2019					7.4	0.16 (J)			
10/16/2019							15.1	13.3	
10/17/2019									99.4
10/18/2019	205	182	239	76.4					
3/2/2020					8.5	<1			
3/4/2020	177								
3/9/2020		171	244	90.3			9.5	7.6	100
9/22/2020					6.5	<1	13.5		
9/23/2020	190							5.9	99.8
9/24/2020			240	84.1					
9/25/2020		153							

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 11/4/2020 3:03 PM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-68A
9/2/2016	
9/8/2016	
12/7/2016	
12/8/2016	
3/28/2017	
3/30/2017	
3/31/2017	
5/11/2017	
5/12/2017	50
5/15/2017	
6/15/2017	
6/16/2017	47
7/11/2017	
7/12/2017	
7/13/2017	49
8/8/2017	48
10/24/2017	
10/26/2017	48
11/15/2017	
2/27/2018	
3/1/2018	
3/2/2018	44.7
3/8/2018	
7/12/2018	
7/13/2018	43.3
11/6/2018	
11/7/2018	
11/8/2018	43.5
3/12/2019	
3/13/2019	44.1
10/15/2019	
10/16/2019	32.1
10/17/2019	
10/18/2019	
3/2/2020	
3/4/2020	
3/9/2020	37.4
9/22/2020	
9/23/2020	38.7
9/24/2020	
9/25/2020	

Prediction Limit

Constituent: TDS (mg/L) Analysis Run 11/4/2020 3:03 PM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-38	DGWC-39	DGWC-37	DGWC-40	DGWA-70A (bg)	DGWA-71 (bg)	DGWA-53 (bg)	DGWC-67	DGWC-69
9/2/2016				583 (o)					
9/8/2016	437	522	279						
12/7/2016	478	565	300						
12/8/2016				319					
3/28/2017					39	90	202		
3/30/2017	448	496	273	344					
3/31/2017								270	138
5/11/2017							241		
5/12/2017						92		287	243
5/15/2017					88				
6/15/2017					65		251		
6/16/2017						100		309	155
7/11/2017					25	59			
7/12/2017							218		
7/13/2017	504	508	312	386				275	122
8/8/2017					53				
10/24/2017					49	117	671 (o)		
10/26/2017	554	532	340	373				319	234
11/15/2017						90	241		188
2/27/2018					43	79			
3/1/2018	492	440	311						
3/2/2018				359				264	73
3/8/2018							213		
7/12/2018	478	463	290	365			198		
7/13/2018								297	95
11/6/2018					65	85			
11/7/2018							200		
11/8/2018	507	485	295	399				295	112
3/12/2019					43	74			
3/13/2019	487	526	286	351			201	278	95
10/15/2019					70	89			
10/16/2019							126		108
10/17/2019								281	
10/18/2019	494	489	269	360					
3/2/2020					52	67			
3/4/2020				400					
3/9/2020	554	508	357				171	209	115
9/22/2020					46	74	142		
9/23/2020				357				296	102
9/24/2020	489		280						
9/25/2020		460							

Prediction Limit

Constituent: TDS (mg/L) Analysis Run 11/4/2020 3:03 PM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-68A
9/2/2016	
9/8/2016	
12/7/2016	
12/8/2016	
3/28/2017	
3/30/2017	
3/31/2017	
5/11/2017	
5/12/2017	300
5/15/2017	
6/15/2017	
6/16/2017	271
7/11/2017	
7/12/2017	
7/13/2017	246
8/8/2017	278
10/24/2017	
10/26/2017	287
11/15/2017	
2/27/2018	
3/1/2018	
3/2/2018	252
3/8/2018	
7/12/2018	
7/13/2018	275
11/6/2018	
11/7/2018	
11/8/2018	277
3/12/2019	
3/13/2019	267
10/15/2019	
10/16/2019	218
10/17/2019	
10/18/2019	
3/2/2020	
3/4/2020	
3/9/2020	188
9/22/2020	
9/23/2020	251
9/24/2020	
9/25/2020	

FIGURE E.

Trend Test Summary - Significant Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 10/29/2020, 3:54 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Calcium (mg/L)	**DGWA-53 (bg)**	**-5.213**	**-40**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**DGWA-71 (bg)**	**-0.9849**	**-35**	**-34**	**Yes**	**11**	**9.091**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	**DGWC-38**	**0.2409**	**39**	**38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	**DGWC-39**	**-0.3668**	**-49**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	**DGWC-67**	**0.4474**	**46**	**38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**DGWA-70A (bg)**	**-0.3438**	**-40**	**-38**	**Yes**	**12**	**25**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**DGWA-71 (bg)**	**-2.262**	**-49**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**DGWC-68A**	**-3.602**	**-47**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
TDS (mg/L)	**DGWA-53 (bg)**	**-26.46**	**-41**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**

Trend Test Summary - All Results

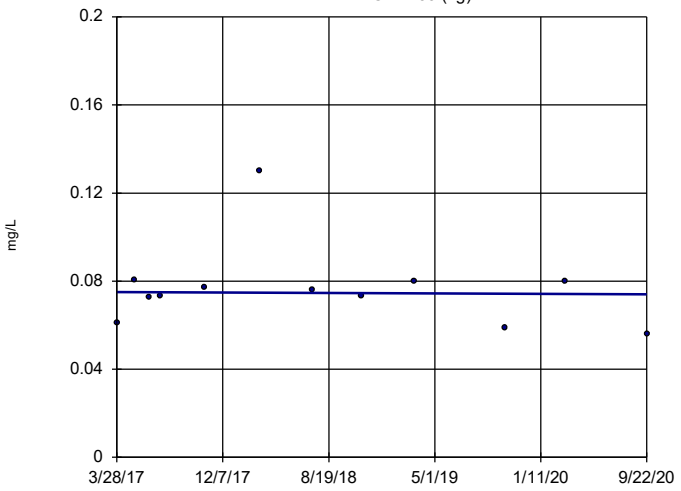
Plant McDonough Client: Southern Company Data: McDonough AP Printed 10/29/2020, 3:54 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	DGWA-53 (bg)	-0.0003249	-5	-38	No	12	0	n/a	n/a	0.01	NP
Boron (mg/L)	DGWA-70A (bg)	0	1	38	No	12	50	n/a	n/a	0.01	NP
Boron (mg/L)	DGWA-71 (bg)	-0.00009656	-1	-34	No	11	18.18	n/a	n/a	0.01	NP
Boron (mg/L)	DGWC-37	-0.07542	-17	-38	No	12	0	n/a	n/a	0.01	NP
Boron (mg/L)	DGWC-38	-0.00343	-2	-38	No	12	0	n/a	n/a	0.01	NP
Boron (mg/L)	DGWC-39	-0.04541	-18	-38	No	12	0	n/a	n/a	0.01	NP
Boron (mg/L)	DGWC-40	-0.02133	-23	-38	No	12	0	n/a	n/a	0.01	NP
Boron (mg/L)	DGWC-67	0.07599	30	38	No	12	0	n/a	n/a	0.01	NP
Boron (mg/L)	DGWC-68A	-0.08493	-21	-38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	**DGWA-53 (bg)**	**-5.213**	**-40**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	DGWA-70A (bg)	-0.1112	-19	-38	No	12	8.333	n/a	n/a	0.01	NP
Calcium (mg/L)	**DGWA-71 (bg)**	**-0.9849**	**-35**	**-34**	**Yes**	**11**	**9.091**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	DGWC-37	0.01881	1	38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	DGWC-38	4.727	34	38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	DGWC-39	1.118	10	38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	DGWC-40	1.329	20	38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	DGWC-67	0.5957	14	38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	DGWC-68A	0.619	12	38	No	12	0	n/a	n/a	0.01	NP
Chloride (mg/L)	DGWA-53 (bg)	-0.2527	-40	-43	No	13	0	n/a	n/a	0.01	NP
Chloride (mg/L)	DGWA-70A (bg)	-0.08248	-13	-38	No	12	0	n/a	n/a	0.01	NP
Chloride (mg/L)	DGWA-71 (bg)	-0.07123	-11	-38	No	12	0	n/a	n/a	0.01	NP
Chloride (mg/L)	DGWC-37	-0.1399	-20	-38	No	12	0	n/a	n/a	0.01	NP
Chloride (mg/L)	**DGWC-38**	**0.2409**	**39**	**38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	**DGWC-39**	**-0.3668**	**-49**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	DGWC-40	-0.08192	-9	-38	No	12	0	n/a	n/a	0.01	NP
Chloride (mg/L)	**DGWC-67**	**0.4474**	**46**	**38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	DGWC-69	0.4041	29	43	No	13	0	n/a	n/a	0.01	NP
pH (SU)	DGWA-53 (bg)	0.031	4	53	No	15	0	n/a	n/a	0.01	NP
pH (SU)	DGWA-70A (bg)	0.004574	2	48	No	14	0	n/a	n/a	0.01	NP
pH (SU)	DGWA-71 (bg)	0.06107	33	53	No	15	0	n/a	n/a	0.01	NP
pH (SU)	DGWC-40	-0.03104	-22	-48	No	14	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	DGWA-53 (bg)	-2.258	-20	-43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	**DGWA-70A (bg)**	**-0.3438**	**-40**	**-38**	**Yes**	**12**	**25**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**DGWA-71 (bg)**	**-2.262**	**-49**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	DGWC-37	-4.184	-30	-34	No	11	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	DGWC-38	-6.806	-17	-38	No	12	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	DGWC-39	-25.77	-36	-38	No	12	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	DGWC-40	-10.08	-23	-38	No	12	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	DGWC-67	0	-5	-38	No	12	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	**DGWC-68A**	**-3.602**	**-47**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
TDS (mg/L)	**DGWA-53 (bg)**	**-26.46**	**-41**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
TDS (mg/L)	DGWA-70A (bg)	0	0	38	No	12	0	n/a	n/a	0.01	NP
TDS (mg/L)	DGWA-71 (bg)	-5.475	-26	-38	No	12	0	n/a	n/a	0.01	NP
TDS (mg/L)	DGWC-38	12.73	24	38	No	12	0	n/a	n/a	0.01	NP
TDS (mg/L)	DGWC-39	-11.95	-19	-38	No	12	0	n/a	n/a	0.01	NP
TDS (mg/L)	DGWC-40	6.266	13	34	No	11	0	n/a	n/a	0.01	NP
TDS (mg/L)	DGWC-67	-3.218	-4	-38	No	12	0	n/a	n/a	0.01	NP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWA-53 (bg)



n = 12

Slope = -0.0003249 units per year.

Mann-Kendall statistic = -5
critical = -38

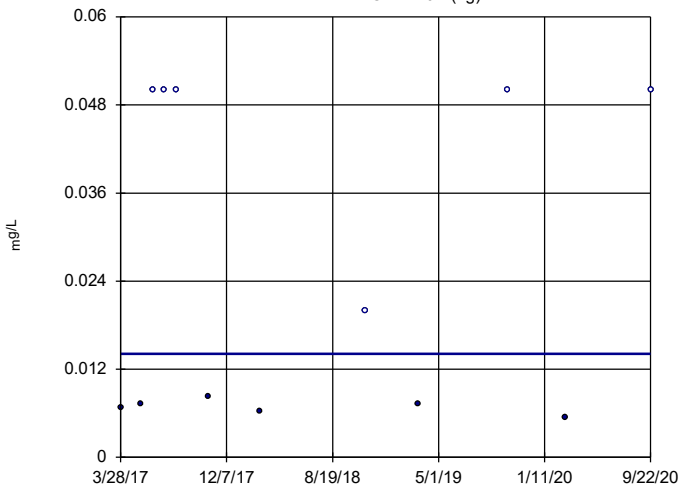
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

DGWA-70A (bg)



n = 12

Slope = 0 units per year.

Mann-Kendall statistic = 1
critical = 38

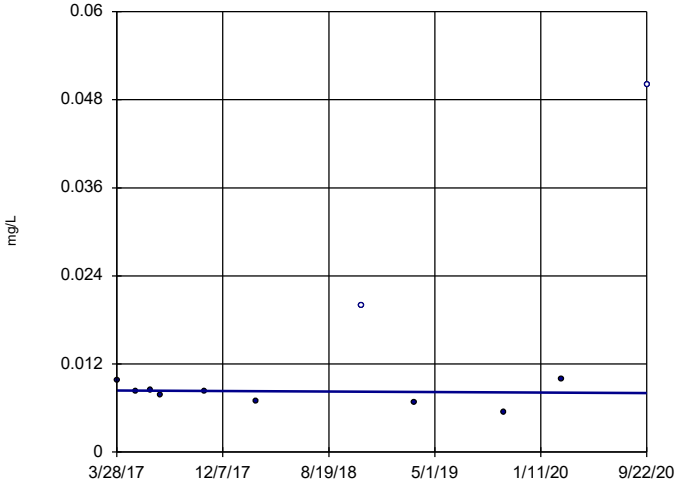
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

DGWA-71 (bg)



n = 11

Slope = -0.00009656 units per year.

Mann-Kendall statistic = -1
critical = -34

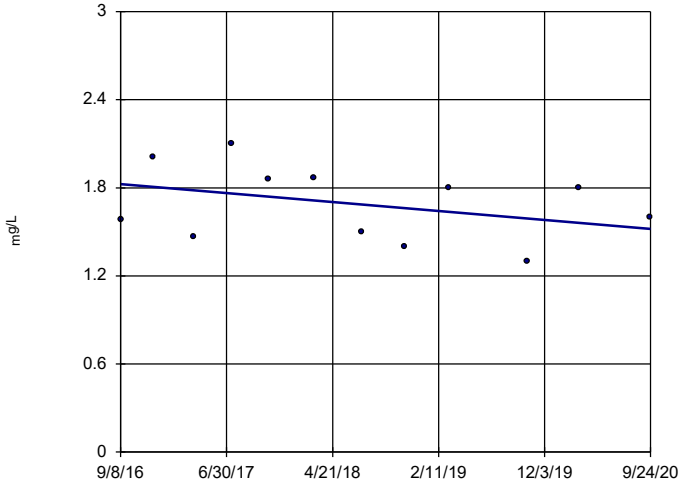
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-37



n = 12

Slope = -0.07542 units per year.

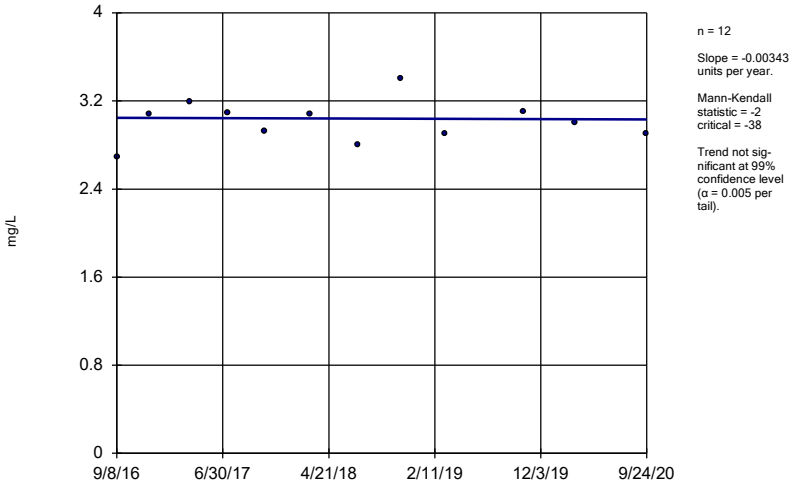
Mann-Kendall statistic = -17
critical = -38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Sen's Slope Estimator

DGWC-38



n = 12

Slope = -0.00343 units per year.

Mann-Kendall statistic = -2
critical = -38

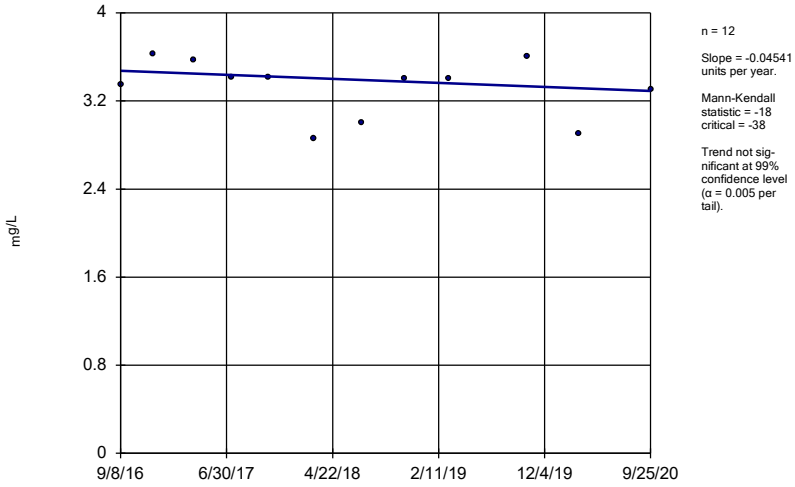
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-39



n = 12

Slope = -0.04541 units per year.

Mann-Kendall statistic = -18
critical = -38

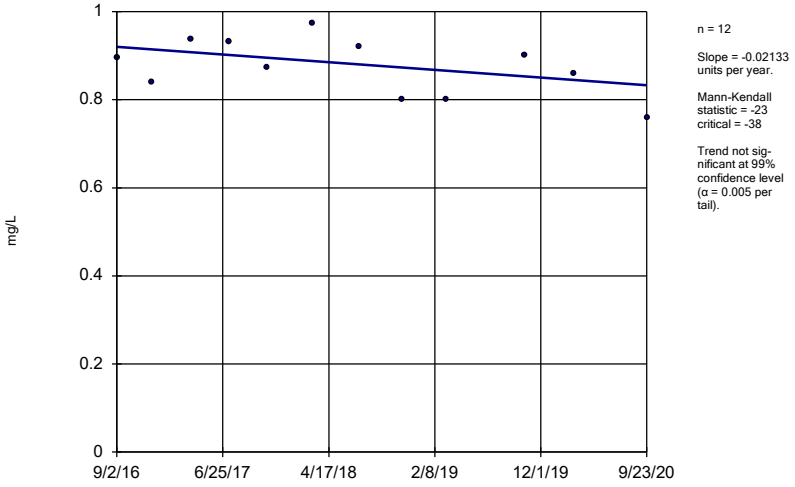
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-40



n = 12

Slope = -0.02133 units per year.

Mann-Kendall statistic = -23
critical = -38

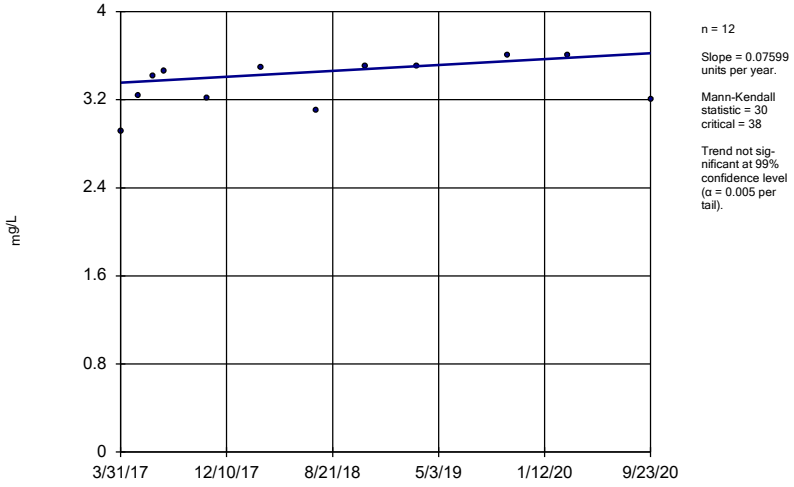
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-67



n = 12

Slope = 0.07599 units per year.

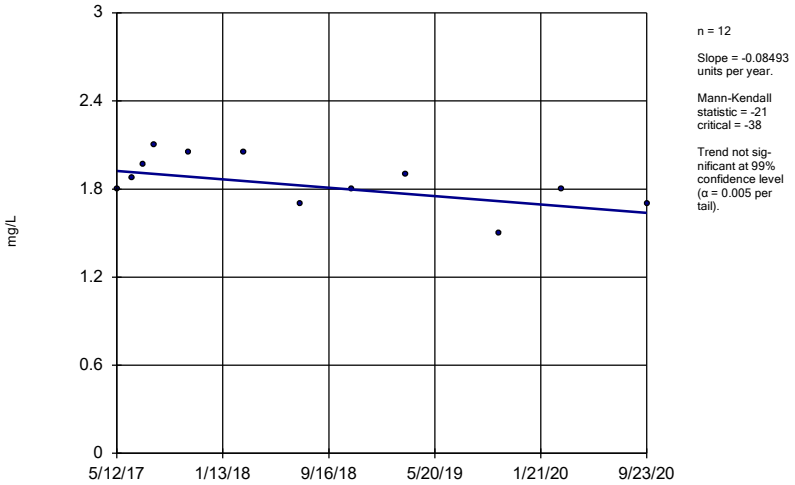
Mann-Kendall statistic = 30
critical = 38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Sen's Slope Estimator

DGWC-68A



n = 12

Slope = -0.08493 units per year.

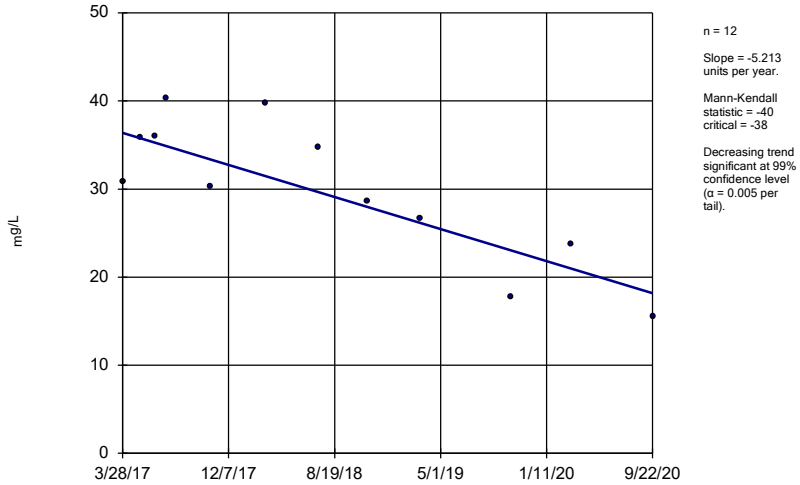
Mann-Kendall statistic = -21
critical = -38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Sen's Slope Estimator

DGWA-53 (bg)



n = 12

Slope = -5.213 units per year.

Mann-Kendall statistic = -40
critical = -38

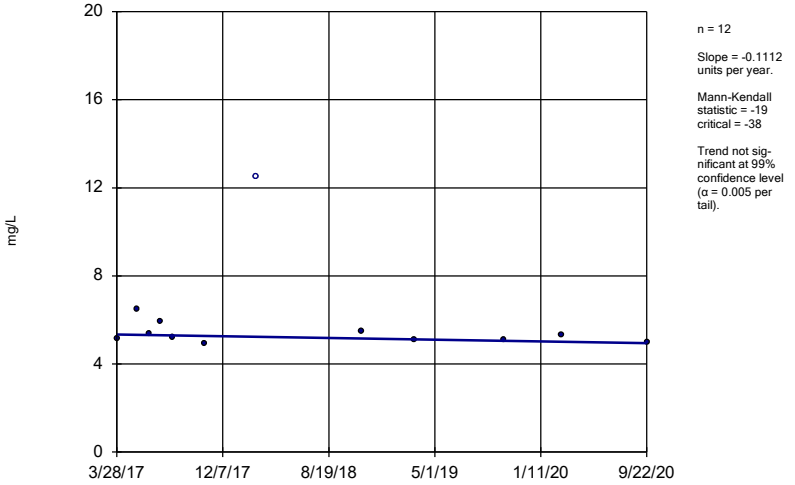
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Hollow symbols indicate censored values.

Sen's Slope Estimator

DGWA-70A (bg)



n = 12

Slope = -0.1112 units per year.

Mann-Kendall statistic = -19
critical = -38

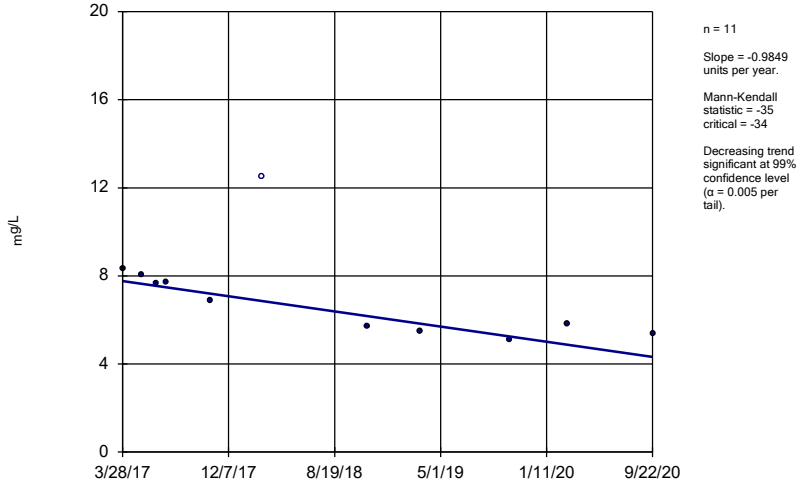
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Hollow symbols indicate censored values.

Sen's Slope Estimator

DGWA-71 (bg)



n = 11

Slope = -0.9849 units per year.

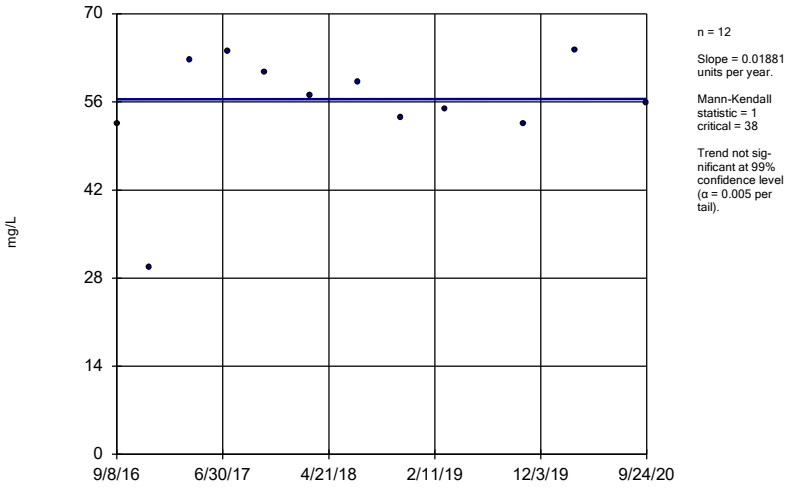
Mann-Kendall statistic = -35
critical = -34

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Sen's Slope Estimator

DGWC-37



n = 12

Slope = 0.01881 units per year.

Mann-Kendall statistic = 1 critical = 38

Trend not significant at 99% confidence level (α = 0.005 per tail).

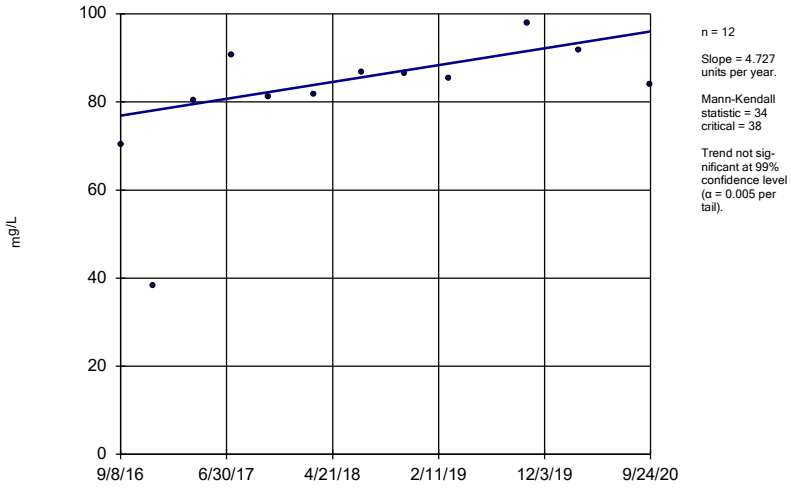
Constituent: Calcium Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-38



n = 12

Slope = 4.727 units per year.

Mann-Kendall statistic = 34 critical = 38

Trend not significant at 99% confidence level (α = 0.005 per tail).

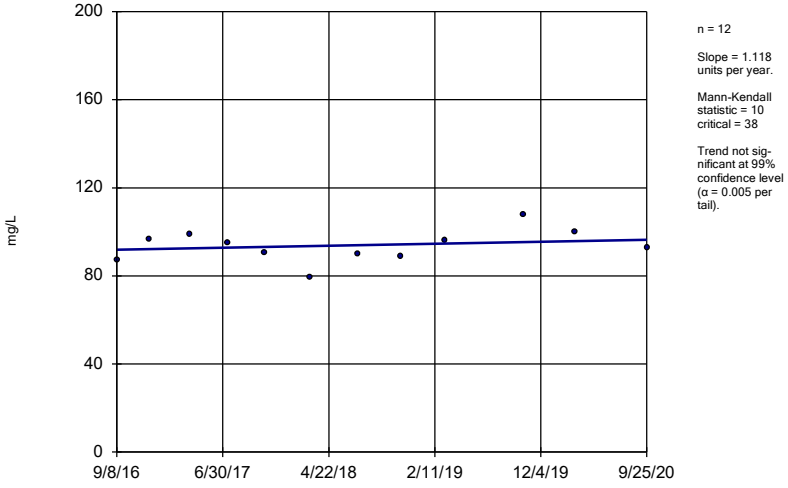
Constituent: Calcium Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-39



n = 12

Slope = 1.118 units per year.

Mann-Kendall statistic = 10 critical = 38

Trend not significant at 99% confidence level (α = 0.005 per tail).

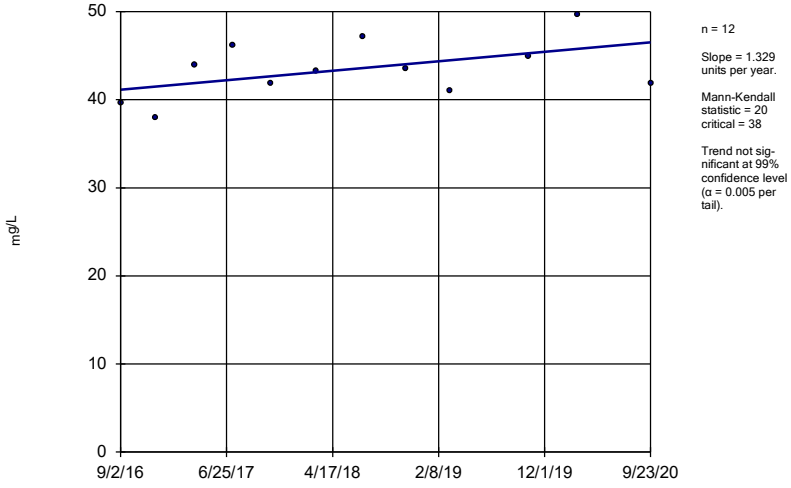
Constituent: Calcium Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-40



n = 12

Slope = 1.329 units per year.

Mann-Kendall statistic = 20 critical = 38

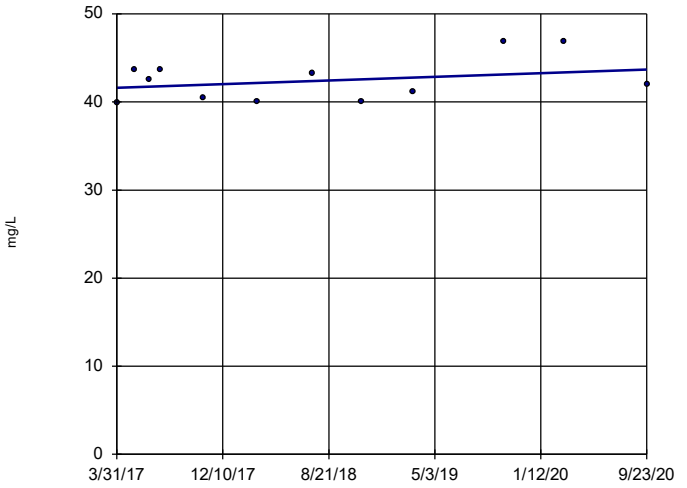
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal

Plant McDonough Client: Southern Company Data: McDonough AP

Sen's Slope Estimator

DGWC-67



n = 12

Slope = 0.5957 units per year.

Mann-Kendall statistic = 14 critical = 38

Trend not significant at 99% confidence level (α = 0.005 per tail).

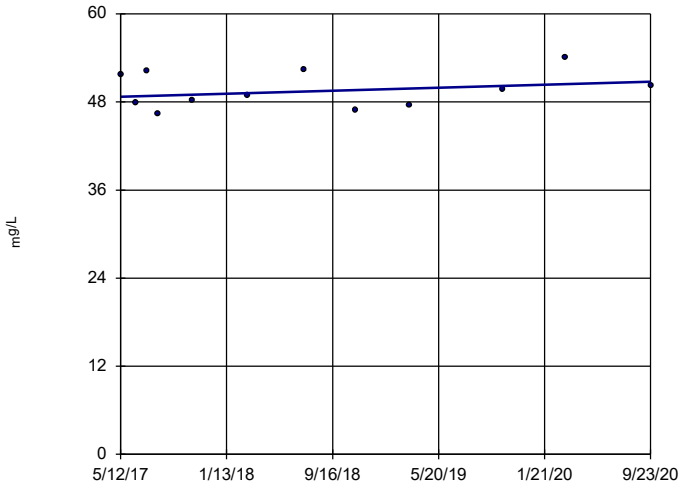
Constituent: Calcium Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-68A



n = 12

Slope = 0.619 units per year.

Mann-Kendall statistic = 12 critical = 38

Trend not significant at 99% confidence level (α = 0.005 per tail).

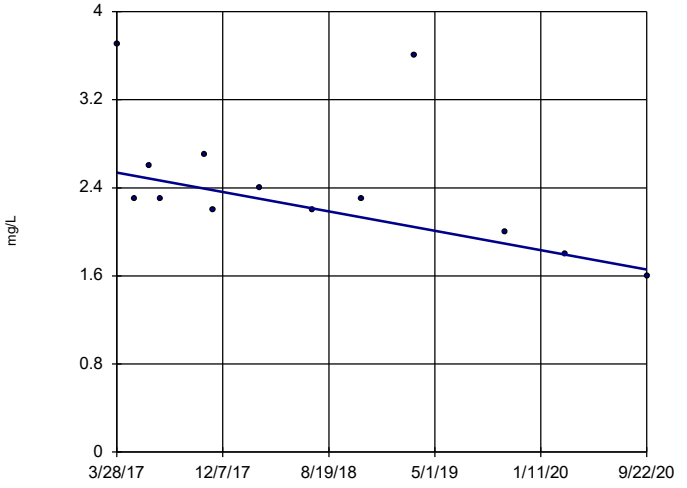
Constituent: Calcium Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWA-53 (bg)



n = 13

Slope = -0.2527 units per year.

Mann-Kendall statistic = -40 critical = -43

Trend not significant at 99% confidence level (α = 0.005 per tail).

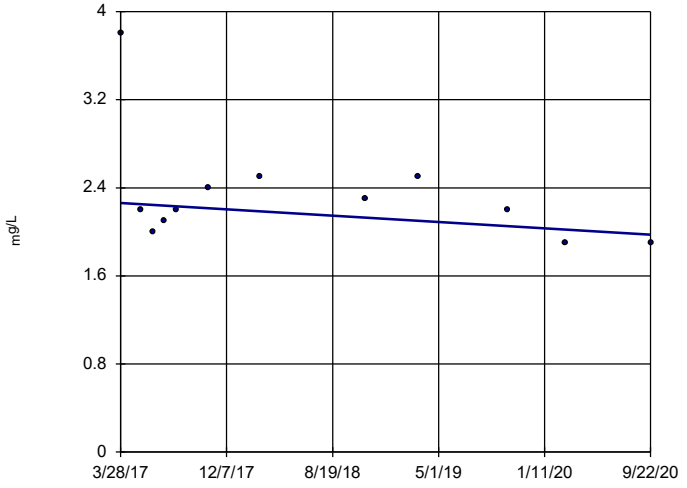
Constituent: Chloride Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWA-70A (bg)



n = 12

Slope = -0.08248 units per year.

Mann-Kendall statistic = -13 critical = -38

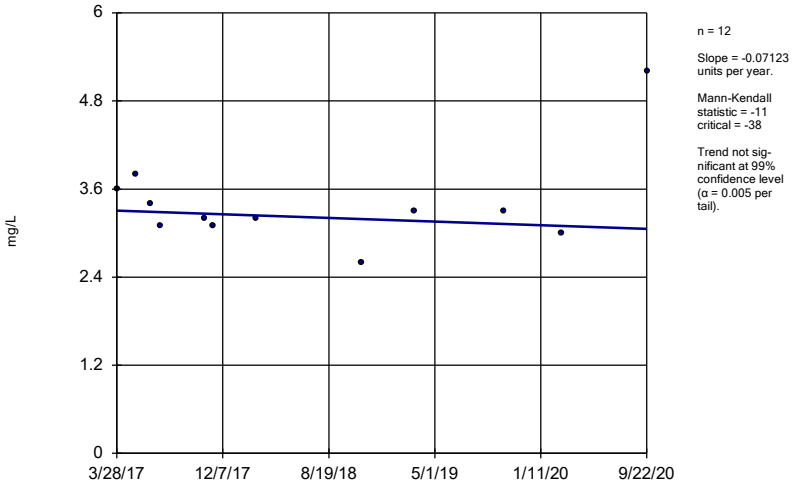
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal

Plant McDonough Client: Southern Company Data: McDonough AP

Sen's Slope Estimator

DGWA-71 (bg)



n = 12

Slope = -0.07123 units per year.

Mann-Kendall statistic = -11
critical = -38

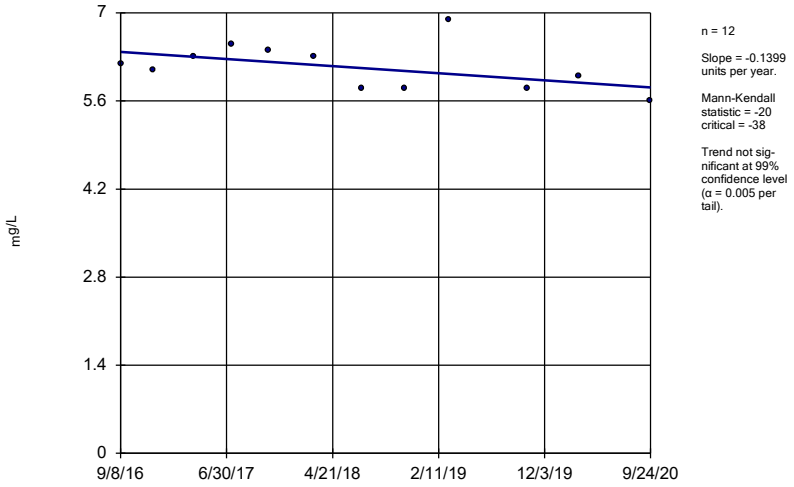
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-37



n = 12

Slope = -0.1399 units per year.

Mann-Kendall statistic = -20
critical = -38

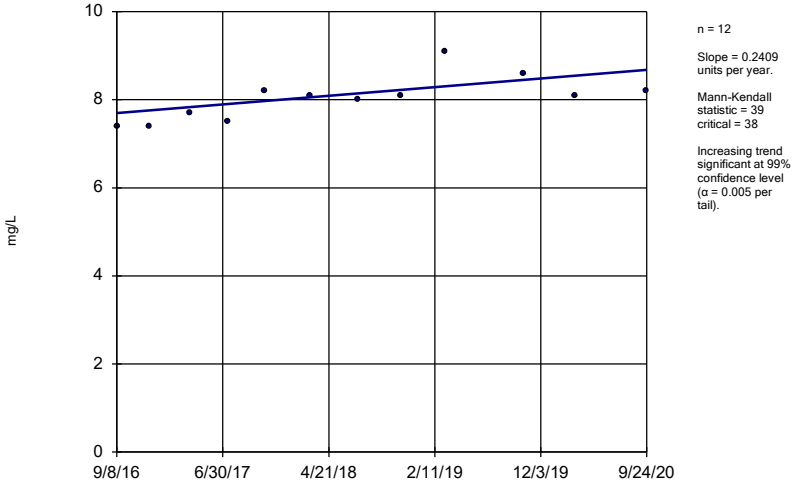
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-38



n = 12

Slope = 0.2409 units per year.

Mann-Kendall statistic = 39
critical = 38

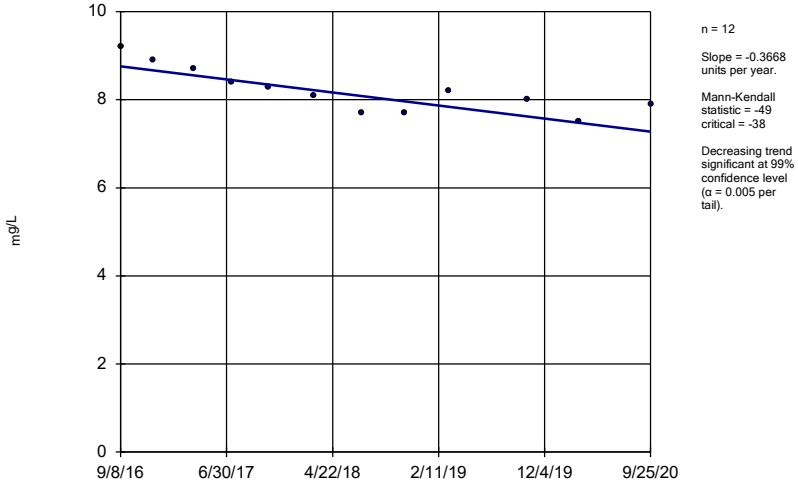
Increasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-39



n = 12

Slope = -0.3668 units per year.

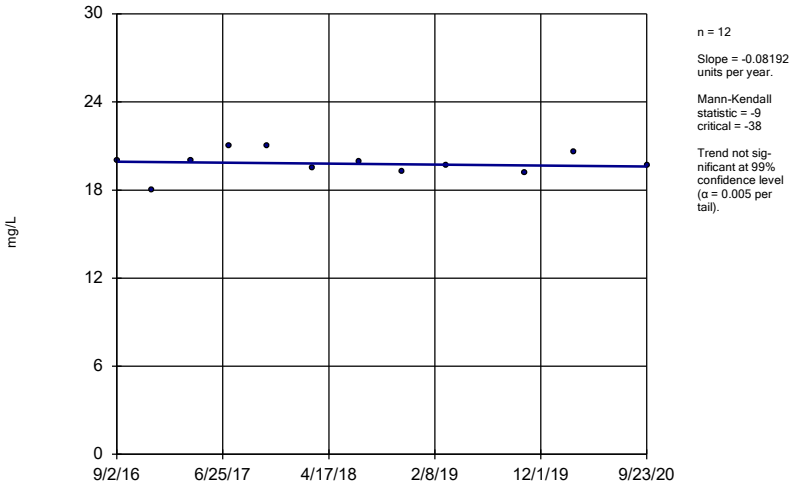
Mann-Kendall statistic = -49
critical = -38

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Sen's Slope Estimator

DGWC-40



n = 12

Slope = -0.08192 units per year.

Mann-Kendall statistic = -9
critical = -38

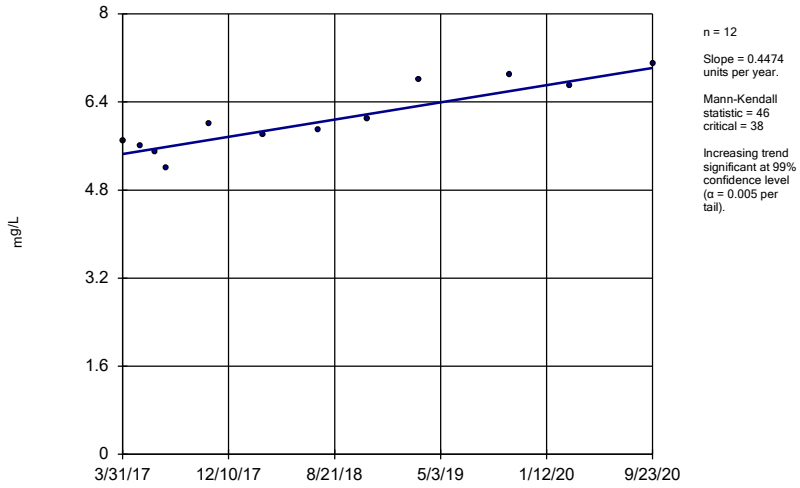
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-67



n = 12

Slope = 0.4474 units per year.

Mann-Kendall statistic = 46
critical = 38

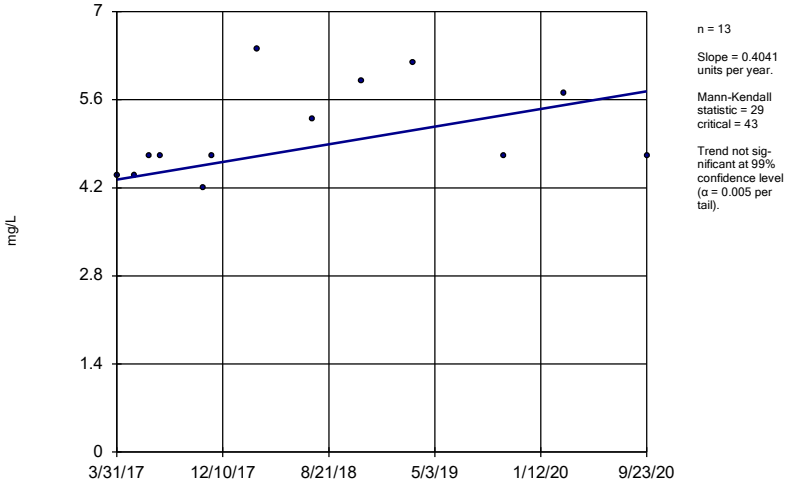
Increasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-69



n = 13

Slope = 0.4041 units per year.

Mann-Kendall statistic = 29
critical = 43

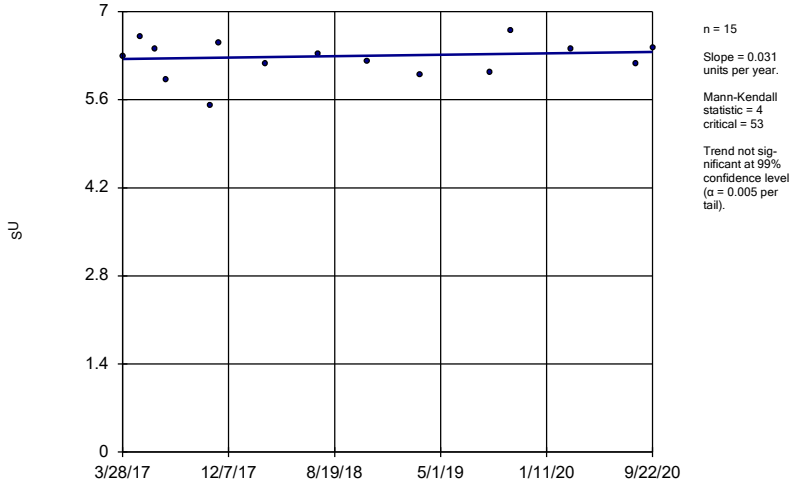
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWA-53 (bg)



n = 15

Slope = 0.031 units per year.

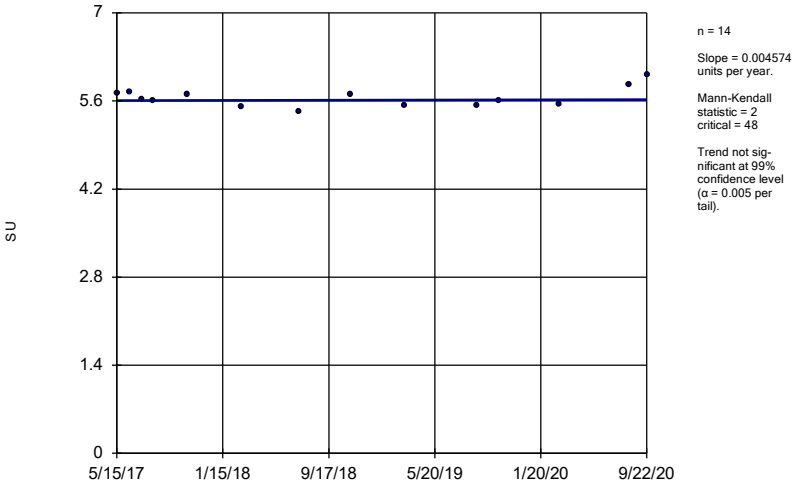
Mann-Kendall statistic = 4
critical = 53

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Sen's Slope Estimator

DGWA-70A (bg)



n = 14

Slope = 0.004574 units per year.

Mann-Kendall statistic = 2 critical = 48

Trend not significant at 99% confidence level (α = 0.005 per tail).

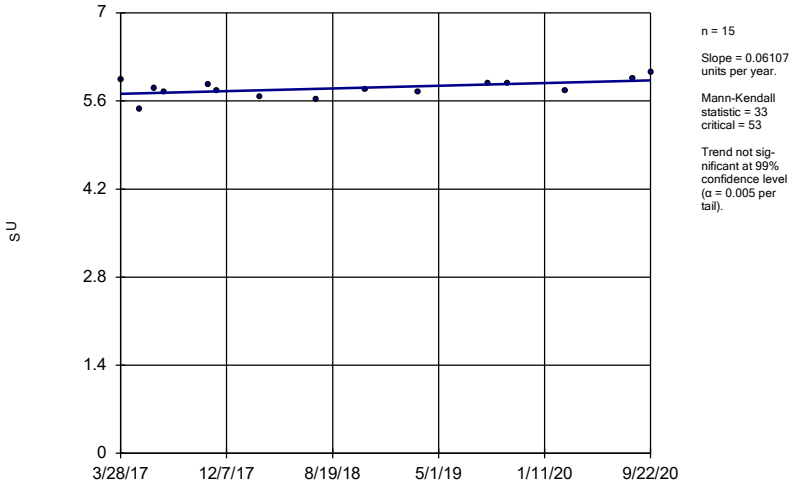
Constituent: pH Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWA-71 (bg)



n = 15

Slope = 0.06107 units per year.

Mann-Kendall statistic = 33 critical = 53

Trend not significant at 99% confidence level (α = 0.005 per tail).

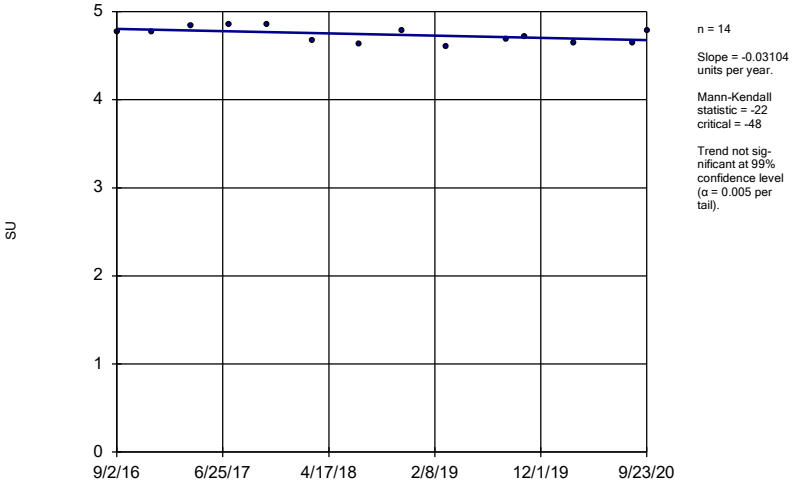
Constituent: pH Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-40



n = 14

Slope = -0.03104 units per year.

Mann-Kendall statistic = -22 critical = -48

Trend not significant at 99% confidence level (α = 0.005 per tail).

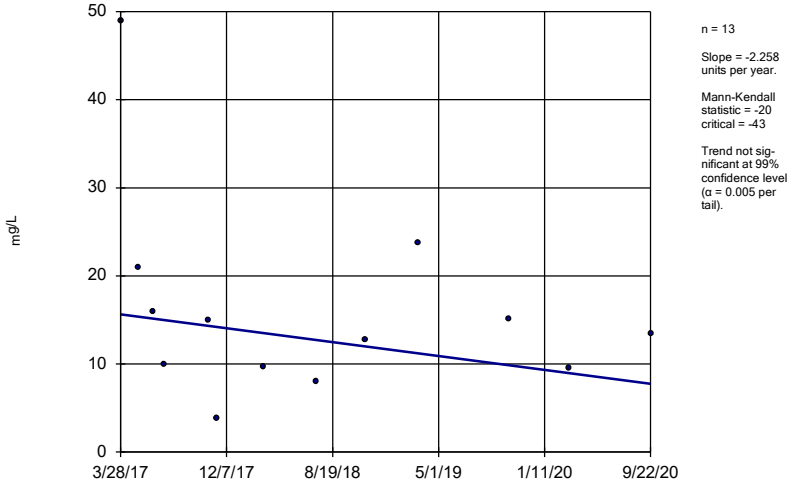
Constituent: pH Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWA-53 (bg)



n = 13

Slope = -2.258 units per year.

Mann-Kendall statistic = -20 critical = -43

Trend not significant at 99% confidence level (α = 0.005 per tail).

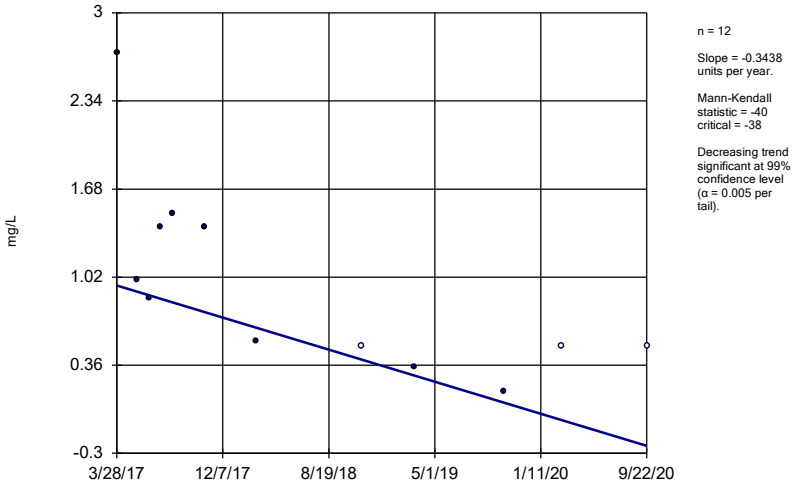
Constituent: Sulfate Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal

Plant McDonough Client: Southern Company Data: McDonough AP

Hollow symbols indicate censored values.

Sen's Slope Estimator

DGWA-70A (bg)



n = 12

Slope = -0.3438 units per year.

Mann-Kendall statistic = -40
critical = -38

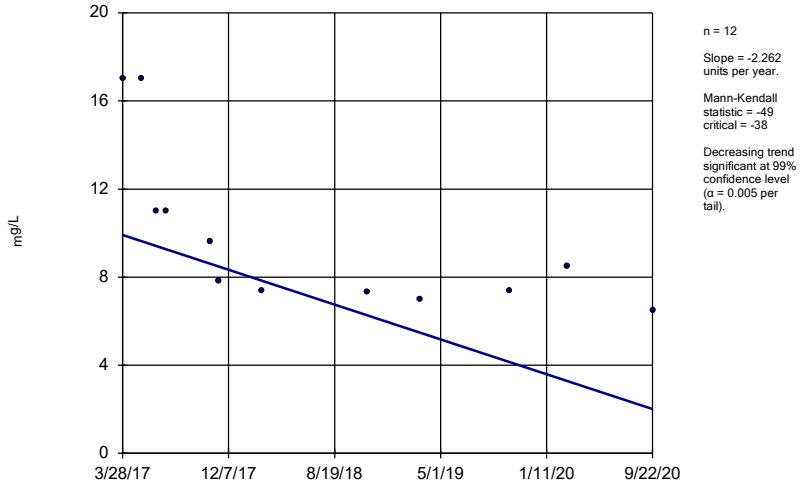
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWA-71 (bg)



n = 12

Slope = -2.262 units per year.

Mann-Kendall statistic = -49
critical = -38

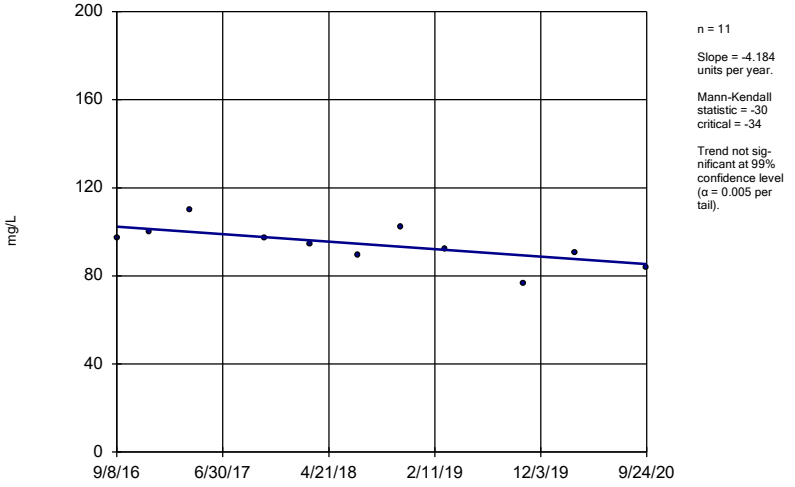
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-37



n = 11

Slope = -4.184 units per year.

Mann-Kendall statistic = -30
critical = -34

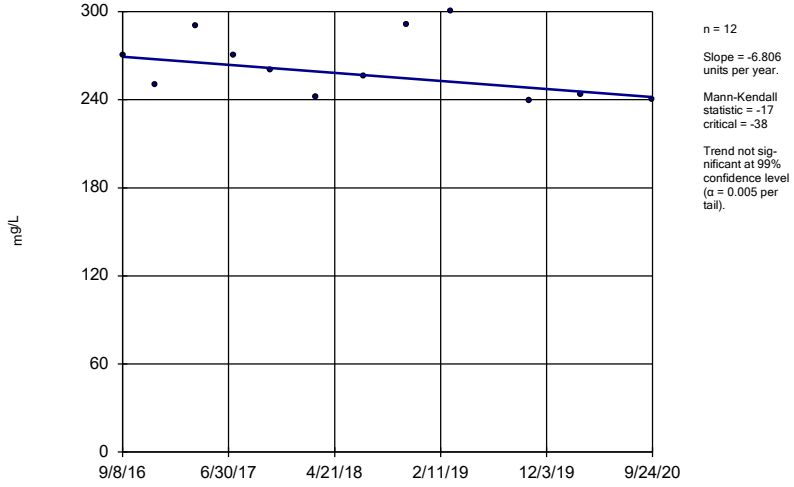
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-38



n = 12

Slope = -6.806 units per year.

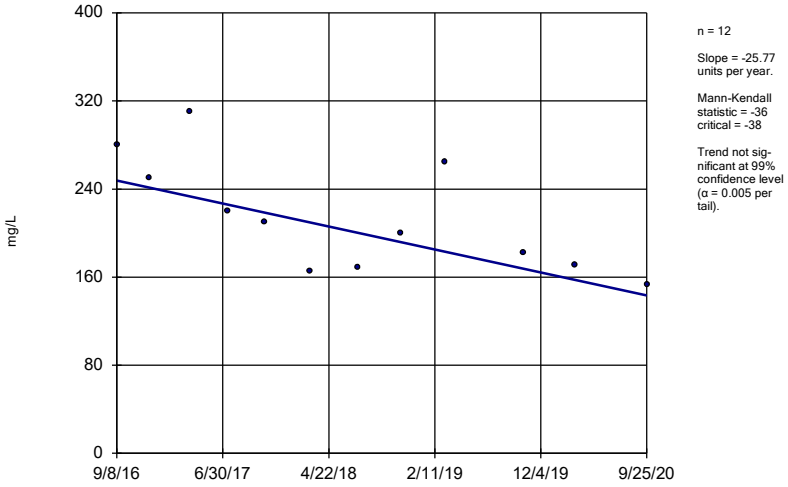
Mann-Kendall statistic = -17
critical = -38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Sen's Slope Estimator

DGWC-39



n = 12

Slope = -25.77 units per year.

Mann-Kendall statistic = -36 critical = -38

Trend not significant at 99% confidence level (α = 0.005 per tail).

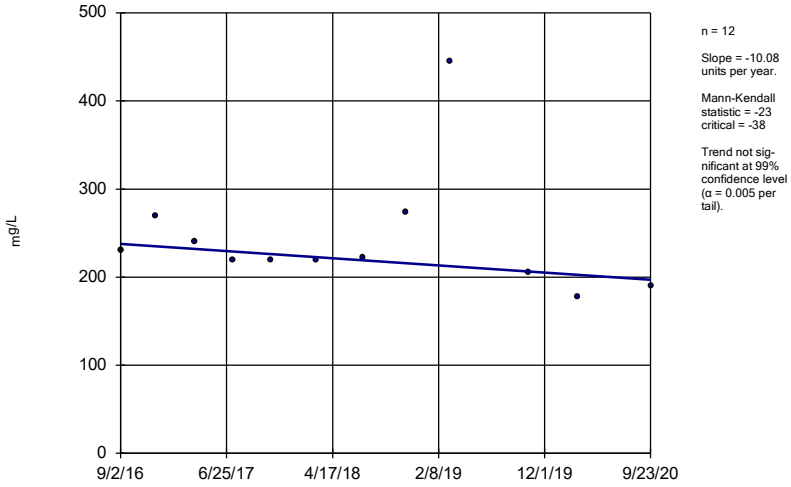
Constituent: Sulfate Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-40



n = 12

Slope = -10.08 units per year.

Mann-Kendall statistic = -23 critical = -38

Trend not significant at 99% confidence level (α = 0.005 per tail).

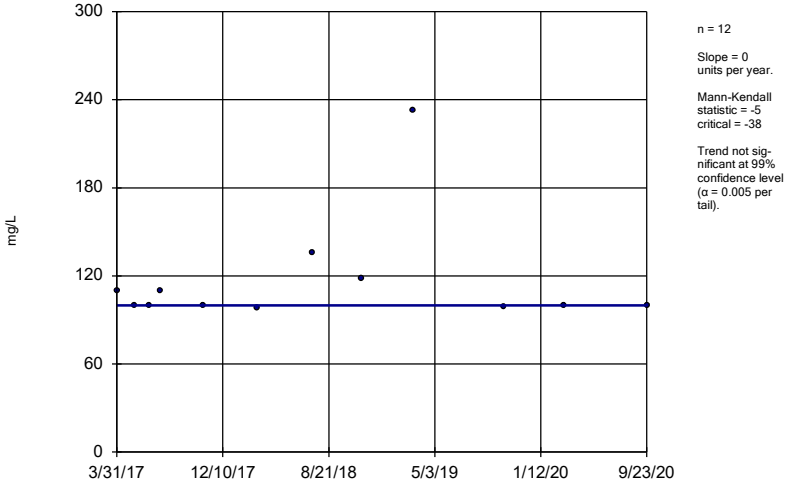
Constituent: Sulfate Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-67



n = 12

Slope = 0 units per year.

Mann-Kendall statistic = -5 critical = -38

Trend not significant at 99% confidence level (α = 0.005 per tail).

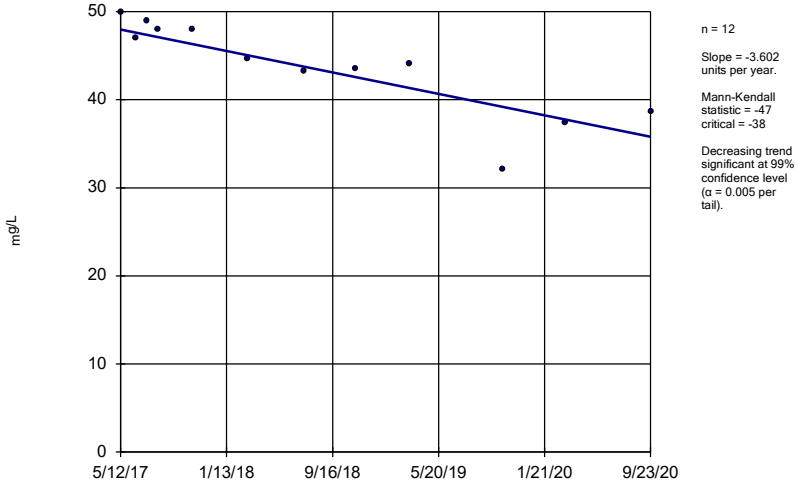
Constituent: Sulfate Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-68A



n = 12

Slope = -3.602 units per year.

Mann-Kendall statistic = -47 critical = -38

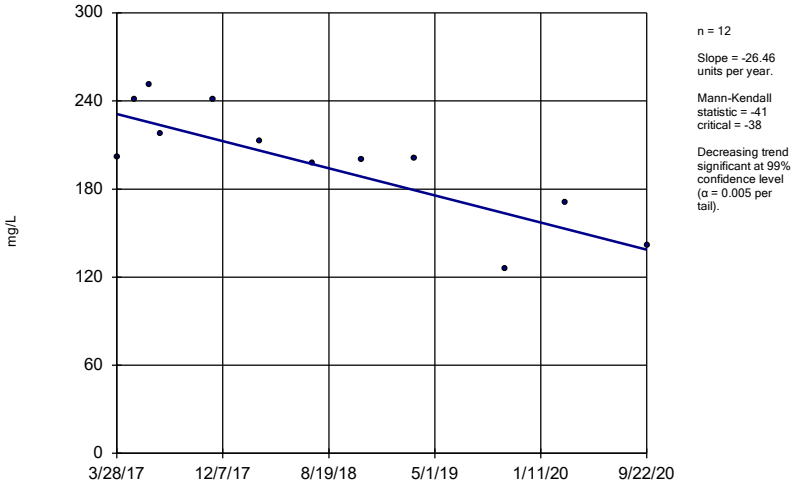
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal

Plant McDonough Client: Southern Company Data: McDonough AP

Sen's Slope Estimator

DGWA-53 (bg)



n = 12

Slope = -26.46 units per year.

Mann-Kendall statistic = -41 critical = -38

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

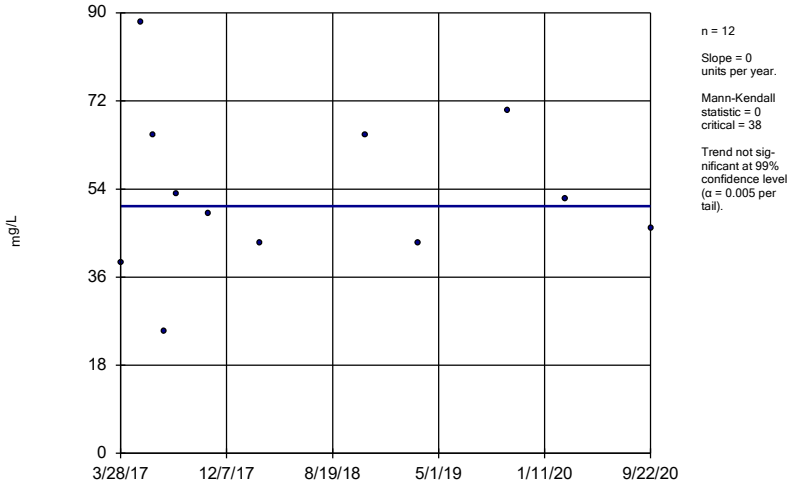
Constituent: TDS Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWA-70A (bg)



n = 12

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 38

Trend not significant at 99% confidence level (α = 0.005 per tail).

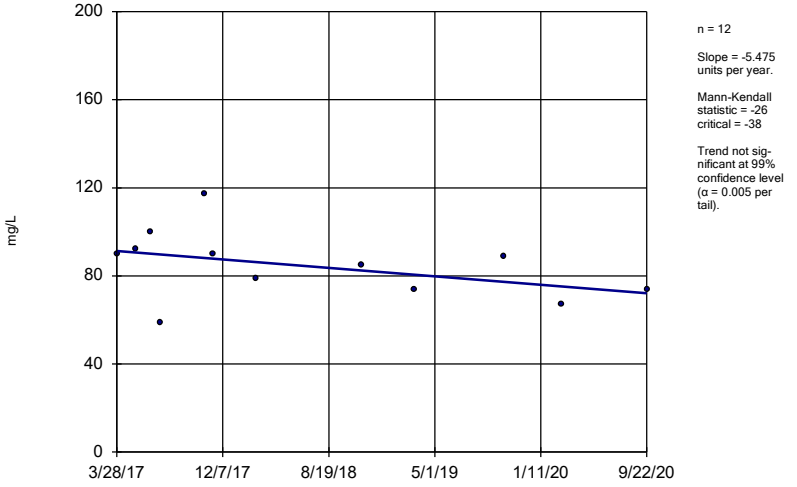
Constituent: TDS Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWA-71 (bg)



n = 12

Slope = -5.475 units per year.

Mann-Kendall statistic = -26 critical = -38

Trend not significant at 99% confidence level (α = 0.005 per tail).

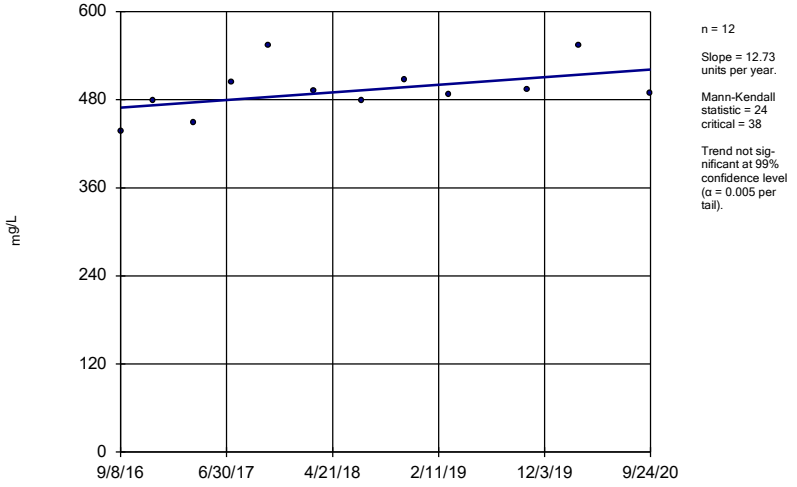
Constituent: TDS Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-38



n = 12

Slope = 12.73 units per year.

Mann-Kendall statistic = 24 critical = 38

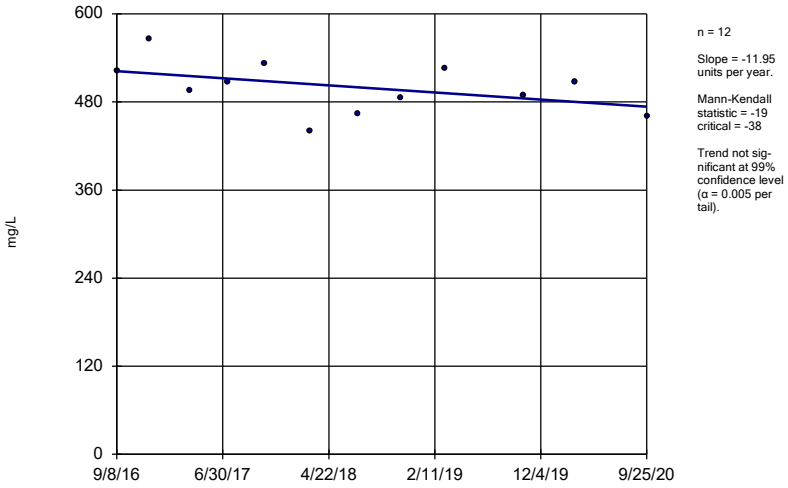
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: TDS Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal

Plant McDonough Client: Southern Company Data: McDonough AP

Sen's Slope Estimator

DGWC-39



n = 12

Slope = -11.95 units per year.

Mann-Kendall statistic = -19
critical = -38

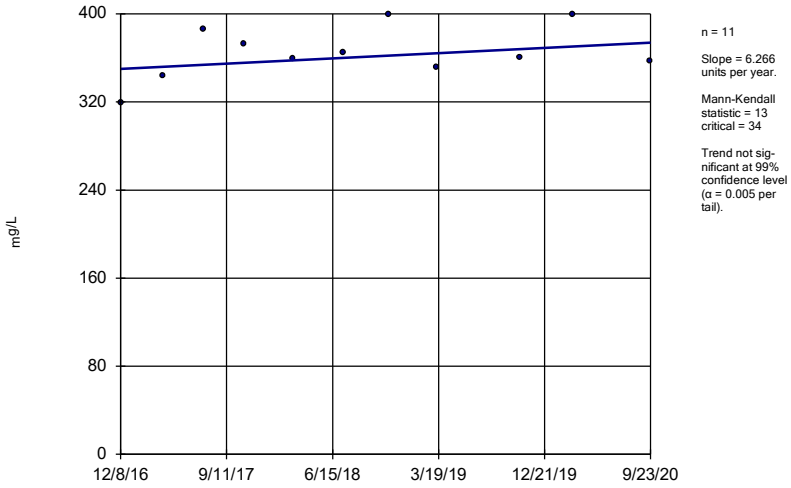
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: TDS Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-40



n = 11

Slope = 6.266 units per year.

Mann-Kendall statistic = 13
critical = 34

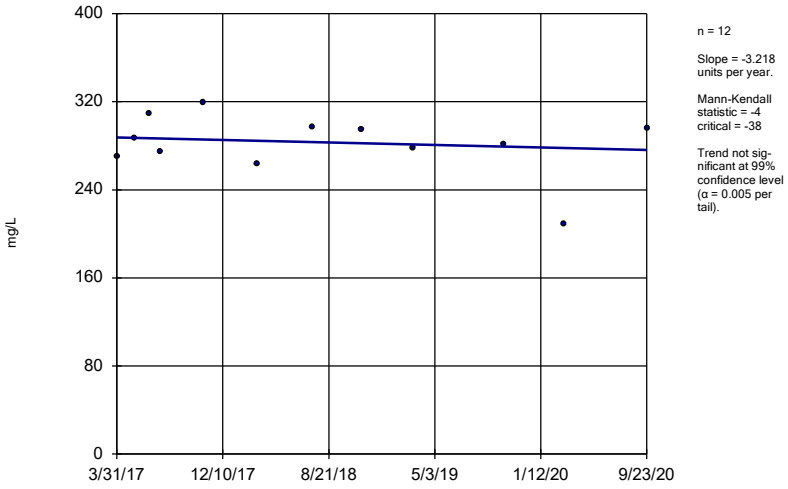
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: TDS Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-67



n = 12

Slope = -3.218 units per year.

Mann-Kendall statistic = -4
critical = -38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: TDS Analysis Run 10/29/2020 3:51 PM View: Trend Tests - Federal
Plant McDonough Client: Southern Company Data: McDonough AP

FIGURE F.

Tolerance Limit Summary Table

Plant McDonough Client: Southern Company Data: McDonough AP Printed 11/4/2020, 3:11 PM

Constituent	Well	Upper Lim.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	n/a	0.0030	38	n/a	n/a	81.58	n/a	n/a	0.1424	NP Inter(NDs)
Arsenic (mg/L)	n/a	0.0050	38	n/a	n/a	78.95	n/a	n/a	0.1424	NP Inter(NDs)
Barium (mg/L)	n/a	0.19	38	n/a	n/a	0	n/a	n/a	0.1424	NP Inter(normality)
Beryllium (mg/L)	n/a	0.0030	38	n/a	n/a	73.68	n/a	n/a	0.1424	NP Inter(normality)
Cadmium (mg/L)	n/a	0.0025	38	n/a	n/a	92.11	n/a	n/a	0.1424	NP Inter(NDs)
Chromium (mg/L)	n/a	0.010	37	n/a	n/a	54.05	n/a	n/a	0.1499	NP Inter(normality)
Cobalt (mg/L)	n/a	0.07	38	-5.867	1.496	31.58	Kaplan-Meier	ln(x)	0.05	Inter
Combined Radium 226 + 228 (pCi/L)	n/a	5.9	40	1.062	0.3514	0	None	x^(1/3)	0.05	Inter
Fluoride (mg/L)	n/a	0.42	42	n/a	n/a	50	n/a	n/a	0.116	NP Inter(normality)
Lead (mg/L)	n/a	0.0050	38	n/a	n/a	76.32	n/a	n/a	0.1424	NP Inter(NDs)
Lithium (mg/L)	n/a	0.030	38	n/a	n/a	36.84	n/a	n/a	0.1424	NP Inter(normality)
Mercury (mg/L)	n/a	0.00050	38	n/a	n/a	89.47	n/a	n/a	0.1424	NP Inter(NDs)
Molybdenum (mg/L)	n/a	0.041	38	n/a	n/a	63.16	n/a	n/a	0.1424	NP Inter(normality)
Selenium (mg/L)	n/a	0.010	38	n/a	n/a	100	n/a	n/a	0.1424	NP Inter(NDs)
Thallium (mg/L)	n/a	0.0010	38	n/a	n/a	94.74	n/a	n/a	0.1424	NP Inter(NDs)

FIGURE G.

MCDONOUGH AP-1 GWPS TABLE					
Constituent Name	**MCL**	**CCR-Rule Specified**	**Background Limit**	**Federal GWPS**	**State GWPS**
Antimony, Total (mg/L)	0.006		0.003	0.006	0.006
Arsenic, Total (mg/L)	0.01		0.005	0.01	0.01
Barium, Total (mg/L)	2		0.19	2	2
Beryllium, Total (mg/L)	0.004		0.003	0.004	0.004
Cadmium, Total (mg/L)	0.005		0.0025	0.005	0.005
Chromium, Total (mg/L)	0.1		0.01	0.1	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.032	0.032	0.032
Combined Radium, Total (pCi/L)	5		5.92	5.92	5.92
Fluoride, Total (mg/L)	4		0.42	4	4
Lead, Total (mg/L)	n/a	0.015	0.005	0.015	0.005
Lithium, Total (mg/L)	n/a	0.04	0.03	0.04	0.03
Mercury, Total (mg/L)	0.002		0.0005	0.002	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.041	0.1	0.041
Selenium, Total (mg/L)	0.05		0.01	0.05	0.05
Thallium, Total (mg/L)	0.002		0.001	0.002	0.002

**Highlighted cells indicated Background is higher than MCLs or CCR-Rule Specified levels.*

**MCL = Maximum Contaminant Level*

**GWPS = Groundwater Protection Standard*

FIGURE H.

Federal Confidence Interval Summary - Significant Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 10/29/2020, 4:00 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	**DGWC-69**	**0.04128**	**0.01078**	**0.01**	**Yes**	**15**	**0.03475**	**0.0442**	**0**	**None**	**ln(x)**	**0.01**	**Param.**
Cobalt (mg/L)	**DGWC-40**	**0.04568**	**0.037**	**0.032**	**Yes**	**13**	**0.04134**	**0.005839**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**DGWC-68A**	**0.226**	**0.19**	**0.1**	**Yes**	**13**	**0.2118**	**0.02249**	**0**	**None**	**No**	**0.01**	**NP (normality)**

Federal Confidence Interval Summary - All Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 10/29/2020, 4:00 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	DGWC-37	0.003	0.003	0.006	No	12	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-38	0.003	0.003	0.006	No	12	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-39	0.003	0.003	0.006	No	12	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-40	0.003	0.003	0.006	No	12	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-67	0.003	0.0008	0.006	No	12	0.002542	0.0009327	75	None	No	0.01	NP (normality)
Antimony (mg/L)	DGWC-68A	0.003	0.0008	0.006	No	12	0.002817	0.0006351	91.67	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-69	0.003	0.0019	0.006	No	13	0.002738	0.0006838	84.62	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-37	0.005	0.0019	0.01	No	13	0.004762	0.0008598	92.31	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-38	0.005	0.0005	0.01	No	13	0.004654	0.001248	92.31	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-39	0.005	0.00057	0.01	No	13	0.002714	0.002209	46.15	None	No	0.01	NP (normality)
Arsenic (mg/L)	DGWC-40	0.005	0.00065	0.01	No	13	0.004027	0.001853	76.92	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-67	0.005	0.00042	0.01	No	13	0.004648	0.00127	92.31	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-68A	0.005	0.005	0.01	No	13	0.005	0	100	None	No	0.01	NP (NDs)
Arsenic (mg/L)	**DGWC-69**	**0.04128**	**0.01078**	**0.01**	**Yes**	**15**	**0.03475**	**0.0442**	**0**	**None**	**ln(x)**	**0.01**	**Param.**
Barium (mg/L)	DGWC-37	0.1138	0.09252	2	No	13	0.1032	0.0143	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-38	0.03369	0.03234	2	No	13	0.03302	0.0009091	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-39	0.09753	0.08432	2	No	13	0.09092	0.008879	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-40	0.01815	0.0169	2	No	13	0.01752	0.0008408	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-67	0.1131	0.1014	2	No	13	0.1072	0.007854	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-68A	0.09052	0.08674	2	No	13	0.08863	0.00254	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-69	0.1065	0.07028	2	No	14	0.08841	0.0256	0	None	No	0.01	Param.
Beryllium (mg/L)	DGWC-37	0.003	0.000086	0.004	No	13	0.002103	0.0014	69.23	None	No	0.01	NP (normality)
Beryllium (mg/L)	DGWC-38	0.003	0.000058	0.004	No	13	0.002774	0.000816	92.31	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-39	0.003	0.003	0.004	No	13	0.003	0	100	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-40	0.003353	0.002862	0.004	No	13	0.003108	0.0003303	7.692	None	No	0.01	Param.
Beryllium (mg/L)	DGWC-67	0.003	0.003	0.004	No	13	0.003	0	100	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-68A	0.003	0.000084	0.004	No	13	0.002776	0.0008088	92.31	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-69	0.003	0.000063	0.004	No	14	0.001952	0.001459	64.29	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-37	0.0025	0.0002	0.005	No	13	0.001782	0.001121	69.23	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-38	0.001	0.00017	0.005	No	13	0.0004915	0.000659	15.38	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-39	0.0025	0.0025	0.005	No	13	0.0025	0	100	None	No	0.01	NP (NDs)
Cadmium (mg/L)	DGWC-40	0.001	0.0007	0.005	No	13	0.0009608	0.0004698	15.38	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-67	0.0025	0.00017	0.005	No	13	0.001785	0.001116	69.23	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-68A	0.0025	0.00017	0.005	No	13	0.00114	0.001141	46.15	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-69	0.0025	0.00017	0.005	No	14	0.001834	0.001094	71.43	None	No	0.01	NP (normality)
Chromium (mg/L)	DGWC-37	0.01	0.0007	0.1	No	13	0.00856	0.003515	84.62	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-38	0.01	0.0005	0.1	No	13	0.007835	0.004115	76.92	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-39	0.01	0.01	0.1	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-40	0.01	0.00061	0.1	No	13	0.004332	0.004667	38.46	None	No	0.01	NP (normality)
Chromium (mg/L)	DGWC-67	0.01	0.0007	0.1	No	13	0.007852	0.004082	76.92	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-68A	0.01	0.0005	0.1	No	13	0.009269	0.002635	92.31	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-69	0.01	0.0012	0.1	No	14	0.008056	0.003865	78.57	None	No	0.01	NP (NDs)
Cobalt (mg/L)	DGWC-37	0.005	0.0005	0.032	No	13	0.003931	0.002032	76.92	None	No	0.01	NP (NDs)
Cobalt (mg/L)	DGWC-38	0.005	0.0014	0.032	No	13	0.002462	0.00246	15.38	None	No	0.01	NP (normality)
Cobalt (mg/L)	DGWC-39	0.0071	0.0059	0.032	No	13	0.006623	0.001171	15.38	None	No	0.01	NP (normality)
Cobalt (mg/L)	**DGWC-40**	**0.04568**	**0.037**	**0.032**	**Yes**	**13**	**0.04134**	**0.005839**	**0**	**None**	**No**	**0.01**	**Param.**
Cobalt (mg/L)	DGWC-67	0.0064	0.0013	0.032	No	13	0.003346	0.002605	15.38	None	No	0.01	NP (Cohens/xfrm)
Cobalt (mg/L)	DGWC-68A	0.005	0.0005	0.032	No	13	0.004023	0.001875	76.92	None	No	0.01	NP (NDs)
Cobalt (mg/L)	DGWC-69	0.005	0.0016	0.032	No	14	0.003643	0.001755	57.14	None	No	0.01	NP (normality)
Combined Radium 226 + 228 (pCi/L)	DGWC-37	1.167	0.4891	5.92	No	13	0.8278	0.4555	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-38	1.017	0.4363	5.92	No	13	0.7268	0.3906	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-39	1.426	0.6196	5.92	No	13	1.023	0.5424	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-40	1.577	0.5261	5.92	No	13	1.051	0.7064	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-67	0.9464	0.4432	5.92	No	13	0.6948	0.3384	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-68A	1.445	0.5348	5.92	No	13	0.9897	0.6118	0	None	No	0.01	Param.

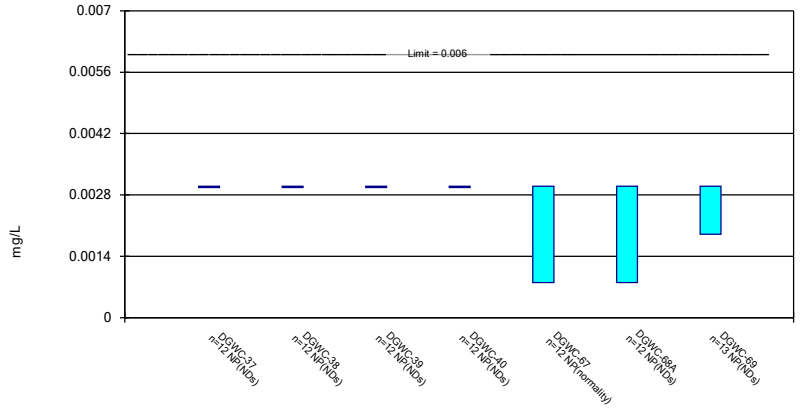
Federal Confidence Interval Summary - All Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 10/29/2020, 4:00 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Combined Radium 226 + 228 (pCi/L)	DGWC-69	1.838	1.093	5.92	No	14	1.465	0.526	0	None	No	0.01	Param.
Fluoride (mg/L)	DGWC-37	0.21	0.054	4	No	14	0.1059	0.08236	7.143	None	No	0.01	NP (normality)
Fluoride (mg/L)	DGWC-38	0.23	0.057	4	No	14	0.1303	0.1187	14.29	None	No	0.01	NP (normality)
Fluoride (mg/L)	DGWC-39	0.33	0.085	4	No	14	0.1649	0.1261	7.143	None	No	0.01	NP (normality)
Fluoride (mg/L)	DGWC-40	0.3518	0.134	4	No	14	0.2539	0.1665	7.143	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	DGWC-67	0.07	0.03	4	No	14	0.092	0.1301	50	None	No	0.01	NP (normality)
Fluoride (mg/L)	DGWC-68A	0.15	0.082	4	No	14	0.1321	0.07898	7.143	None	No	0.01	NP (normality)
Fluoride (mg/L)	DGWC-69	0.1918	0.09644	4	No	15	0.1441	0.07038	6.667	None	No	0.01	Param.
Lead (mg/L)	DGWC-37	0.005	0.0014	0.015	No	13	0.004343	0.001626	84.62	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-38	0.005	0.000074	0.015	No	13	0.00349	0.002357	69.23	None	No	0.01	NP (normality)
Lead (mg/L)	DGWC-39	0.005	0.00022	0.015	No	13	0.004254	0.001822	84.62	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-40	0.005	0.00007	0.015	No	13	0.002375	0.002531	46.15	None	No	0.01	NP (normality)
Lead (mg/L)	DGWC-67	0.005	0.000056	0.015	No	13	0.003861	0.002164	76.92	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-68A	0.005	0.00035	0.015	No	13	0.004642	0.00129	92.31	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-69	0.005	0.00009	0.015	No	14	0.003251	0.002436	64.29	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-37	0.03	0.0018	0.04	No	13	0.01085	0.01329	30.77	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-38	0.0035	0.0029	0.04	No	13	0.005315	0.00742	7.692	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-39	0.03	0.03	0.04	No	13	0.03	0	100	None	No	0.01	NP (NDs)
Lithium (mg/L)	DGWC-40	0.0027	0.0021	0.04	No	13	0.006546	0.01041	15.38	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-67	0.0054	0.0043	0.04	No	13	0.006592	0.007043	7.692	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-68A	0.03	0.0016	0.04	No	13	0.02782	0.007877	92.31	None	No	0.01	NP (NDs)
Lithium (mg/L)	DGWC-69	0.0034	0.0025	0.04	No	14	0.004843	0.007249	7.143	None	No	0.01	NP (normality)
Mercury (mg/L)	DGWC-37	0.0005	0.00006	0.002	No	13	0.0003996	0.000191	76.92	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-38	0.0005	0.00007	0.002	No	13	0.0003996	0.000191	76.92	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-39	0.0005	0.000059	0.002	No	13	0.0004661	0.0001223	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-40	0.0005	0.000045	0.002	No	13	0.0003984	0.0001934	76.92	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-67	0.0005	0.00007	0.002	No	13	0.0004669	0.0001193	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-68A	0.0005	0.00007	0.002	No	13	0.0004669	0.0001193	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-69	0.0005	0.00007	0.002	No	14	0.0004693	0.0001149	92.86	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	DGWC-37	0.01	0.01	0.1	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	DGWC-38	0.01	0.001	0.1	No	13	0.005875	0.004637	53.85	None	No	0.01	NP (normality)
Molybdenum (mg/L)	DGWC-39	0.01	0.01	0.1	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	DGWC-40	0.01	0.01	0.1	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	DGWC-67	0.01	0.01	0.1	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	**DGWC-68A**	**0.226**	**0.19**	**0.1**	**Yes**	**13**	**0.2118**	**0.02249**	**0**	**None**	**No**	**0.01**	**NP (normality)**
Molybdenum (mg/L)	DGWC-69	0.01331	0.006682	0.1	No	14	0.01065	0.00614	7.143	None	ln(x)	0.01	Param.
Selenium (mg/L)	DGWC-37	0.01	0.01	0.05	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-38	0.01	0.01	0.05	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-39	0.01	0.01	0.05	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-40	0.01	0.0018	0.05	No	13	0.004638	0.003361	23.08	None	No	0.01	NP (normality)
Selenium (mg/L)	DGWC-67	0.01	0.01	0.05	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-68A	0.01	0.01	0.05	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-69	0.01	0.01	0.05	No	14	0.01	0	100	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-37	0.001	0.001	0.002	No	13	0.001	0	100	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-38	0.001	0.0001	0.002	No	13	0.0004623	0.000443	38.46	None	No	0.01	NP (normality)
Thallium (mg/L)	DGWC-39	0.001	0.000071	0.002	No	13	0.0006485	0.0004629	61.54	None	No	0.01	NP (normality)
Thallium (mg/L)	DGWC-40	0.001	0.000068	0.002	No	13	0.0006406	0.0004732	61.54	None	No	0.01	NP (normality)
Thallium (mg/L)	DGWC-67	0.001	0.001	0.002	No	13	0.001	0	100	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-68A	0.001	0.00015	0.002	No	13	0.0009346	0.0002357	92.31	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-69	0.001	0.001	0.002	No	14	0.001	0	100	None	No	0.01	NP (NDs)

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

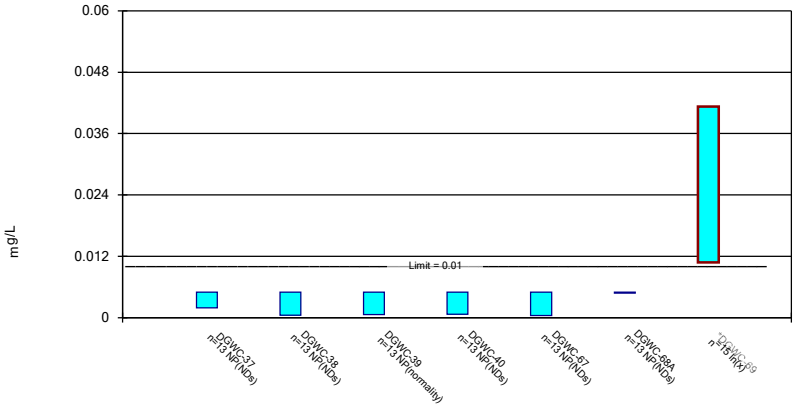


Constituent: Antimony Analysis Run 10/29/2020 3:58 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

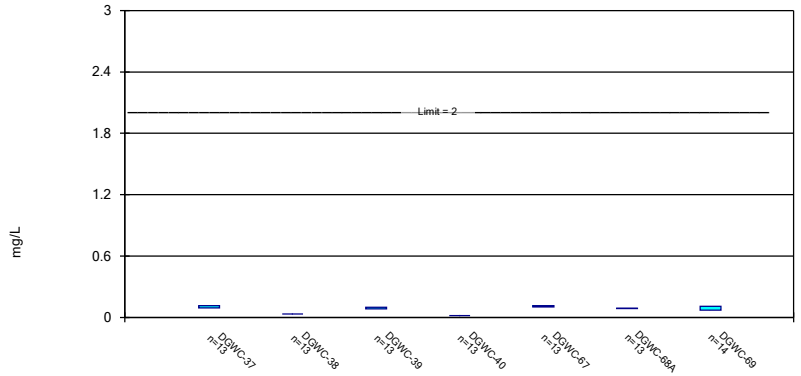


Constituent: Arsenic Analysis Run 10/29/2020 3:58 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

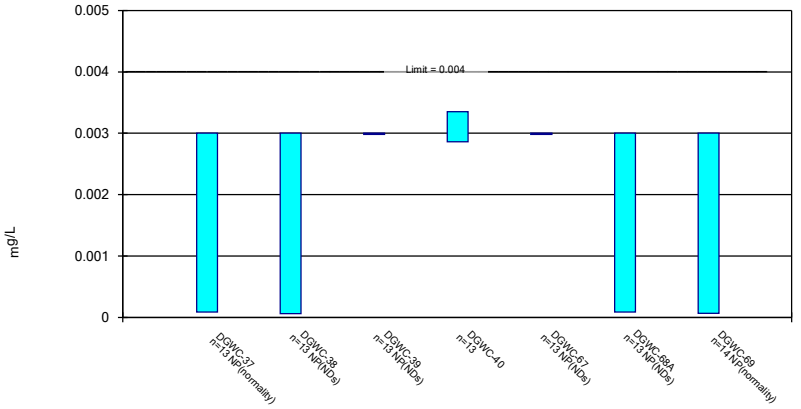


Constituent: Barium Analysis Run 10/29/2020 3:58 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

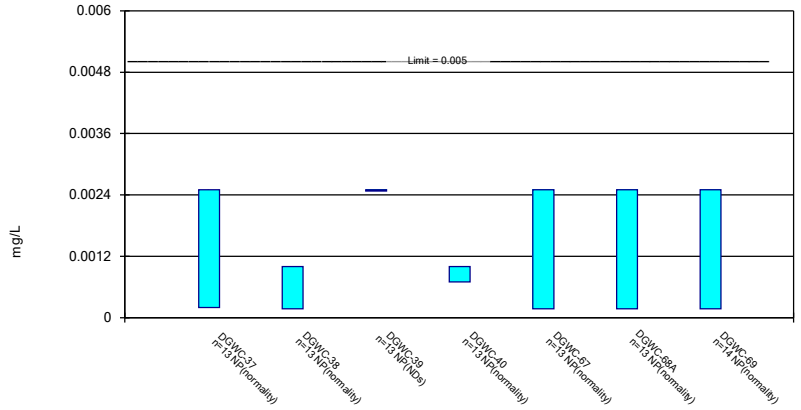
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Beryllium Analysis Run 10/29/2020 3:58 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

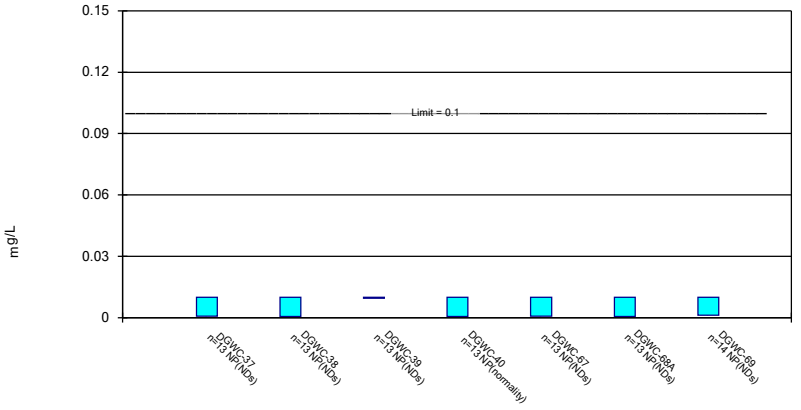


Constituent: Cadmium Analysis Run 10/29/2020 3:58 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

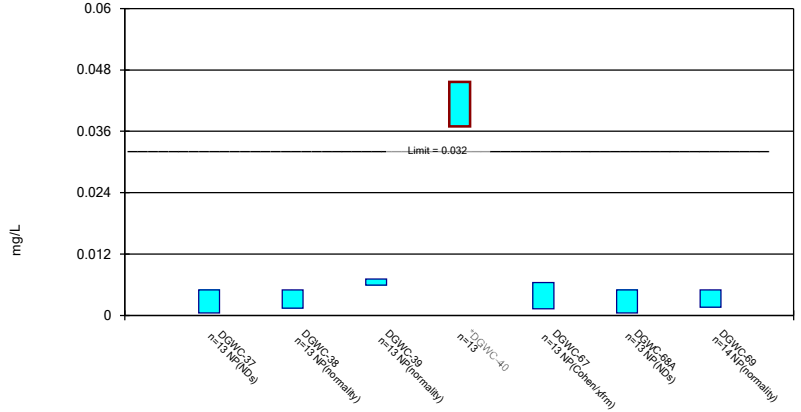


Constituent: Chromium Analysis Run 10/29/2020 3:58 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

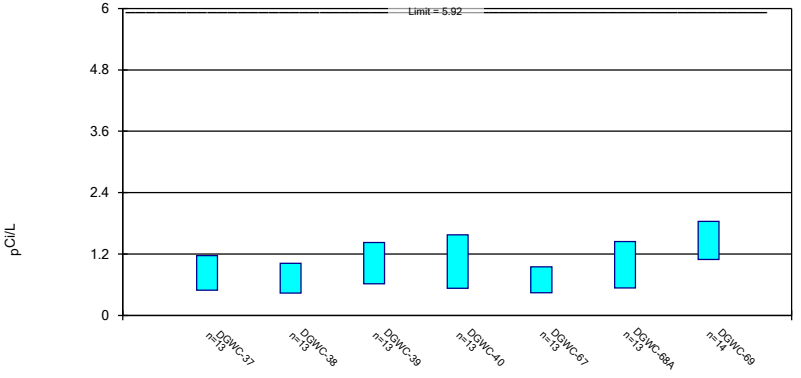


Constituent: Cobalt Analysis Run 10/29/2020 3:58 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Parametric Confidence Interval

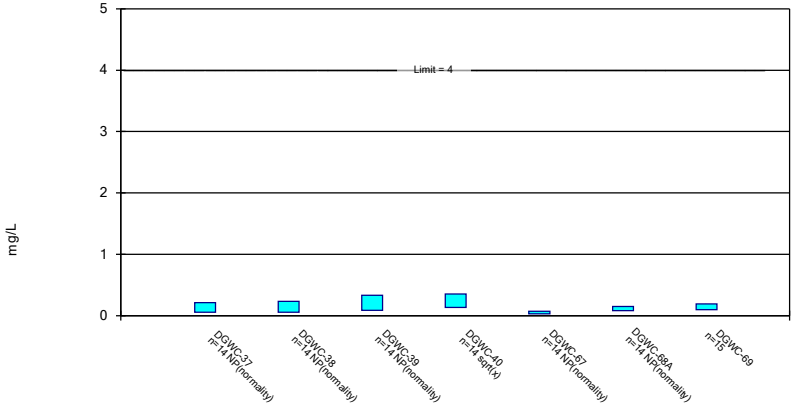
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 10/29/2020 3:58 PM View: Confidence Intervals -
Plant McDonough Client: Southern Company Data: McDonough AP

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

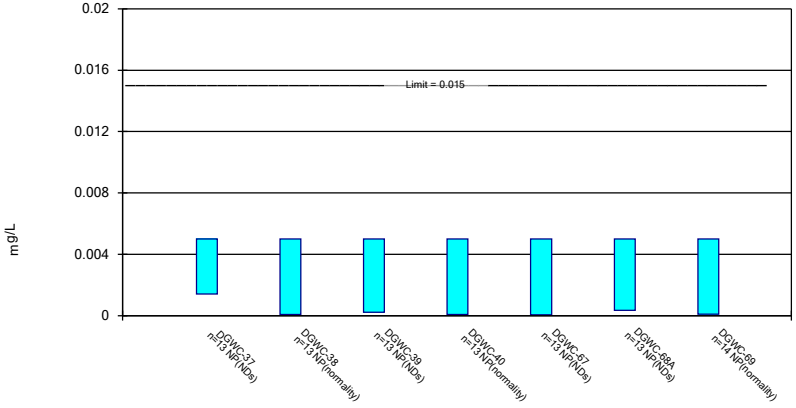


Constituent: Fluoride Analysis Run 10/29/2020 3:58 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

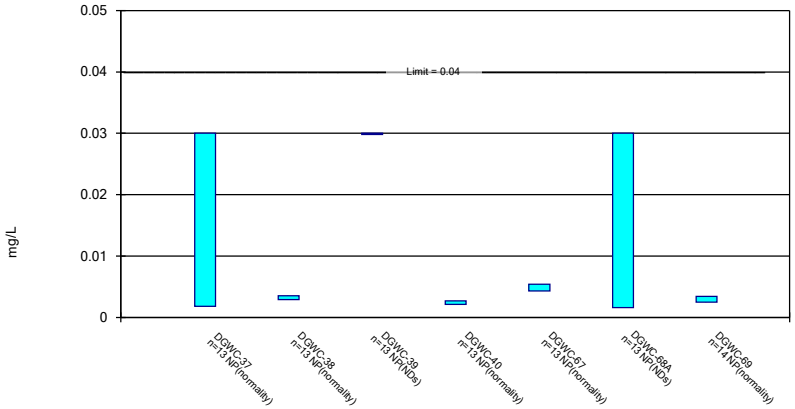


Constituent: Lead Analysis Run 10/29/2020 3:58 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

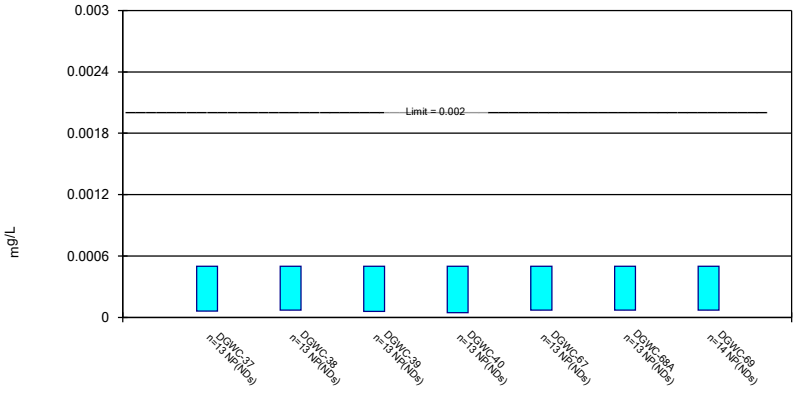


Constituent: Lithium Analysis Run 10/29/2020 3:58 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

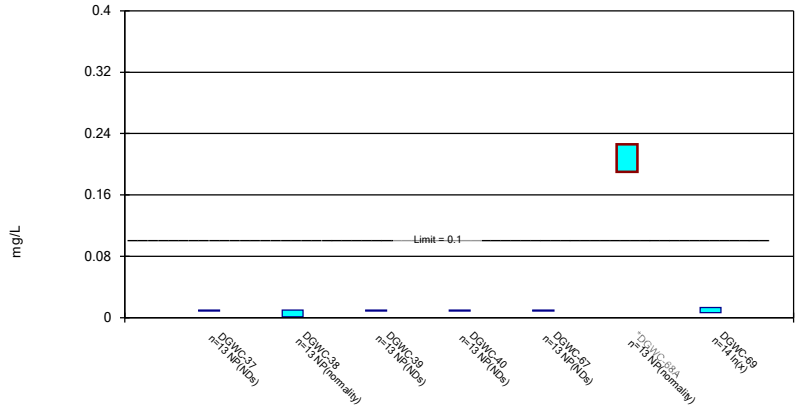
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Mercury Analysis Run 10/29/2020 3:58 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Parametric and Non-Parametric (NP) Confidence Interval

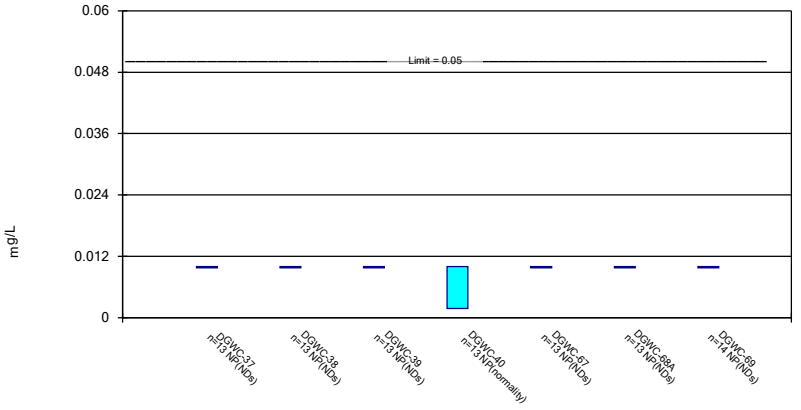
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum Analysis Run 10/29/2020 3:58 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Non-Parametric Confidence Interval

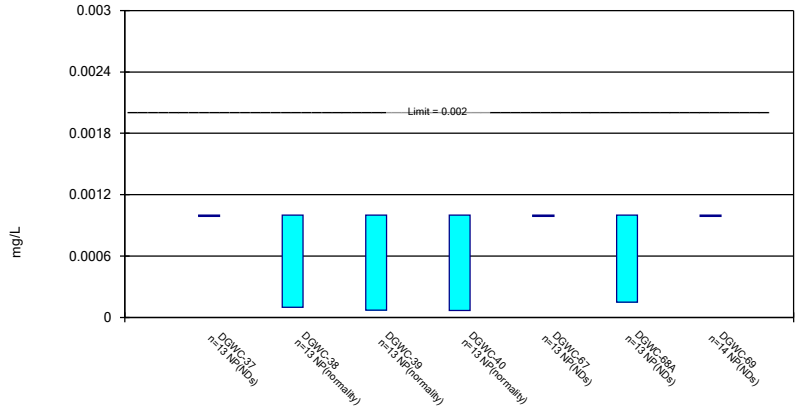
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Selenium Analysis Run 10/29/2020 3:58 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Thallium Analysis Run 10/29/2020 3:58 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

FIGURE I.

State Confidence Interval Summary - Significant Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 10/29/2020, 4:04 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	**DGWC-69**	**0.04128**	**0.01078**	**0.01**	**Yes**	**15**	**0.03475**	**0.0442**	**0**	**None**	**ln(x)**	**0.01**	**Param.**
Cobalt (mg/L)	**DGWC-40**	**0.04568**	**0.037**	**0.032**	**Yes**	**13**	**0.04134**	**0.005839**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**DGWC-68A**	**0.226**	**0.19**	**0.041**	**Yes**	**13**	**0.2118**	**0.02249**	**0**	**None**	**No**	**0.01**	**NP (normality)**

State Confidence Interval Summary - All Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 10/29/2020, 4:04 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	DGWC-37	0.003	0.003	0.006	No	12	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-38	0.003	0.003	0.006	No	12	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-39	0.003	0.003	0.006	No	12	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-40	0.003	0.003	0.006	No	12	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-67	0.003	0.0008	0.006	No	12	0.002542	0.0009327	75	None	No	0.01	NP (normality)
Antimony (mg/L)	DGWC-68A	0.003	0.0008	0.006	No	12	0.002817	0.0006351	91.67	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-69	0.003	0.0019	0.006	No	13	0.002738	0.0006838	84.62	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-37	0.005	0.0019	0.01	No	13	0.004762	0.0008598	92.31	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-38	0.005	0.0005	0.01	No	13	0.004654	0.001248	92.31	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-39	0.005	0.00057	0.01	No	13	0.002714	0.002209	46.15	None	No	0.01	NP (normality)
Arsenic (mg/L)	DGWC-40	0.005	0.00065	0.01	No	13	0.004027	0.001853	76.92	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-67	0.005	0.00042	0.01	No	13	0.004648	0.00127	92.31	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-68A	0.005	0.005	0.01	No	13	0.005	0	100	None	No	0.01	NP (NDs)
Arsenic (mg/L)	**DGWC-69**	**0.04128**	**0.01078**	**0.01**	**Yes**	**15**	**0.03475**	**0.0442**	**0**	**None**	**ln(x)**	**0.01**	**Param.**
Barium (mg/L)	DGWC-37	0.1138	0.09252	2	No	13	0.1032	0.0143	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-38	0.03369	0.03234	2	No	13	0.03302	0.0009091	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-39	0.09753	0.08432	2	No	13	0.09092	0.008879	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-40	0.01815	0.0169	2	No	13	0.01752	0.0008408	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-67	0.1131	0.1014	2	No	13	0.1072	0.007854	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-68A	0.09052	0.08674	2	No	13	0.08863	0.00254	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-69	0.1065	0.07028	2	No	14	0.08841	0.0256	0	None	No	0.01	Param.
Beryllium (mg/L)	DGWC-37	0.003	0.000086	0.004	No	13	0.002103	0.0014	69.23	None	No	0.01	NP (normality)
Beryllium (mg/L)	DGWC-38	0.003	0.000058	0.004	No	13	0.002774	0.000816	92.31	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-39	0.003	0.003	0.004	No	13	0.003	0	100	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-40	0.003353	0.002862	0.004	No	13	0.003108	0.0003303	7.692	None	No	0.01	Param.
Beryllium (mg/L)	DGWC-67	0.003	0.003	0.004	No	13	0.003	0	100	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-68A	0.003	0.000084	0.004	No	13	0.002776	0.0008088	92.31	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-69	0.003	0.000063	0.004	No	14	0.001952	0.001459	64.29	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-37	0.0025	0.0002	0.005	No	13	0.001782	0.001121	69.23	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-38	0.001	0.00017	0.005	No	13	0.0004915	0.000659	15.38	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-39	0.0025	0.0025	0.005	No	13	0.0025	0	100	None	No	0.01	NP (NDs)
Cadmium (mg/L)	DGWC-40	0.001	0.0007	0.005	No	13	0.0009608	0.0004698	15.38	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-67	0.0025	0.00017	0.005	No	13	0.001785	0.001116	69.23	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-68A	0.0025	0.00017	0.005	No	13	0.00114	0.001141	46.15	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-69	0.0025	0.00017	0.005	No	14	0.001834	0.001094	71.43	None	No	0.01	NP (normality)
Chromium (mg/L)	DGWC-37	0.01	0.0007	0.1	No	13	0.00856	0.003515	84.62	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-38	0.01	0.0005	0.1	No	13	0.007835	0.004115	76.92	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-39	0.01	0.01	0.1	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-40	0.01	0.00061	0.1	No	13	0.004332	0.004667	38.46	None	No	0.01	NP (normality)
Chromium (mg/L)	DGWC-67	0.01	0.0007	0.1	No	13	0.007852	0.004082	76.92	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-68A	0.01	0.0005	0.1	No	13	0.009269	0.002635	92.31	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-69	0.01	0.0012	0.1	No	14	0.008056	0.003865	78.57	None	No	0.01	NP (NDs)
Cobalt (mg/L)	DGWC-37	0.005	0.0005	0.032	No	13	0.003931	0.002032	76.92	None	No	0.01	NP (NDs)
Cobalt (mg/L)	DGWC-38	0.005	0.0014	0.032	No	13	0.002462	0.00246	15.38	None	No	0.01	NP (normality)
Cobalt (mg/L)	DGWC-39	0.0071	0.0059	0.032	No	13	0.006623	0.001171	15.38	None	No	0.01	NP (normality)
Cobalt (mg/L)	**DGWC-40**	**0.04568**	**0.037**	**0.032**	**Yes**	**13**	**0.04134**	**0.005839**	**0**	**None**	**No**	**0.01**	**Param.**
Cobalt (mg/L)	DGWC-67	0.0064	0.0013	0.032	No	13	0.003346	0.002605	15.38	None	No	0.01	NP (Cohens/xfrm)
Cobalt (mg/L)	DGWC-68A	0.005	0.0005	0.032	No	13	0.004023	0.001875	76.92	None	No	0.01	NP (NDs)
Cobalt (mg/L)	DGWC-69	0.005	0.0016	0.032	No	14	0.003643	0.001755	57.14	None	No	0.01	NP (normality)
Combined Radium 226 + 228 (pCi/L)	DGWC-37	1.167	0.4891	5.92	No	13	0.8278	0.4555	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-38	1.017	0.4363	5.92	No	13	0.7268	0.3906	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-39	1.426	0.6196	5.92	No	13	1.023	0.5424	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-40	1.577	0.5261	5.92	No	13	1.051	0.7064	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-67	0.9464	0.4432	5.92	No	13	0.6948	0.3384	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-68A	1.445	0.5348	5.92	No	13	0.9897	0.6118	0	None	No	0.01	Param.

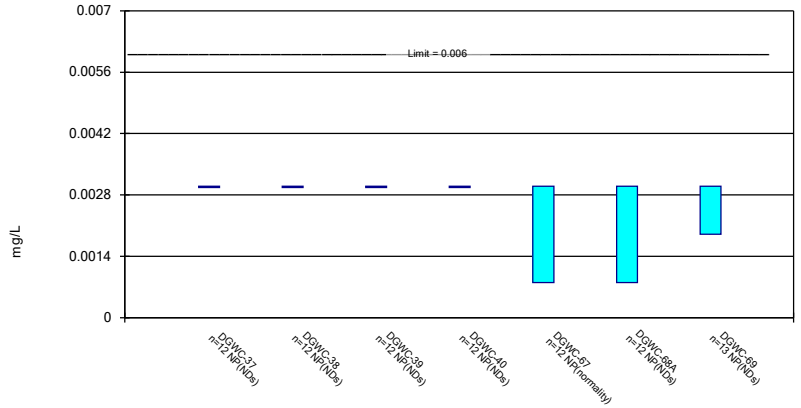
State Confidence Interval Summary - All Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 10/29/2020, 4:04 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Combined Radium 226 + 228 (pCi/L)	DGWC-69	1.838	1.093	5.92	No	14	1.465	0.526	0	None	No	0.01	Param.
Fluoride (mg/L)	DGWC-37	0.21	0.054	4	No	14	0.1059	0.08236	7.143	None	No	0.01	NP (normality)
Fluoride (mg/L)	DGWC-38	0.23	0.057	4	No	14	0.1303	0.1187	14.29	None	No	0.01	NP (normality)
Fluoride (mg/L)	DGWC-39	0.33	0.085	4	No	14	0.1649	0.1261	7.143	None	No	0.01	NP (normality)
Fluoride (mg/L)	DGWC-40	0.3518	0.134	4	No	14	0.2539	0.1665	7.143	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	DGWC-67	0.07	0.03	4	No	14	0.092	0.1301	50	None	No	0.01	NP (normality)
Fluoride (mg/L)	DGWC-68A	0.15	0.082	4	No	14	0.1321	0.07898	7.143	None	No	0.01	NP (normality)
Fluoride (mg/L)	DGWC-69	0.1918	0.09644	4	No	15	0.1441	0.07038	6.667	None	No	0.01	Param.
Lead (mg/L)	DGWC-37	0.005	0.0014	0.005	No	13	0.004343	0.001626	84.62	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-38	0.005	0.000074	0.005	No	13	0.00349	0.002357	69.23	None	No	0.01	NP (normality)
Lead (mg/L)	DGWC-39	0.005	0.00022	0.005	No	13	0.004254	0.001822	84.62	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-40	0.005	0.00007	0.005	No	13	0.002375	0.002531	46.15	None	No	0.01	NP (normality)
Lead (mg/L)	DGWC-67	0.005	0.000056	0.005	No	13	0.003861	0.002164	76.92	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-68A	0.005	0.00035	0.005	No	13	0.004642	0.00129	92.31	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-69	0.005	0.00009	0.005	No	14	0.003251	0.002436	64.29	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-37	0.03	0.0018	0.03	No	13	0.01085	0.01329	30.77	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-38	0.0035	0.0029	0.03	No	13	0.005315	0.00742	7.692	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-39	0.03	0.03	0.03	No	13	0.03	0	100	None	No	0.01	NP (NDs)
Lithium (mg/L)	DGWC-40	0.0027	0.0021	0.03	No	13	0.006546	0.01041	15.38	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-67	0.0054	0.0043	0.03	No	13	0.006592	0.007043	7.692	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-68A	0.03	0.0016	0.03	No	13	0.02782	0.007877	92.31	None	No	0.01	NP (NDs)
Lithium (mg/L)	DGWC-69	0.0034	0.0025	0.03	No	14	0.004843	0.007249	7.143	None	No	0.01	NP (normality)
Mercury (mg/L)	DGWC-37	0.0005	0.00006	0.002	No	13	0.0003996	0.000191	76.92	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-38	0.0005	0.00007	0.002	No	13	0.0003996	0.000191	76.92	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-39	0.0005	0.000059	0.002	No	13	0.0004661	0.0001223	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-40	0.0005	0.000045	0.002	No	13	0.0003984	0.0001934	76.92	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-67	0.0005	0.00007	0.002	No	13	0.0004669	0.0001193	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-68A	0.0005	0.00007	0.002	No	13	0.0004669	0.0001193	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-69	0.0005	0.00007	0.002	No	14	0.0004693	0.0001149	92.86	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	DGWC-37	0.01	0.01	0.041	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	DGWC-38	0.01	0.001	0.041	No	13	0.005875	0.004637	53.85	None	No	0.01	NP (normality)
Molybdenum (mg/L)	DGWC-39	0.01	0.01	0.041	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	DGWC-40	0.01	0.01	0.041	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	DGWC-67	0.01	0.01	0.041	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	**DGWC-68A**	**0.226**	**0.19**	**0.041**	**Yes**	**13**	**0.2118**	**0.02249**	**0**	**None**	**No**	**0.01**	**NP (normality)**
Molybdenum (mg/L)	DGWC-69	0.01331	0.006682	0.041	No	14	0.01065	0.00614	7.143	None	ln(x)	0.01	Param.
Selenium (mg/L)	DGWC-37	0.01	0.01	0.05	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-38	0.01	0.01	0.05	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-39	0.01	0.01	0.05	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-40	0.01	0.0018	0.05	No	13	0.004638	0.003361	23.08	None	No	0.01	NP (normality)
Selenium (mg/L)	DGWC-67	0.01	0.01	0.05	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-68A	0.01	0.01	0.05	No	13	0.01	0	100	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-69	0.01	0.01	0.05	No	14	0.01	0	100	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-37	0.001	0.001	0.002	No	13	0.001	0	100	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-38	0.001	0.0001	0.002	No	13	0.0004623	0.000443	38.46	None	No	0.01	NP (normality)
Thallium (mg/L)	DGWC-39	0.001	0.000071	0.002	No	13	0.0006485	0.0004629	61.54	None	No	0.01	NP (normality)
Thallium (mg/L)	DGWC-40	0.001	0.000068	0.002	No	13	0.0006406	0.0004732	61.54	None	No	0.01	NP (normality)
Thallium (mg/L)	DGWC-67	0.001	0.001	0.002	No	13	0.001	0	100	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-68A	0.001	0.00015	0.002	No	13	0.0009346	0.0002357	92.31	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-69	0.001	0.001	0.002	No	14	0.001	0	100	None	No	0.01	NP (NDs)

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Antimony Analysis Run 10/29/2020 4:02 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

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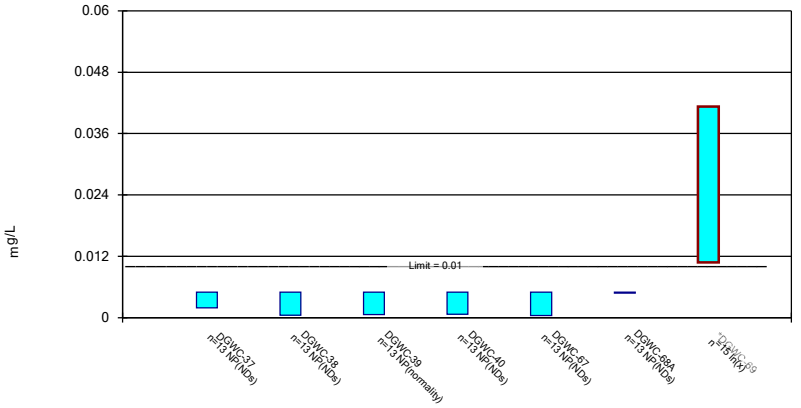
Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

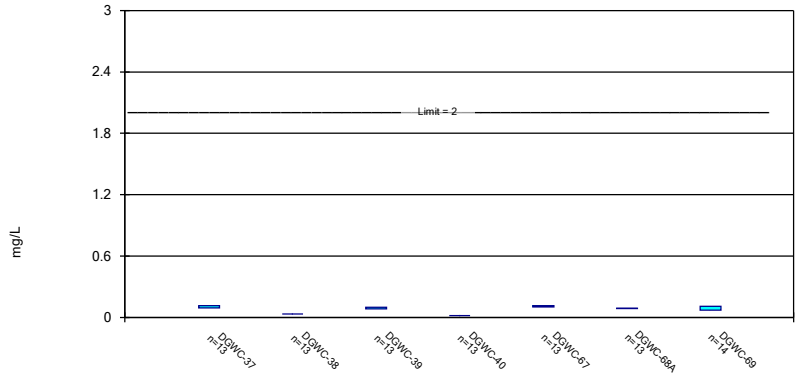


Constituent: Arsenic Analysis Run 10/29/2020 4:02 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

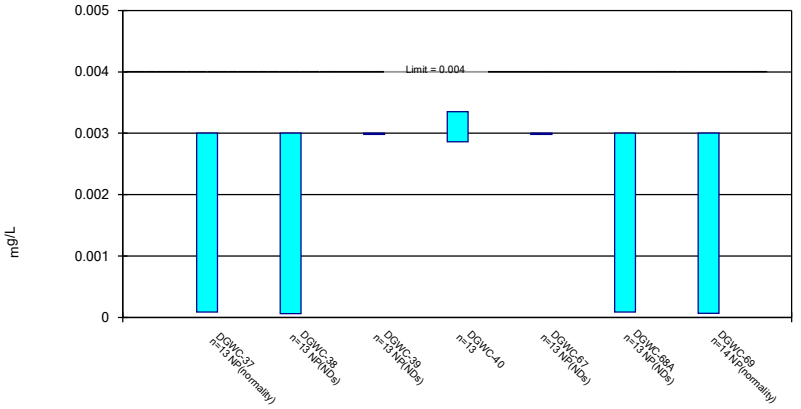


Constituent: Barium Analysis Run 10/29/2020 4:02 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

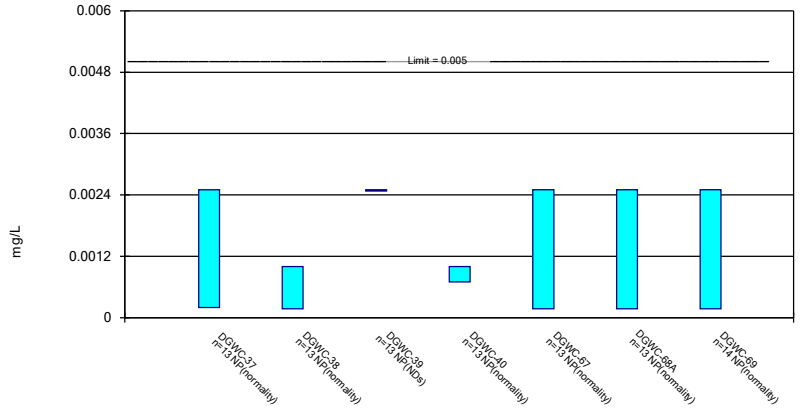
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Beryllium Analysis Run 10/29/2020 4:02 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Cadmium Analysis Run 10/29/2020 4:02 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

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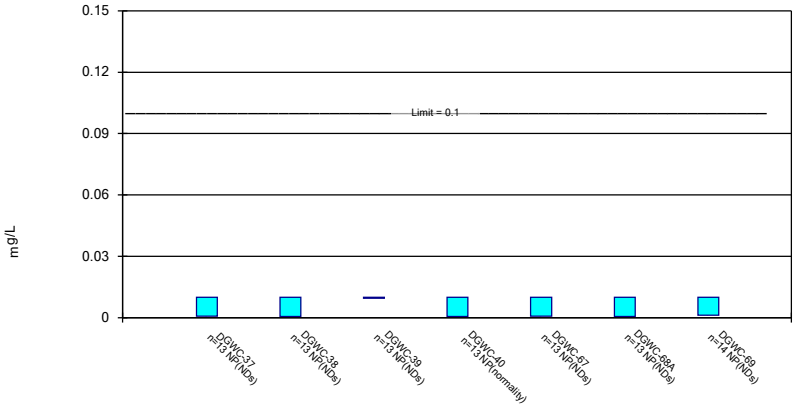
Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

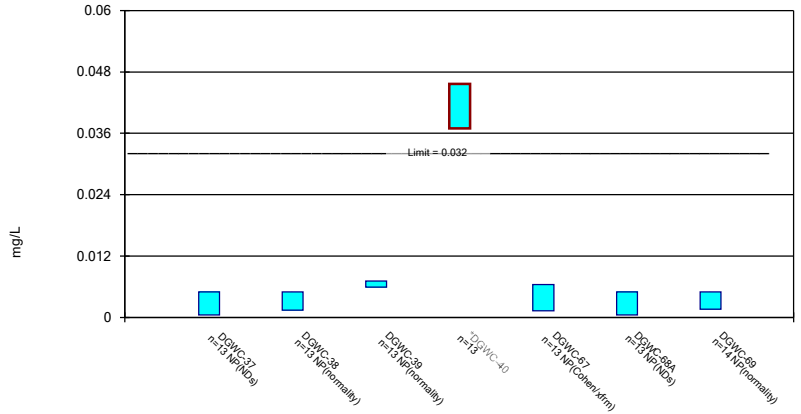


Constituent: Chromium Analysis Run 10/29/2020 4:02 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

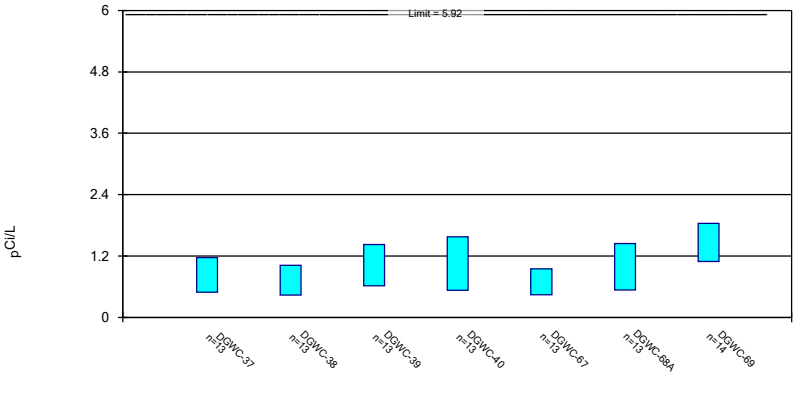


Constituent: Cobalt Analysis Run 10/29/2020 4:02 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Parametric Confidence Interval

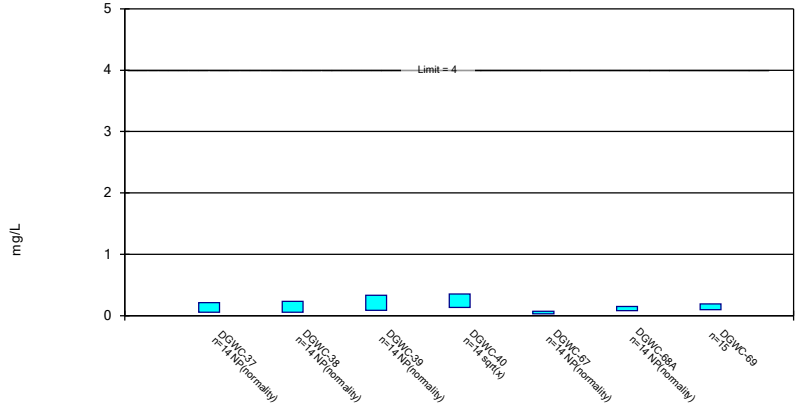
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 10/29/2020 4:02 PM View: Confidence Intervals -
Plant McDonough Client: Southern Company Data: McDonough AP

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

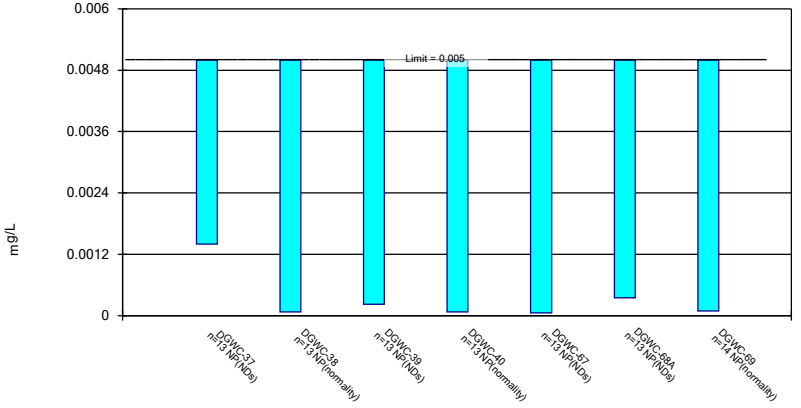


Constituent: Fluoride Analysis Run 10/29/2020 4:02 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

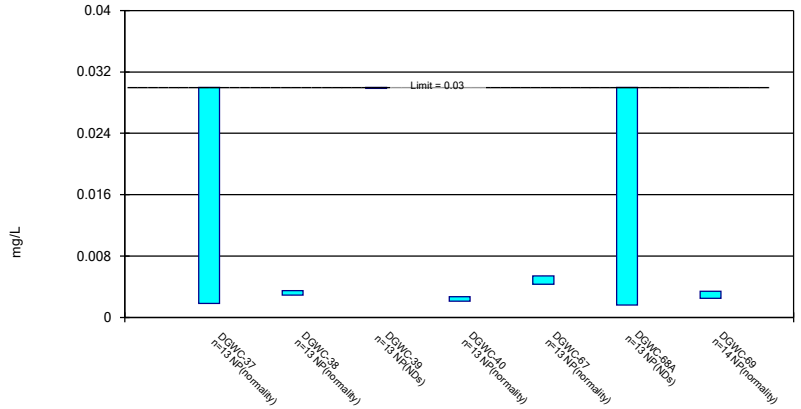


Constituent: Lead Analysis Run 10/29/2020 4:02 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

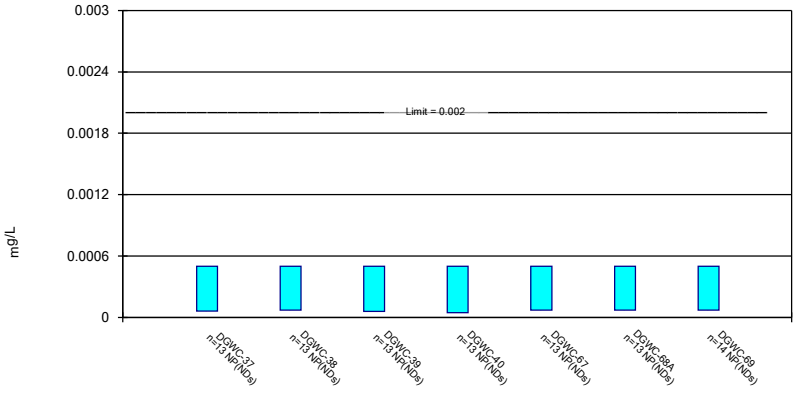


Constituent: Lithium Analysis Run 10/29/2020 4:02 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27 Sanitas software utilized by Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

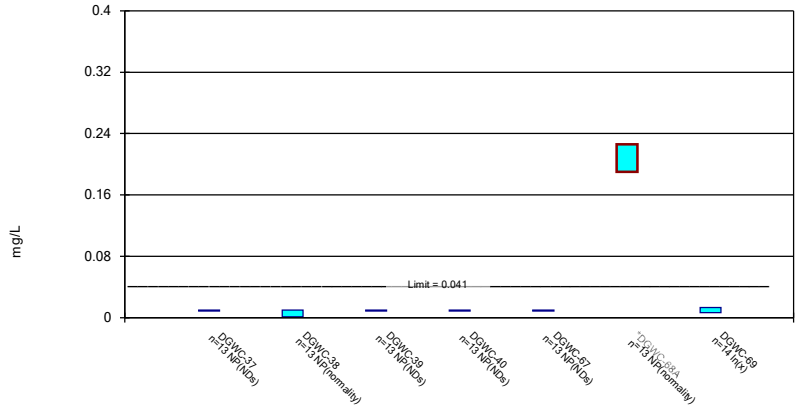
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Mercury Analysis Run 10/29/2020 4:02 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Parametric and Non-Parametric (NP) Confidence Interval

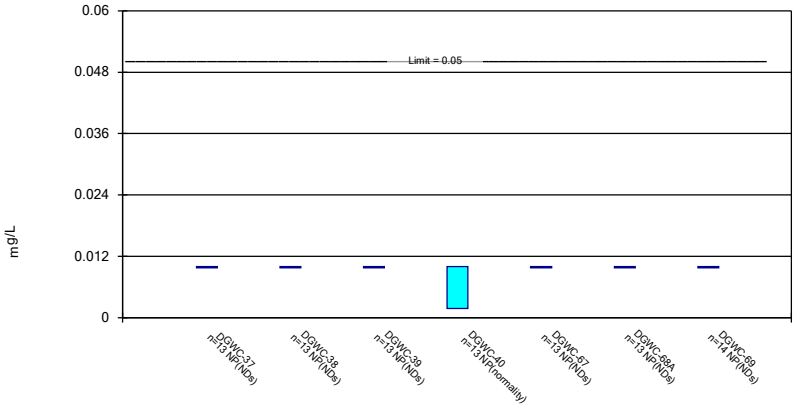
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum Analysis Run 10/29/2020 4:02 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Non-Parametric Confidence Interval

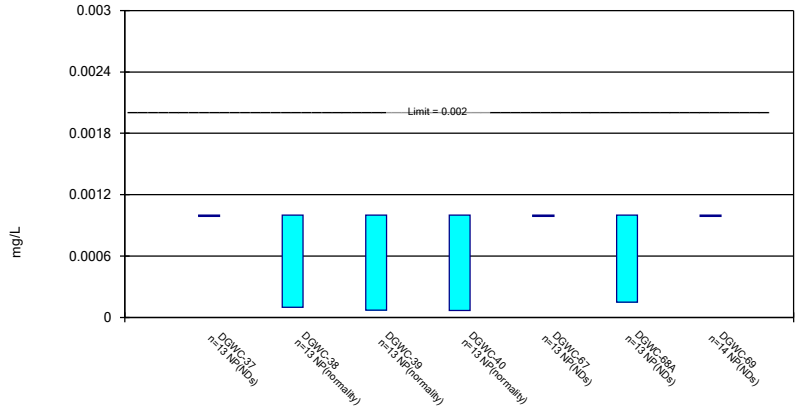
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Selenium Analysis Run 10/29/2020 4:02 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Thallium Analysis Run 10/29/2020 4:02 PM View: Confidence Intervals - AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

APPENDIX C

Statistical Analyses March 2021

GROUNDWATER STATS CONSULTING

July 27, 2021

Southern Company Services
Attn: Mr. Joju Abraham
241 Ralph McGill Blvd NE, Bin 10160
Atlanta, Georgia 30308-3374

Re: Plant McDonough Ash Pond (AP-1)
March 2021 Statistical Analysis

Dear Mr. Abraham,

Groundwater Stats Consulting, formerly the statistical consulting division of Sanitas Technologies, is pleased to provide the March 2021 Semi-Annual Groundwater Monitoring and Corrective Action Statistical summary of groundwater data for Georgia Power Company's Plant McDonough AP-1. The analysis complies with the federal rule for the Disposal of Coal Combustion Residuals from Electric Utilities (CCR Rule, 2015), the Georgia Environmental Protection Division Rules for Solid Waste Management Chapter 391-3-4-.10 and follows the United States Environmental Protection Agency (USEPA) Unified Guidance (2009).

Sampling for the Appendix III parameters began in 2016, and at least 8 background samples were collected at each of the groundwater monitoring wells. The delineation wells were installed at various times since 2020 and have limited data. Semi-annual sampling of the majority of Appendix IV constituents has been performed for the groundwater monitoring wells for several years in accordance with the Georgia Department of Natural Resources, Environmental Protection Division groundwater monitoring regulations. A list of all parameters is provided below.

The monitoring well network, as provided by Southern Company Services, consists of the following:

- **Upgradient wells:** DGWA-53, DGWA-70A, and DGWA-71
- **Downgradient wells:** DGWC-37, DGWC-38, DGWC-39, DGWC-40, DGWC-67, DGWC-68A, and DGWC-69
- **Delineation wells:** B-62, B-100, B105D, B-112D, and B-113D

Data were sent electronically to Groundwater Stats Consulting, and the statistical analysis was reviewed by Dr. Jim Loftis, Civil & Environmental Engineering professor emeritus at Colorado State University and Senior Advisor to Groundwater Stats Consulting. The analysis is prepared according to the recommended statistical methodology prepared in the Fall 2017 by Dr. Kirk Cameron, PhD Statistician with MacStat Consulting, primary author of the USEPA Unified Guidance.

The CCR program consists of the following constituents:

- **Appendix III** (Detection Monitoring) **-** boron, calcium, chloride, fluoride, pH, sulfate, and TDS
- **Appendix IV** (Assessment Monitoring) **–** antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, combined radium 226 + 228, fluoride, lead, lithium, mercury, molybdenum, selenium, and thallium

Note that when there are no detections present in downgradient wells for a given constituent, statistical analyses are not required. A summary of Appendix IV downgradient and delineation well/constituent pairs with 100% non-detects follows this letter.

Time series plots for Appendix III and IV parameters at all wells are provided for the purpose of screening data at these wells (Figure A). Additionally, a separate section of box plots is included for all constituents at upgradient and downgradient wells (Figure B). The time series plots are used to initially screen for suspected outliers and trends, while the box plots provide visual representation of variation within individual wells and between all wells. Values in background which have been flagged as outliers may be seen in a lighter font and as a disconnected symbol on the graphs. A summary of flagged outliers follows this report (Figure C).

In earlier analyses, data at all wells were evaluated for the following: 1) outliers; 2) trends; 3) most appropriate statistical method for Appendix III parameters based on site characteristics of groundwater data upgradient of the facility; and 4) eligibility of downgradient wells when intrawell statistical methods are recommended. Power curves were provided with the previous screening to demonstrate that the selected statistical methods for Appendix III parameters comply with the USEPA Unified Guidance. The EPA

suggests the selected statistical method should provide at least 55% power at 3 standard deviations or at least 80% power at 4 standard deviations.

Summary of Statistical Methods – Appendix III Parameters:

Based on the earlier evaluation described above, the following method was selected:

- Interwell prediction limits, combined with a 1-of-2 resample plan for boron, calcium, chloride, fluoride, pH, sulfate, and TDS

Parametric prediction limits are utilized when the screened historical data follow a normal or transformed-normal distribution. When data cannot be normalized or the majority of data are non-detects, a nonparametric test is utilized. While the false positive rate associated with the parametric limits is based on an annual 10% (5% per semi-annual event) as recommended by the EPA Unified Guidance (2009), the false positive rate associated with the nonparametric limits is dependent upon the available background sample size, number of future comparisons, and verification resample plan. The distribution of data is tested using the Shapiro-Wilk/Shapiro-Francia test for normality. After testing for normality and performing any adjustments as discussed below (US EPA, 2009), data are analyzed using either parametric or non-parametric prediction limits.

- No statistical analyses are required on wells and analytes containing 100% non-detects (USEPA Unified Guidance, 2009, Chapter 6).
- When data contain <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 quantification limit (PQL) as reported by the laboratory.
- When data contain between 15-50% non-detects, the Kaplan-Meier non-detect adjustment is applied to the background data. This technique adjusts the mean and standard deviation of the historical concentrations to account for concentrations below the reporting limit.
- Nonparametric prediction limits are used on data containing greater than 50% non-detects.

Natural systems continuously evolve due to physical changes made to the environment. Examples include capping a landfill, paving areas near a well, or lining a drainage channel to prevent erosion. Periodic updating of background statistical limits is necessary to accommodate these types of changes. In the interwell case, prediction limits are updated with upgradient well data during each event after careful screening for any new outliers. In the intrawell case, data for all wells and constituents may be re-evaluated when a

minimum of 4 new data points are available to determine whether earlier concentrations are representative of present-day groundwater quality. In some cases, the earlier portion of data are deselected prior to construction of limits to provide sensitive limits that will rapidly detect changes in groundwater quality. Even though the data are excluded from the calculation, the values will continue to be reported and shown in tables and graphs.

Summary of Background Screening – Conducted in March 2019

Outlier and Trend Testing

Time series plots are used to identify suspected outliers, or extreme values that would result in limits that are not representative of the current background data population. Suspected outliers at all wells for Appendix III and Appendix IV parameters are formally tested using Tukey's box plot method and, when identified, flagged in the computer database with "o" and deselected prior to construction of statistical limits.

Using the Tukey box plot method, several outliers were identified, and the reports were submitted with the screening. In cases where the most recent value was identified as an outlier, values were not flagged in the database at that time as they may represent a future trend. If future values do not remain at similar concentrations, these values will be flagged as outliers and deselected. Several low values exist in the data sets and appear on the graphs as possible low outliers relative to the laboratory's Practical Quantitation Limit. However, these values are observed trace values (i.e. measurements reported by the laboratory between the Method Detection Limit and the Practical Quantitation Limit) and, therefore, were not flagged as outliers.

Of the outliers identified by Tukey's method, only a few of these values were flagged in the database as all other values are similar to remaining measurements within a given well or neighboring wells or were non-detects.

Additionally, when any values are flagged in the database as outliers, they are plotted in a disconnected and lighter symbol on the time series graph. The accompanying data pages display the flagged value in a lighter font as well. A substitution of the most recent reporting limit was applied when varying detection limits existed in data. When the reporting limit was higher than the Regional Screening Levels discussed below, non-detects were substituted with one half the reporting limit.

No obvious seasonal patterns were observed on the time series plots for any of the detected data; therefore, no deseasonalizing adjustments were made to the data. When seasonal patterns are observed, data may be deseasonalized so that the resulting limits

will correctly account for the seasonality as a predictable pattern rather than random variation or a release.

While trends may be identified by visual inspection, a quantification of the trend and its significance is needed. The Sen's Slope/Mann Kendall trend test was used to evaluate all data at each well to identify statistically significant increasing or decreasing trends. In the absence of suspected contamination, significant trending data are typically not included as part of the background data used for construction of prediction limits. This step serves to eliminate the trend and, thus, reduce variation in background. When statistically significant decreasing trends are present, all available data are evaluated to determine whether earlier concentration levels are significantly different than current reported concentrations and will be deselected as necessary. When any records of data are truncated for the reasons above, a summary report will be provided to show the date ranges used in construction of the statistical limits.

The results of the trend analyses were included with the previous screening and showed two statistically significant decreasing trends for the Appendix III parameters. The only trend identified in the upgradient wells was a statistically significant decreasing trend for sulfate in well DGWA-71. All trends noted were relatively low in magnitude when compared to average concentrations; therefore, no adjustments were made to the data sets.

Appendix III – Determination of Spatial Variation

The Analysis of Variance (ANOVA) was used to statistically evaluate differences in average concentrations among upgradient wells, which assists in identifying the most appropriate statistical approach. Interwell tests, which compare downgradient well data to statistical limits constructed from pooled upgradient well data, are appropriate when average concentrations are similar across upgradient wells. Intrawell tests, which compare compliance data from a single well to screened historical data within the same well, are appropriate when upgradient wells exhibit spatial variation; when statistical limits constructed from upgradient wells are not representative of the current background data population; and when downgradient water quality is unimpacted compared to upgradient water quality for the same parameter.

The ANOVA identified no variation among upgradient well data for fluoride, making this constituent eligible for interwell analyses. Variation was noted for boron, calcium, chloride, pH, sulfate, and TDS which would indicate intrawell analyses may be most appropriate for these parameters. While data were further tested for intrawell eligibility during the

screening, interwell methods will be used for all Appendix III constituents in accordance with Georgia EPD requirements.

Statistical Analysis of Appendix III Parameters – March 2021

Interwell prediction limits, combined with a 1-of-2 resample plan, were constructed using all historical upgradient well data through March 2021 (Figure D). Interwell prediction limits pool upgradient well data to establish a background limit for an individual constituent. The most recent sample from each downgradient well is compared to the background limit to determine whether there are statistically significant increases (SSIs).

In the event of an initial exceedance of compliance well data, the 1-of-2 resample plan allows for collection of one additional sample to determine whether the initial exceedance is confirmed. When a resample confirms the initial exceedance, a statistically significant increase is identified, and further research would be required to identify the cause of the exceedance (i.e. impact from the site, natural variation, or an off-site source). If the resample falls within the statistical limit, the initial exceedance is considered to be a false positive result. Therefore, no exceedance is noted, and no further action is necessary. If no resample is collected, the original result is considered a confirmed exceedance. Several prediction limit exceedances were noted for Appendix III parameters. A summary table of the interwell prediction limits follows this letter. Note that the table shows the prediction limits rounded to two significant digits for all parameters.

When prediction limit exceedances are identified in downgradient wells, data are further evaluated using the Sen's Slope/Mann Kendall trend test to determine whether concentrations are statistically increasing, decreasing, or stable (Figure E). Upgradient wells are included in the trend analyses for all parameters found to exceed their prediction limit in downgradient wells. Similar patterns that are present in both upgradient and downgradient wells are an indication of natural variability in groundwater quality, unrelated to practices at the site. A summary of the trend test results follows this letter. Statistically significant trends were noted for the following well/constituent pairs:

Increasing trends:

- Chloride: DGWC-67

Decreasing trends:

- Calcium: DGWA-53 (upgradient)
- Chloride: DGWC-39
- Sulfate: DGWA-70A (upgradient), DGWA-71 (upgradient), DGWC-37, DGWC-39, and DGWC-68A
- TDS: DGWA-53 (upgradient)

Statistical Analysis of Appendix IV Parameters – March 2021

Interwell tolerance limits were used to calculate the site-specific background limits from pooled upgradient well data for Appendix IV constituents (Figure F). Parametric tolerance limits are used when data follow a normal or transformed-normal distribution such as for barium and radium. When data contained greater than 50% non-detects or did not follow a normal or transformed-normal distribution, non-parametric tolerance limits were used. The background limits were then used when determining the groundwater protection standard (GWPS) under 40 CFR §257.95(h) and Georgia EPD Rule 391-3-4-.10(6)(a) (Figure G).

As described in 40 CFR §257.95(h) (1-3), the GWPS is:

- The maximum contaminant level (MCL) established under §141.62 and §141.66 of this title
- Where an MCL has not been established for a constituent, CCR-rule specified level (RSLs) have been specified for cobalt (0.006 mg/L), lead (0.015 mg/L), lithium (0.040 mg/L), and molybdenum (0.100 mg/L)
- The respective background level for a constituent when the background level is higher than the MCL or Federal CCR Rule identified GWPS

On July 30, 2018, USEPA revised the Federal CCR rule updating GWPS for cobalt, lead, lithium, and molybdenum as described above in 40 CFR §257.95(h)(2). Georgia EPD has not incorporated the updated GWPS into the current Georgia EPD Rules for Solid Waste Management 391-3-4-.10(6)(a); therefore, for sites regulated under Georgia EPD Rules, the GWPS is:

- The MCL or
- The background concentration when an MCL is not established or when the background concentration is higher than the MCL.

Following the above Georgia EPD Rule requirements, GWPS were established for statistical comparison of Appendix IV constituents for the March 2021 sample event for the federal and state rules (Figure G).

To complete the statistical comparison to GWPS, confidence intervals were constructed for each of the Appendix IV constituents in accordance with the federal and state requirements in each downgradient well (Figures H and I, respectively). Note that confidence intervals require a minimum of 4 samples and, in many cases, the delineation wells had insufficient samples at this time. The Sanitas software was used to calculate the

tolerance limits and the confidence intervals. Due to the required transformations to fit the data to a transformed normal distribution, the lower confidence limit resulted in a negative number for cobalt at delineation well B-100. Therefore, non-parametric confidence intervals were constructed for this well/constituent pair and may be found at the end of Figures H and I. This is a more conservative approach in that the lower confidence limit reflects the lowest reported measurement in the data set rather than a negative number.

Those confidence intervals were compared to the GWPS established using the CCR Rules for the federal requirements and the Georgia EPD Rules 391-3-4-.10(6)(a) for the State requirements. Only when the entire confidence interval is above a GWPS is the downgradient well/constituent pair considered to exceed its respective standard. If there is an exceedance of the GWPS, a statistically significant level (SSL) exceedance is identified.

Note that reporting limits have decreased for the following constituents since the previous analysis:

- Beryllium from <0.003 mg/L to <0.0005 mg/L
- Cadmium from <0.0025 mg/L to <0.0005 mg/L
- Chromium from <0.01 mg/L to <0.005 mg/L
- Lead from <0.005 mg/L to <0.001 mg/L
- Mercury from <0.0005 to <0.0002 mg/L
- Selenium from <0.01 mg/L to <0.005 mg/L

As a result, background limits calculated from pooled upgradient well data were lower for these constituents. However, in all of the cases where reporting limits decreased, except for lead which uses the background limit as the state GWPS, the established MCL was higher than the background limits. Therefore, the GWPS were not affected except for lead. Additionally, some of the confidence intervals constructed on downgradient wells changed slightly since all historical non-detects within a given well are replaced with the most recent reporting limit. However, the changes did not affect the exceedances (listed below) which are the same as those in the previous analysis.

A summary of the confidence intervals follows this letter. Exceedances were noted for the following well/constituent pairs:

Federal & State:

- Arsenic: DGWC-69
- Cobalt: DGWC-40
- Molybdenum: DGWC-68A

Thank you for the opportunity to assist you in the statistical analysis of groundwater quality for McDonough Ash Pond 1. If you have any questions or comments, please feel free to contact me.

For Groundwater Stats Consulting,

Kristina L. Rayner
Groundwater Statistician

100% Non-Detects - Downgradient & Delineation Wells

Analysis Run 7/22/2021 11:22 AM View: 100% Nondetects - Downgradient Wells
Plant McDonough Client: Southern Company Data: McDonough AP

Arsenic (mg/L)
DGWC-68A, B-62, B-100

Beryllium (mg/L)
DGWA-53, DGWC-39, DGWC-67, B-105D

Cadmium (mg/L)
DGWA-71, DGWC-39, B-62, B-105D

Chromium (mg/L)
DGWA-53, DGWC-39, B-62, B-105D

Cobalt (mg/L)
B-62

Fluoride (mg/L)
B-100

Lead (mg/L)
DGWA-53, B-62

Lithium (mg/L)
DGWC-39

Mercury (mg/L)
B-62

Molybdenum (mg/L)
DGWA-70A, DGWC-37, DGWC-39, DGWC-40, DGWC-67, B-62, B-100

Selenium (mg/L)
DGWA-53, DGWA-70A, DGWA-71, DGWC-37, DGWC-39, DGWC-69, B-62, B-105D

Thallium (mg/L)
DGWA-53, DGWC-37, DGWC-67, DGWC-69, B-62, B-100, B-105D

Interwell Prediction Limits - Significant Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 4/21/2021, 8:16 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	DGWC-37	0.13	n/a	3/11/2021	1.4	Yes	38	n/a	n/a	23.68	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Boron (mg/L)	DGWC-38	0.13	n/a	3/11/2021	2.7	Yes	38	n/a	n/a	23.68	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Boron (mg/L)	DGWC-39	0.13	n/a	3/11/2021	2.5	Yes	38	n/a	n/a	23.68	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Boron (mg/L)	DGWC-40	0.13	n/a	3/8/2021	0.72	Yes	38	n/a	n/a	23.68	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Boron (mg/L)	DGWC-67	0.13	n/a	3/11/2021	3.4	Yes	38	n/a	n/a	23.68	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Boron (mg/L)	DGWC-68A	0.13	n/a	3/10/2021	1.7	Yes	38	n/a	n/a	23.68	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Calcium (mg/L)	DGWC-37	40	n/a	3/11/2021	56	Yes	38	n/a	n/a	5.263	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Calcium (mg/L)	DGWC-38	40	n/a	3/11/2021	85.8	Yes	38	n/a	n/a	5.263	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Calcium (mg/L)	DGWC-39	40	n/a	3/11/2021	91.9	Yes	38	n/a	n/a	5.263	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Calcium (mg/L)	DGWC-40	40	n/a	3/8/2021	44.9	Yes	38	n/a	n/a	5.263	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Calcium (mg/L)	DGWC-67	40	n/a	3/11/2021	45.4	Yes	38	n/a	n/a	5.263	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Calcium (mg/L)	DGWC-68A	40	n/a	3/10/2021	54.2	Yes	38	n/a	n/a	5.263	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Chloride (mg/L)	DGWC-37	4.3	n/a	3/11/2021	5.6	Yes	40	1.631	0.2231	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	DGWC-38	4.3	n/a	3/11/2021	8	Yes	40	1.631	0.2231	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	DGWC-39	4.3	n/a	3/11/2021	7.7	Yes	40	1.631	0.2231	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	DGWC-40	4.3	n/a	3/8/2021	19.1	Yes	40	1.631	0.2231	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	DGWC-67	4.3	n/a	3/11/2021	7.4	Yes	40	1.631	0.2231	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	DGWC-69	4.3	n/a	3/10/2021	5	Yes	40	1.631	0.2231	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
pH (SU)	DGWC-39	6.6	5.2	3/11/2021	6.66	Yes	47	5.901	0.3346	0	None	No	0.0005373	Param Inter 1 of 2
pH (SU)	DGWC-40	6.6	5.2	3/8/2021	4.79	Yes	47	5.901	0.3346	0	None	No	0.0005373	Param Inter 1 of 2
pH (SU)	DGWC-68A	6.6	5.2	3/10/2021	6.74	Yes	47	5.901	0.3346	0	None	No	0.0005373	Param Inter 1 of 2
Sulfate (mg/L)	DGWC-37	30	n/a	3/11/2021	81.9	Yes	40	2.59	1.452	10	None	sqrt(x)	0.001075	Param Inter 1 of 2
Sulfate (mg/L)	DGWC-38	30	n/a	3/11/2021	154	Yes	40	2.59	1.452	10	None	sqrt(x)	0.001075	Param Inter 1 of 2
Sulfate (mg/L)	DGWC-39	30	n/a	3/11/2021	123	Yes	40	2.59	1.452	10	None	sqrt(x)	0.001075	Param Inter 1 of 2
Sulfate (mg/L)	DGWC-40	30	n/a	3/8/2021	191	Yes	40	2.59	1.452	10	None	sqrt(x)	0.001075	Param Inter 1 of 2
Sulfate (mg/L)	DGWC-67	30	n/a	3/11/2021	76.7	Yes	40	2.59	1.452	10	None	sqrt(x)	0.001075	Param Inter 1 of 2
Sulfate (mg/L)	DGWC-68A	30	n/a	3/10/2021	38.4	Yes	40	2.59	1.452	10	None	sqrt(x)	0.001075	Param Inter 1 of 2
TDS (mg/L)	DGWC-38	270	n/a	3/11/2021	463	Yes	39	4.589	0.9669	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
TDS (mg/L)	DGWC-39	270	n/a	3/11/2021	440	Yes	39	4.589	0.9669	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
TDS (mg/L)	DGWC-40	270	n/a	3/8/2021	346	Yes	39	4.589	0.9669	0	None	x^(1/3)	0.001075	Param Inter 1 of 2

Interwell Prediction Limits - All Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 4/21/2021, 8:16 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	**DGWC-37**	**0.13**	**n/a**	**3/11/2021**	**1.4**	**38**	**n/a**	**n/a**	**23.68**	**n/a**	**n/a**	**0.00125**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**DGWC-38**	**0.13**	**n/a**	**3/11/2021**	**2.7**	**38**	**n/a**	**n/a**	**23.68**	**n/a**	**n/a**	**0.00125**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**DGWC-39**	**0.13**	**n/a**	**3/11/2021**	**2.5**	**38**	**n/a**	**n/a**	**23.68**	**n/a**	**n/a**	**0.00125**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**DGWC-40**	**0.13**	**n/a**	**3/8/2021**	**0.72**	**38**	**n/a**	**n/a**	**23.68**	**n/a**	**n/a**	**0.00125**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**DGWC-67**	**0.13**	**n/a**	**3/11/2021**	**3.4**	**38**	**n/a**	**n/a**	**23.68**	**n/a**	**n/a**	**0.00125**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**DGWC-68A**	**0.13**	**n/a**	**3/10/2021**	**1.7**	**38**	**n/a**	**n/a**	**23.68**	**n/a**	**n/a**	**0.00125**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	DGWC-69	0.13	n/a	3/10/2021	0.024J	38	n/a	n/a	23.68	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Calcium (mg/L)	**DGWC-37**	**40**	**n/a**	**3/11/2021**	**56**	**38**	**n/a**	**n/a**	**5.263**	**n/a**	**n/a**	**0.00125**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**DGWC-38**	**40**	**n/a**	**3/11/2021**	**85.8**	**38**	**n/a**	**n/a**	**5.263**	**n/a**	**n/a**	**0.00125**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**DGWC-39**	**40**	**n/a**	**3/11/2021**	**91.9**	**38**	**n/a**	**n/a**	**5.263**	**n/a**	**n/a**	**0.00125**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**DGWC-40**	**40**	**n/a**	**3/8/2021**	**44.9**	**38**	**n/a**	**n/a**	**5.263**	**n/a**	**n/a**	**0.00125**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**DGWC-67**	**40**	**n/a**	**3/11/2021**	**45.4**	**38**	**n/a**	**n/a**	**5.263**	**n/a**	**n/a**	**0.00125**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**DGWC-68A**	**40**	**n/a**	**3/10/2021**	**54.2**	**38**	**n/a**	**n/a**	**5.263**	**n/a**	**n/a**	**0.00125**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	DGWC-69	40	n/a	3/10/2021	8.5	38	n/a	n/a	5.263	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Chloride (mg/L)	**DGWC-37**	**4.3**	**n/a**	**3/11/2021**	**5.6**	**40**	**1.631**	**0.2231**	**0**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Chloride (mg/L)	**DGWC-38**	**4.3**	**n/a**	**3/11/2021**	**8**	**40**	**1.631**	**0.2231**	**0**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Chloride (mg/L)	**DGWC-39**	**4.3**	**n/a**	**3/11/2021**	**7.7**	**40**	**1.631**	**0.2231**	**0**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Chloride (mg/L)	**DGWC-40**	**4.3**	**n/a**	**3/8/2021**	**19.1**	**40**	**1.631**	**0.2231**	**0**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Chloride (mg/L)	**DGWC-67**	**4.3**	**n/a**	**3/11/2021**	**7.4**	**40**	**1.631**	**0.2231**	**0**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Chloride (mg/L)	DGWC-68A	4.3	n/a	3/10/2021	3.6	40	1.631	0.2231	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	**DGWC-69**	**4.3**	**n/a**	**3/10/2021**	**5**	**40**	**1.631**	**0.2231**	**0**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Fluoride (mg/L)	DGWC-37	0.42	n/a	3/11/2021	0.057J	45	n/a	n/a	51.11	n/a	n/a	0.0009303	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	DGWC-38	0.42	n/a	3/11/2021	0.058J	45	n/a	n/a	51.11	n/a	n/a	0.0009303	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	DGWC-39	0.42	n/a	3/11/2021	0.083J	45	n/a	n/a	51.11	n/a	n/a	0.0009303	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	DGWC-40	0.42	n/a	3/8/2021	0.17	45	n/a	n/a	51.11	n/a	n/a	0.0009303	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	DGWC-67	0.42	n/a	3/11/2021	0.1ND	45	n/a	n/a	51.11	n/a	n/a	0.0009303	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	DGWC-68A	0.42	n/a	3/10/2021	0.07J	45	n/a	n/a	51.11	n/a	n/a	0.0009303	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	DGWC-69	0.42	n/a	3/10/2021	0.055J	45	n/a	n/a	51.11	n/a	n/a	0.0009303	NP Inter (NDs) 1 of 2
pH (SU)	DGWC-37	6.6	5.2	3/11/2021	6.49	47	5.901	0.3346	0	None	No	0.0005373	Param Inter 1 of 2
pH (SU)	DGWC-38	6.6	5.2	3/11/2021	6.22	47	5.901	0.3346	0	None	No	0.0005373	Param Inter 1 of 2
pH (SU)	**DGWC-39**	**6.6**	**5.2**	**3/11/2021**	**6.66**	**47**	**5.901**	**0.3346**	**0**	**None**	**No**	**0.0005373**	**Param Inter 1 of 2**
pH (SU)	**DGWC-40**	**6.6**	**5.2**	**3/8/2021**	**4.79**	**47**	**5.901**	**0.3346**	**0**	**None**	**No**	**0.0005373**	**Param Inter 1 of 2**
pH (SU)	DGWC-67	6.6	5.2	3/11/2021	6.28	47	5.901	0.3346	0	None	No	0.0005373	Param Inter 1 of 2
pH (SU)	**DGWC-68A**	**6.6**	**5.2**	**3/10/2021**	**6.74**	**47**	**5.901**	**0.3346**	**0**	**None**	**No**	**0.0005373**	**Param Inter 1 of 2**
pH (SU)	DGWC-69	6.6	5.2	3/10/2021	6.13	47	5.901	0.3346	0	None	No	0.0005373	Param Inter 1 of 2
Sulfate (mg/L)	**DGWC-37**	**30**	**n/a**	**3/11/2021**	**81.9**	**40**	**2.59**	**1.452**	**10**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Sulfate (mg/L)	**DGWC-38**	**30**	**n/a**	**3/11/2021**	**154**	**40**	**2.59**	**1.452**	**10**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Sulfate (mg/L)	**DGWC-39**	**30**	**n/a**	**3/11/2021**	**123**	**40**	**2.59**	**1.452**	**10**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Sulfate (mg/L)	**DGWC-40**	**30**	**n/a**	**3/8/2021**	**191**	**40**	**2.59**	**1.452**	**10**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Sulfate (mg/L)	**DGWC-67**	**30**	**n/a**	**3/11/2021**	**76.7**	**40**	**2.59**	**1.452**	**10**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Sulfate (mg/L)	**DGWC-68A**	**30**	**n/a**	**3/10/2021**	**38.4**	**40**	**2.59**	**1.452**	**10**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Sulfate (mg/L)	DGWC-69	30	n/a	3/10/2021	6.4	40	2.59	1.452	10	None	sqrt(x)	0.001075	Param Inter 1 of 2
TDS (mg/L)	DGWC-37	270	n/a	3/11/2021	255	39	4.589	0.9669	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
TDS (mg/L)	**DGWC-38**	**270**	**n/a**	**3/11/2021**	**463**	**39**	**4.589**	**0.9669**	**0**	**None**	**x^(1/3)**	**0.001075**	**Param Inter 1 of 2**
TDS (mg/L)	**DGWC-39**	**270**	**n/a**	**3/11/2021**	**440**	**39**	**4.589**	**0.9669**	**0**	**None**	**x^(1/3)**	**0.001075**	**Param Inter 1 of 2**
TDS (mg/L)	**DGWC-40**	**270**	**n/a**	**3/8/2021**	**346**	**39**	**4.589**	**0.9669**	**0**	**None**	**x^(1/3)**	**0.001075**	**Param Inter 1 of 2**
TDS (mg/L)	DGWC-67	270	n/a	3/11/2021	265	39	4.589	0.9669	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
TDS (mg/L)	DGWC-68A	270	n/a	3/10/2021	232	39	4.589	0.9669	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
TDS (mg/L)	DGWC-69	270	n/a	3/10/2021	78	39	4.589	0.9669	0	None	x^(1/3)	0.001075	Param Inter 1 of 2

Trend Test Summary - Significant Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 4/21/2021, 8:57 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Calcium (mg/L)	**DGWA-53 (bg)**	**-5.014**	**-48**	**-43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	**DGWC-39**	**-0.3269**	**-57**	**-43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	**DGWC-67**	**0.4626**	**58**	**43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**DGWA-70A (bg)**	**-0.3043**	**-45**	**-43**	**Yes**	**13**	**30.77**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**DGWA-71 (bg)**	**-1.74**	**-61**	**-43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**DGWC-37**	**-4.243**	**-39**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**DGWC-39**	**-28.94**	**-48**	**-43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**DGWC-68A**	**-3.399**	**-55**	**-43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
TDS (mg/L)	**DGWA-53 (bg)**	**-28.3**	**-53**	**-43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**

Trend Test Summary - All Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 4/21/2021, 8:57 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	DGWA-53 (bg)	-0.001444	-11	-43	No	13	0	n/a	n/a	0.01	NP
Boron (mg/L)	DGWA-70A (bg)	0	8	43	No	13	53.85	n/a	n/a	0.01	NP
Boron (mg/L)	DGWA-71 (bg)	-0.0006707	-11	-38	No	12	16.67	n/a	n/a	0.01	NP
Boron (mg/L)	DGWC-37	-0.08613	-26	-43	No	13	0	n/a	n/a	0.01	NP
Boron (mg/L)	DGWC-38	-0.03456	-12	-43	No	13	0	n/a	n/a	0.01	NP
Boron (mg/L)	DGWC-39	-0.09433	-30	-43	No	13	0	n/a	n/a	0.01	NP
Boron (mg/L)	DGWC-40	-0.03086	-35	-43	No	13	0	n/a	n/a	0.01	NP
Boron (mg/L)	DGWC-67	0.06388	28	43	No	13	0	n/a	n/a	0.01	NP
Boron (mg/L)	DGWC-68A	-0.07907	-29	-43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	**DGWA-53 (bg)**	**-5.014**	**-48**	**-43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	DGWA-70A (bg)	-0.2572	-31	-43	No	13	7.692	n/a	n/a	0.01	NP
Calcium (mg/L)	DGWA-71 (bg)	-0.7909	-36	-38	No	12	8.333	n/a	n/a	0.01	NP
Calcium (mg/L)	DGWC-37	0.01881	1	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	DGWC-38	3.566	36	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	DGWC-39	0.7841	8	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	DGWC-40	1.049	25	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	DGWC-67	0.7037	22	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	DGWC-68A	0.6946	24	43	No	13	0	n/a	n/a	0.01	NP
Chloride (mg/L)	DGWA-53 (bg)	-0.2102	-48	-48	No	14	0	n/a	n/a	0.01	NP
Chloride (mg/L)	DGWA-70A (bg)	-0.08674	-23	-43	No	13	0	n/a	n/a	0.01	NP
Chloride (mg/L)	DGWA-71 (bg)	0	-1	-43	No	13	0	n/a	n/a	0.01	NP
Chloride (mg/L)	DGWC-37	-0.1457	-31	-43	No	13	0	n/a	n/a	0.01	NP
Chloride (mg/L)	DGWC-38	0.2011	36	43	No	13	0	n/a	n/a	0.01	NP
Chloride (mg/L)	**DGWC-39**	**-0.3269**	**-57**	**-43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	DGWC-40	-0.1124	-19	-43	No	13	0	n/a	n/a	0.01	NP
Chloride (mg/L)	**DGWC-67**	**0.4626**	**58**	**43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	DGWC-69	0.2143	32	48	No	14	0	n/a	n/a	0.01	NP
pH (SU)	DGWA-53 (bg)	0.02687	7	58	No	16	0	n/a	n/a	0.01	NP
pH (SU)	DGWA-70A (bg)	-0.02327	-12	-53	No	15	0	n/a	n/a	0.01	NP
pH (SU)	DGWA-71 (bg)	0.04216	34	58	No	16	0	n/a	n/a	0.01	NP
pH (SU)	DGWC-39	-0.01315	-18	-53	No	15	0	n/a	n/a	0.01	NP
pH (SU)	DGWC-40	-0.01919	-15	-53	No	15	0	n/a	n/a	0.01	NP
pH (SU)	DGWC-68A	0	-3	-53	No	15	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	DGWA-53 (bg)	-2.119	-29	-48	No	14	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	**DGWA-70A (bg)**	**-0.3043**	**-45**	**-43**	**Yes**	**13**	**30.77**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**DGWA-71 (bg)**	**-1.74**	**-61**	**-43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**DGWC-37**	**-4.243**	**-39**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	DGWC-38	-7.515	-29	-43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	**DGWC-39**	**-28.94**	**-48**	**-43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	DGWC-40	-9.965	-31	-43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	DGWC-67	-0.2802	-17	-43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	**DGWC-68A**	**-3.399**	**-55**	**-43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
TDS (mg/L)	**DGWA-53 (bg)**	**-28.3**	**-53**	**-43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
TDS (mg/L)	DGWA-70A (bg)	-3.954	-11	-43	No	13	0	n/a	n/a	0.01	NP
TDS (mg/L)	DGWA-71 (bg)	-6.025	-36	-43	No	13	0	n/a	n/a	0.01	NP
TDS (mg/L)	DGWC-38	5.288	16	43	No	13	0	n/a	n/a	0.01	NP
TDS (mg/L)	DGWC-39	-15.95	-30	-43	No	13	0	n/a	n/a	0.01	NP
TDS (mg/L)	DGWC-40	2.17	6	38	No	12	0	n/a	n/a	0.01	NP

Tolerance Limits Summary

Plant McDonough Client: Southern Company Data: McDonough AP Printed 5/21/2021, 11:25 AM

Constituent	Upper Lim.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	0.0030	41	n/a	n/a	80.49	n/a	n/a	0.1221	NP Inter
Arsenic (mg/L)	0.0050	41	n/a	n/a	80.49	n/a	n/a	0.1221	NP Inter
Barium (mg/L)	0.19	41	n/a	n/a	0	n/a	n/a	0.1221	NP Inter
Beryllium (mg/L)	0.00050	41	n/a	n/a	65.85	n/a	n/a	0.1221	NP Inter
Cadmium (mg/L)	0.00050	41	n/a	n/a	92.68	n/a	n/a	0.1221	NP Inter
Chromium (mg/L)	0.0050	40	n/a	n/a	57.5	n/a	n/a	0.1285	NP Inter
Cobalt (mg/L)	0.032	41	n/a	n/a	34.15	n/a	n/a	0.1221	NP Inter
Combined Radium 226 + 228 (pCi/L)	6.4	43	n/a	n/a	0	n/a	n/a	0.1102	NP Inter
Fluoride (mg/L)	0.42	45	n/a	n/a	51.11	n/a	n/a	0.09944	NP Inter
Lead (mg/L)	0.0010	41	n/a	n/a	78.05	n/a	n/a	0.1221	NP Inter
Lithium (mg/L)	0.030	41	n/a	n/a	36.59	n/a	n/a	0.1221	NP Inter
Mercury (mg/L)	0.00020	41	n/a	n/a	87.8	n/a	n/a	0.1221	NP Inter
Molybdenum (mg/L)	0.041	41	n/a	n/a	63.41	n/a	n/a	0.1221	NP Inter
Selenium (mg/L)	0.0050	41	n/a	n/a	100	n/a	n/a	0.1221	NP Inter
Thallium (mg/L)	0.0010	41	n/a	n/a	95.12	n/a	n/a	0.1221	NP Inter

MCDONOUGH AP-1 GWPS TABLE					
Constituent Name	**MCL**	**CCR-Rule Specified**	**Background Limit**	**Federal GWPS**	**State GWPS**
Antimony, Total (mg/L)	0.006		0.003	0.006	0.006
Arsenic, Total (mg/L)	0.01		0.005	0.01	0.01
Barium, Total (mg/L)	2		0.19	2	2
Beryllium, Total (mg/L)	0.004		0.0005	0.004	0.004
Cadmium, Total (mg/L)	0.005		0.0005	0.005	0.005
Chromium, Total (mg/L)	0.1		0.005	0.1	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.032	0.032	0.032
Combined Radium, Total (pCi/L)	5		6.4	6.4	6.4
Fluoride, Total (mg/L)	4		0.42	4	4
Lead, Total (mg/L)	n/a	0.015	0.001	0.015	0.001
Lithium, Total (mg/L)	n/a	0.04	0.03	0.04	0.03
Mercury, Total (mg/L)	0.002		0.0002	0.002	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.041	0.1	0.041
Selenium, Total (mg/L)	0.05		0.005	0.05	0.05
Thallium, Total (mg/L)	0.002		0.001	0.002	0.002

**Highlighted cells indicated Background is higher than MCLs or CCR-Rule Specified levels.*

**MCL = Maximum Contaminant Level*

**GWPS = Groundwater Protection Standard*

Federal Confidence Intervals - Significant Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 7/7/2021, 10:53 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	**DGWC-69**	**0.04009**	**0.0115**	**0.01**	**Yes**	**16**	**0.03433**	**0.04274**	**0**	**None**	**ln(x)**	**0.01**	**Param.**
Cobalt (mg/L)	**DGWC-40**	**0.04517**	**0.03717**	**0.032**	**Yes**	**14**	**0.04117**	**0.005645**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**DGWC-68A**	**0.226**	**0.19**	**0.1**	**Yes**	**14**	**0.211**	**0.02184**	**0**	**None**	**No**	**0.01**	**NP (normality)**

Federal Confidence Intervals - All Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 7/7/2021, 10:53 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	B-62	0.015	0.00046	0.006	No	6	0.01258	0.005936	83.33	None	No	0.0155	NP (NDs)
Antimony (mg/L)	DGWC-40	0.015	0.00033	0.006	No	13	0.01387	0.004069	92.31	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-67	0.015	0.0008	0.006	No	13	0.01181	0.00608	76.92	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-68A	0.015	0.0008	0.006	No	13	0.01278	0.005424	84.62	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-69	0.015	0.0019	0.006	No	14	0.0121	0.005769	78.57	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-37	0.005	0.0019	0.01	No	14	0.004779	0.0008285	92.86	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-38	0.005	0.0005	0.01	No	14	0.004679	0.001203	92.86	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-39	0.005	0.0007	0.01	No	14	0.002877	0.002209	50	None	No	0.01	NP (normality)
Arsenic (mg/L)	DGWC-40	0.005	0.0011	0.01	No	14	0.004096	0.001799	78.57	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-67	0.005	0.0008	0.01	No	14	0.004373	0.001596	85.71	None	No	0.01	NP (NDs)
Arsenic (mg/L)	**DGWC-69**	**0.04009**	**0.0115**	**0.01**	**Yes**	**16**	**0.03433**	**0.04274**	**0**	**None**	**ln(x)**	**0.01**	**Param.**
Barium (mg/L)	B-62	0.02823	0.01974	2	No	6	0.02417	0.003312	0	None	x^2	0.01	Param.
Barium (mg/L)	DGWC-37	0.1122	0.09005	2	No	14	0.1011	0.01566	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-38	0.03359	0.0323	2	No	14	0.03294	0.0009146	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-39	0.09652	0.08348	2	No	14	0.09	0.009203	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-40	0.01806	0.01677	2	No	14	0.01741	0.0009046	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-67	0.1127	0.1021	2	No	14	0.1074	0.007583	0	None	sqrt(x)	0.01	Param.
Barium (mg/L)	DGWC-68A	0.09048	0.08698	2	No	14	0.08873	0.002467	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-69	0.1039	0.06757	2	No	15	0.08571	0.02678	0	None	No	0.01	Param.
Beryllium (mg/L)	B-62	0.0025	0.000078	0.004	No	7	0.0007897	0.001168	28.57	None	No	0.008	NP (normality)
Beryllium (mg/L)	DGWC-37	0.0025	0.000088	0.004	No	14	0.00181	0.001132	71.43	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-38	0.0025	0.000058	0.004	No	14	0.002326	0.0006527	92.86	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-40	0.003326	0.002874	0.004	No	14	0.0031	0.0003187	7.143	None	No	0.01	Param.
Beryllium (mg/L)	DGWC-68A	0.0025	0.000084	0.004	No	14	0.002153	0.0008815	85.71	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-69	0.0025	0.000061	0.004	No	15	0.001525	0.001236	60	None	No	0.01	NP (NDs)
Cadmium (mg/L)	DGWC-37	0.0005	0.0002	0.005	No	14	0.000405	0.0001609	71.43	None	No	0.01	NP (NDs)
Cadmium (mg/L)	DGWC-38	0.00081	0.00017	0.005	No	14	0.0003493	0.0002623	21.43	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-40	0.0008866	0.0007148	0.005	No	14	0.0008007	0.0001212	14.29	None	No	0.01	Param.
Cadmium (mg/L)	DGWC-67	0.00053	0.00018	0.005	No	14	0.00041	0.0001533	64.29	None	No	0.01	NP (NDs)
Cadmium (mg/L)	DGWC-68A	0.000222	0.0001221	0.005	No	14	0.00038	0.0002399	50	Kaplan-Meier	sqrt(x)	0.01	Param.
Cadmium (mg/L)	DGWC-69	0.0005	0.0002	0.005	No	15	0.0004113	0.0001538	73.33	Kaplan-Meier	No	0.01	NP (NDs)
Chromium (mg/L)	B-62	0.025	0.00098	0.1	No	6	0.021	0.009806	83.33	None	No	0.0155	NP (NDs)
Chromium (mg/L)	DGWC-37	0.025	0.0007	0.1	No	14	0.02152	0.008846	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-38	0.025	0.00092	0.1	No	14	0.01978	0.01038	78.57	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-40	0.025	0.00061	0.1	No	14	0.009422	0.01205	35.71	None	No	0.01	NP (normality)
Chromium (mg/L)	DGWC-67	0.025	0.00088	0.1	No	14	0.01811	0.01131	71.43	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-68A	0.025	0.0005	0.1	No	14	0.02325	0.006548	92.86	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-69	0.025	0.0011	0.1	No	15	0.01858	0.01102	73.33	None	No	0.01	NP (NDs)
Cobalt (mg/L)	B-100	0.087	0.029	0.032	No	5	0.0626	0.02871	0	None	No	0.031	NP (selected)
Cobalt (mg/L)	B-62	0.025	0.0003	0.032	No	6	0.01677	0.01275	66.67	None	No	0.0155	NP (NDs)
Cobalt (mg/L)	DGWC-37	0.025	0.0005	0.032	No	14	0.01972	0.01049	78.57	None	No	0.01	NP (NDs)
Cobalt (mg/L)	DGWC-38	0.01	0.0014	0.032	No	14	0.003836	0.006494	14.29	None	No	0.01	NP (normality)
Cobalt (mg/L)	DGWC-39	0.0071	0.0059	0.032	No	14	0.007993	0.005007	14.29	None	No	0.01	NP (normality)
Cobalt (mg/L)	**DGWC-40**	**0.04517**	**0.03717**	**0.032**	**Yes**	**14**	**0.04117**	**0.005645**	**0**	**None**	**No**	**0.01**	**Param.**
Cobalt (mg/L)	DGWC-67	0.0064	0.0013	0.032	No	14	0.00465	0.006366	14.29	None	No	0.01	NP (normality)
Cobalt (mg/L)	DGWC-68A	0.025	0.0015	0.032	No	14	0.01981	0.01032	78.57	None	No	0.01	NP (NDs)
Cobalt (mg/L)	DGWC-69	0.025	0.0016	0.032	No	15	0.01573	0.01176	60	None	No	0.01	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	B-62	2.146	1.006	6.4	No	5	1.576	0.3399	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-37	1.148	0.5261	6.4	No	14	0.837	0.439	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-38	0.9733	0.3876	6.4	No	14	0.6805	0.4134	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-39	1.388	0.6498	6.4	No	14	1.019	0.5213	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-40	1.512	0.5424	6.4	No	14	1.027	0.6847	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-67	1.037	0.4744	6.4	No	14	0.7559	0.3974	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-68A	1.383	0.5357	6.4	No	14	0.9596	0.5985	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-69	1.819	1.13	6.4	No	15	1.474	0.5081	0	None	No	0.01	Param.

Federal Confidence Intervals - All Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 7/7/2021, 10:53 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Fluoride, total (mg/L)	B-62	0.4478	0.02966	4	No	5	0.1946	0.1426	0	None	sqrt(x)	0.01	Param.
Fluoride, total (mg/L)	DGWC-37	0.21	0.054	4	No	15	0.1026	0.08036	6.667	None	No	0.01	NP (normality)
Fluoride, total (mg/L)	DGWC-38	0.23	0.057	4	No	15	0.1255	0.1159	13.33	None	No	0.01	NP (normality)
Fluoride, total (mg/L)	DGWC-39	0.17	0.083	4	No	15	0.1594	0.1233	6.667	None	No	0.01	NP (normality)
Fluoride, total (mg/L)	DGWC-40	0.3369	0.1367	4	No	15	0.2483	0.1619	6.667	None	sqrt(x)	0.01	Param.
Fluoride, total (mg/L)	DGWC-67	0.07	0.03	4	No	15	0.0892	0.1258	53.33	None	No	0.01	NP (NDs)
Fluoride, total (mg/L)	DGWC-68A	0.15	0.076	4	No	15	0.128	0.07778	6.667	None	No	0.01	NP (normality)
Fluoride, total (mg/L)	DGWC-69	0.1851	0.09201	4	No	16	0.1386	0.07156	6.25	None	No	0.01	Param.
Lead (mg/L)	DGWC-37	0.0014	0.000061	0.015	No	14	0.0009615	0.0002802	85.71	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-38	0.001	0.0001	0.015	No	14	0.0006796	0.0004465	64.29	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-39	0.001	0.00022	0.015	No	14	0.0008786	0.0003099	85.71	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-40	0.001	0.000054	0.015	No	14	0.0004946	0.000458	42.86	None	No	0.01	NP (normality)
Lead (mg/L)	DGWC-67	0.001	0.00009	0.015	No	14	0.0007459	0.0004194	71.43	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-68A	0.001	0.00035	0.015	No	14	0.0008869	0.0002927	85.71	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-69	0.001	0.00009	0.015	No	15	0.0006406	0.0004562	60	None	No	0.01	NP (NDs)
Lithium (mg/L)	B-62	0.03	0.0078	0.04	No	6	0.0119	0.008876	16.67	None	No	0.0155	NP (normality)
Lithium (mg/L)	DGWC-37	0.03	0.0021	0.04	No	14	0.01025	0.01297	28.57	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-38	0.0035	0.003	0.04	No	14	0.00515	0.007155	7.143	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-40	0.0027	0.0021	0.04	No	14	0.006236	0.01007	14.29	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-67	0.0052	0.0043	0.04	No	14	0.006479	0.00678	7.143	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-68A	0.03	0.0016	0.04	No	14	0.02797	0.00759	92.86	None	No	0.01	NP (NDs)
Lithium (mg/L)	DGWC-69	0.0034	0.0024	0.04	No	15	0.004673	0.007016	6.667	None	No	0.01	NP (normality)
Mercury (mg/L)	DGWC-37	0.0002	0.00006	0.002	No	13	0.0001688	0.00006	76.92	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-38	0.0002	0.00007	0.002	No	13	0.0001688	0.00005994	76.92	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-39	0.0002	0.000059	0.002	No	13	0.0001892	0.00003911	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-40	0.0002	0.000045	0.002	No	13	0.0001676	0.00006247	76.92	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-67	0.0002	0.00007	0.002	No	13	0.00019	0.00003606	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-68A	0.0002	0.00007	0.002	No	13	0.00019	0.00003606	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-69	0.0002	0.00007	0.002	No	14	0.0001907	0.00003474	92.86	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	DGWC-38	0.01	0.00098	0.1	No	14	0.005521	0.004648	50	None	No	0.01	NP (normality)
Molybdenum (mg/L)	**DGWC-68A**	**0.226**	**0.19**	**0.1**	**Yes**	**14**	**0.211**	**0.02184**	**0**	**None**	**No**	**0.01**	**NP (normality)**
Molybdenum (mg/L)	DGWC-69	0.01267	0.006546	0.1	No	15	0.01031	0.006058	6.667	None	ln(x)	0.01	Param.
Selenium (mg/L)	DGWC-38	0.01	0.0019	0.05	No	14	0.009421	0.002165	92.86	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-40	0.01	0.0019	0.05	No	14	0.004471	0.003289	21.43	None	No	0.01	NP (normality)
Selenium (mg/L)	DGWC-67	0.01	0.0027	0.05	No	14	0.009479	0.001951	92.86	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-68A	0.01	0.0017	0.05	No	14	0.009407	0.002218	92.86	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-38	0.001	0.0001	0.002	No	14	0.0005007	0.0004492	42.86	None	No	0.01	NP (normality)
Thallium (mg/L)	DGWC-39	0.001	0.00009	0.002	No	14	0.0006736	0.0004546	64.29	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-40	0.001	0.000068	0.002	No	14	0.0006663	0.0004646	64.29	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-68A	0.001	0.00015	0.002	No	14	0.0009393	0.0002272	92.86	None	No	0.01	NP (NDs)

State Confidence Intervals - Significant Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 7/7/2021, 11:00 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	**DGWC-69**	**0.04009**	**0.0115**	**0.01**	**Yes**	**16**	**0.03433**	**0.04274**	**0**	**None**	**ln(x)**	**0.01**	**Param.**
Cobalt (mg/L)	**DGWC-40**	**0.04517**	**0.03717**	**0.032**	**Yes**	**14**	**0.04117**	**0.005645**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**DGWC-68A**	**0.226**	**0.19**	**0.041**	**Yes**	**14**	**0.211**	**0.02184**	**0**	**None**	**No**	**0.01**	**NP (normality)**

State Confidence Intervals - All Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 7/7/2021, 11:00 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	B-62	0.015	0.00046	0.006	No	6	0.01258	0.005936	83.33	None	No	0.0155	NP (NDs)
Antimony (mg/L)	DGWC-40	0.015	0.00033	0.006	No	13	0.01387	0.004069	92.31	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-67	0.015	0.0008	0.006	No	13	0.01181	0.00608	76.92	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-68A	0.015	0.0008	0.006	No	13	0.01278	0.005424	84.62	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-69	0.015	0.0019	0.006	No	14	0.0121	0.005769	78.57	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-37	0.005	0.0019	0.01	No	14	0.004779	0.0008285	92.86	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-38	0.005	0.0005	0.01	No	14	0.004679	0.001203	92.86	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-39	0.005	0.0007	0.01	No	14	0.002877	0.002209	50	None	No	0.01	NP (normality)
Arsenic (mg/L)	DGWC-40	0.005	0.0011	0.01	No	14	0.004096	0.001799	78.57	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-67	0.005	0.0008	0.01	No	14	0.004373	0.001596	85.71	None	No	0.01	NP (NDs)
Arsenic (mg/L)	**DGWC-69**	**0.04009**	**0.0115**	**0.01**	**Yes**	**16**	**0.03433**	**0.04274**	**0**	**None**	**ln(x)**	**0.01**	**Param.**
Barium (mg/L)	B-62	0.02823	0.01974	2	No	6	0.02417	0.003312	0	None	x^2	0.01	Param.
Barium (mg/L)	DGWC-37	0.1122	0.09005	2	No	14	0.1011	0.01566	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-38	0.03359	0.0323	2	No	14	0.03294	0.0009146	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-39	0.09652	0.08348	2	No	14	0.09	0.009203	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-40	0.01806	0.01677	2	No	14	0.01741	0.0009046	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-67	0.1127	0.1021	2	No	14	0.1074	0.007583	0	None	sqrt(x)	0.01	Param.
Barium (mg/L)	DGWC-68A	0.09048	0.08698	2	No	14	0.08873	0.002467	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-69	0.1039	0.06757	2	No	15	0.08571	0.02678	0	None	No	0.01	Param.
Beryllium (mg/L)	B-62	0.0025	0.000078	0.004	No	7	0.0007897	0.001168	28.57	None	No	0.008	NP (normality)
Beryllium (mg/L)	DGWC-37	0.0025	0.000088	0.004	No	14	0.00181	0.001132	71.43	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-38	0.0025	0.000058	0.004	No	14	0.002326	0.0006527	92.86	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-40	0.003326	0.002874	0.004	No	14	0.0031	0.0003187	7.143	None	No	0.01	Param.
Beryllium (mg/L)	DGWC-68A	0.0025	0.000084	0.004	No	14	0.002153	0.0008815	85.71	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-69	0.0025	0.000061	0.004	No	15	0.001525	0.001236	60	None	No	0.01	NP (NDs)
Cadmium (mg/L)	DGWC-37	0.0005	0.0002	0.005	No	14	0.000405	0.0001609	71.43	None	No	0.01	NP (NDs)
Cadmium (mg/L)	DGWC-38	0.00081	0.00017	0.005	No	14	0.0003493	0.0002623	21.43	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-40	0.0008866	0.0007148	0.005	No	14	0.0008007	0.0001212	14.29	None	No	0.01	Param.
Cadmium (mg/L)	DGWC-67	0.00053	0.00018	0.005	No	14	0.00041	0.0001533	64.29	None	No	0.01	NP (NDs)
Cadmium (mg/L)	DGWC-68A	0.000222	0.0001221	0.005	No	14	0.00038	0.0002399	50	Kaplan-Meier	sqrt(x)	0.01	Param.
Cadmium (mg/L)	DGWC-69	0.0005	0.0002	0.005	No	15	0.0004113	0.0001538	73.33	Kaplan-Meier	No	0.01	NP (NDs)
Chromium (mg/L)	B-62	0.025	0.00098	0.1	No	6	0.021	0.009806	83.33	None	No	0.0155	NP (NDs)
Chromium (mg/L)	DGWC-37	0.025	0.0007	0.1	No	14	0.02152	0.008846	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-38	0.025	0.00092	0.1	No	14	0.01978	0.01038	78.57	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-40	0.025	0.00061	0.1	No	14	0.009422	0.01205	35.71	None	No	0.01	NP (normality)
Chromium (mg/L)	DGWC-67	0.025	0.00088	0.1	No	14	0.01811	0.01131	71.43	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-68A	0.025	0.0005	0.1	No	14	0.02325	0.006548	92.86	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-69	0.025	0.0011	0.1	No	15	0.01858	0.01102	73.33	None	No	0.01	NP (NDs)
Cobalt (mg/L)	B-100	0.087	0.029	0.032	No	5	0.0626	0.02871	0	None	No	0.031	NP (selected)
Cobalt (mg/L)	B-62	0.025	0.0003	0.032	No	6	0.01677	0.01275	66.67	None	No	0.0155	NP (NDs)
Cobalt (mg/L)	DGWC-37	0.025	0.0005	0.032	No	14	0.01972	0.01049	78.57	None	No	0.01	NP (NDs)
Cobalt (mg/L)	DGWC-38	0.01	0.0014	0.032	No	14	0.003836	0.006494	14.29	None	No	0.01	NP (normality)
Cobalt (mg/L)	DGWC-39	0.0071	0.0059	0.032	No	14	0.007993	0.005007	14.29	None	No	0.01	NP (normality)
Cobalt (mg/L)	**DGWC-40**	**0.04517**	**0.03717**	**0.032**	**Yes**	**14**	**0.04117**	**0.005645**	**0**	**None**	**No**	**0.01**	**Param.**
Cobalt (mg/L)	DGWC-67	0.0064	0.0013	0.032	No	14	0.00465	0.006366	14.29	None	No	0.01	NP (normality)
Cobalt (mg/L)	DGWC-68A	0.025	0.0015	0.032	No	14	0.01981	0.01032	78.57	None	No	0.01	NP (NDs)
Cobalt (mg/L)	DGWC-69	0.025	0.0016	0.032	No	15	0.01573	0.01176	60	None	No	0.01	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	B-62	2.146	1.006	6.4	No	5	1.576	0.3399	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-37	1.148	0.5261	6.4	No	14	0.837	0.439	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-38	0.9733	0.3876	6.4	No	14	0.6805	0.4134	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-39	1.388	0.6498	6.4	No	14	1.019	0.5213	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-40	1.512	0.5424	6.4	No	14	1.027	0.6847	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-67	1.037	0.4744	6.4	No	14	0.7559	0.3974	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-68A	1.383	0.5357	6.4	No	14	0.9596	0.5985	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-69	1.819	1.13	6.4	No	15	1.474	0.5081	0	None	No	0.01	Param.

State Confidence Intervals - All Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 7/7/2021, 11:00 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Fluoride, total (mg/L)	B-62	0.4478	0.02966	4	No	5	0.1946	0.1426	0	None	sqrt(x)	0.01	Param.
Fluoride, total (mg/L)	DGWC-37	0.21	0.054	4	No	15	0.1026	0.08036	6.667	None	No	0.01	NP (normality)
Fluoride, total (mg/L)	DGWC-38	0.23	0.057	4	No	15	0.1255	0.1159	13.33	None	No	0.01	NP (normality)
Fluoride, total (mg/L)	DGWC-39	0.17	0.083	4	No	15	0.1594	0.1233	6.667	None	No	0.01	NP (normality)
Fluoride, total (mg/L)	DGWC-40	0.3369	0.1367	4	No	15	0.2483	0.1619	6.667	None	sqrt(x)	0.01	Param.
Fluoride, total (mg/L)	DGWC-67	0.07	0.03	4	No	15	0.0892	0.1258	53.33	None	No	0.01	NP (NDs)
Fluoride, total (mg/L)	DGWC-68A	0.15	0.076	4	No	15	0.128	0.07778	6.667	None	No	0.01	NP (normality)
Fluoride, total (mg/L)	DGWC-69	0.1851	0.09201	4	No	16	0.1386	0.07156	6.25	None	No	0.01	Param.
Lead (mg/L)	DGWC-37	0.0014	0.000061	0.001	No	14	0.0009615	0.0002802	85.71	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-38	0.001	0.0001	0.001	No	14	0.0006796	0.0004465	64.29	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-39	0.001	0.00022	0.001	No	14	0.0008786	0.0003099	85.71	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-40	0.001	0.000054	0.001	No	14	0.0004946	0.000458	42.86	None	No	0.01	NP (normality)
Lead (mg/L)	DGWC-67	0.001	0.00009	0.001	No	14	0.0007459	0.0004194	71.43	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-68A	0.001	0.00035	0.001	No	14	0.0008869	0.0002927	85.71	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-69	0.001	0.00009	0.001	No	15	0.0006406	0.0004562	60	None	No	0.01	NP (NDs)
Lithium (mg/L)	B-62	0.03	0.0078	0.03	No	6	0.0119	0.008876	16.67	None	No	0.0155	NP (normality)
Lithium (mg/L)	DGWC-37	0.03	0.0021	0.03	No	14	0.01025	0.01297	28.57	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-38	0.0035	0.003	0.03	No	14	0.00515	0.007155	7.143	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-40	0.0027	0.0021	0.03	No	14	0.006236	0.01007	14.29	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-67	0.0052	0.0043	0.03	No	14	0.006479	0.00678	7.143	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-68A	0.03	0.0016	0.03	No	14	0.02797	0.00759	92.86	None	No	0.01	NP (NDs)
Lithium (mg/L)	DGWC-69	0.0034	0.0024	0.03	No	15	0.004673	0.007016	6.667	None	No	0.01	NP (normality)
Mercury (mg/L)	DGWC-37	0.0005	0.00006	0.002	No	13	0.0003996	0.000191	76.92	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-38	0.0005	0.00007	0.002	No	13	0.0003996	0.000191	76.92	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-39	0.0005	0.000059	0.002	No	13	0.0004661	0.0001223	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-40	0.0005	0.000045	0.002	No	13	0.0003984	0.0001934	76.92	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-67	0.0005	0.00007	0.002	No	13	0.0004669	0.0001193	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-68A	0.0005	0.00007	0.002	No	13	0.0004669	0.0001193	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-69	0.0005	0.00007	0.002	No	14	0.0004693	0.0001149	92.86	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	DGWC-38	0.01	0.00098	0.041	No	14	0.005521	0.004648	50	None	No	0.01	NP (normality)
Molybdenum (mg/L)	**DGWC-68A**	**0.226**	**0.19**	**0.041**	**Yes**	**14**	**0.211**	**0.02184**	**0**	**None**	**No**	**0.01**	**NP (normality)**
Molybdenum (mg/L)	DGWC-69	0.01267	0.006546	0.041	No	15	0.01031	0.006058	6.667	None	ln(x)	0.01	Param.
Selenium (mg/L)	DGWC-38	0.01	0.0019	0.05	No	14	0.009421	0.002165	92.86	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-40	0.01	0.0019	0.05	No	14	0.004471	0.003289	21.43	None	No	0.01	NP (normality)
Selenium (mg/L)	DGWC-67	0.01	0.0027	0.05	No	14	0.009479	0.001951	92.86	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-68A	0.01	0.0017	0.05	No	14	0.009407	0.002218	92.86	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-38	0.001	0.0001	0.002	No	14	0.0005007	0.0004492	42.86	None	No	0.01	NP (normality)
Thallium (mg/L)	DGWC-39	0.001	0.00009	0.002	No	14	0.0006736	0.0004546	64.29	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-40	0.001	0.000068	0.002	No	14	0.0006663	0.0004646	64.29	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-68A	0.001	0.00015	0.002	No	14	0.0009393	0.0002272	92.86	None	No	0.01	NP (NDs)

Outlier Summary

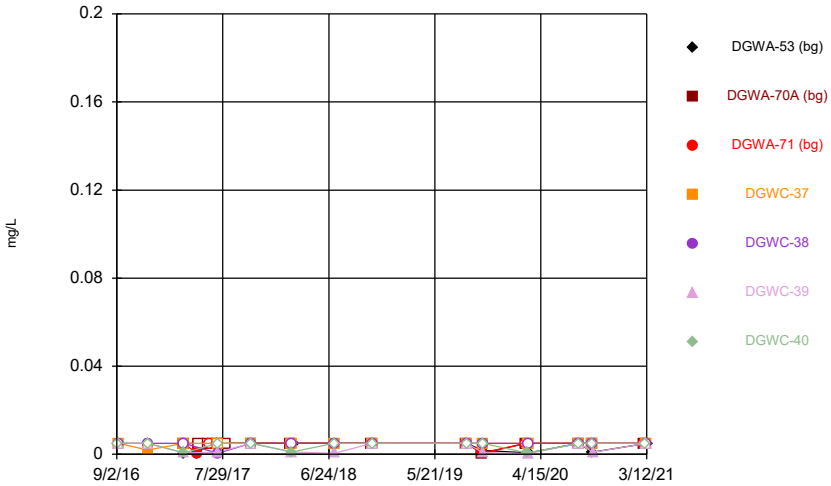
Plant McDonough Client: Southern Company Data: McDonough AP Printed 4/21/2021, 8:23 AM

	DGWA-70A Chromium (mg/L)	DGWA-70A Fluoride (mg/L)	DGWC-37 Sulfate (mg/L)	DGWA-53 TDS (mg/L)	DGWC-40 TDS (mg/L)
9/2/2016					583 (o)
3/28/2017		1.2 (o)			
7/13/2017			200 (o)		
10/24/2017				671 (o)	
10/15/2019	0.034 (O)				

FIGURE A.

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

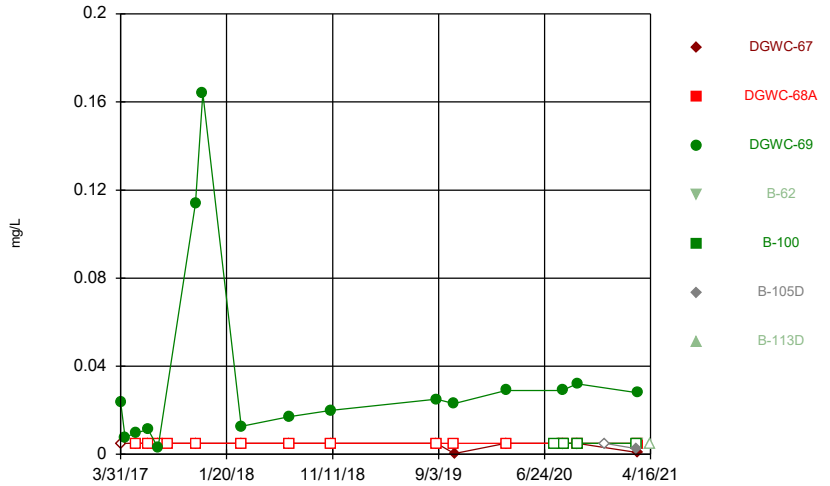
Time Series



Constituent: Arsenic Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

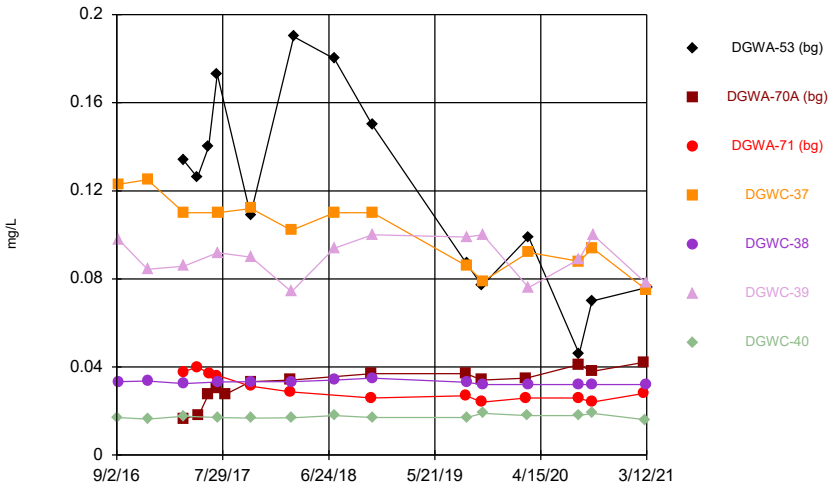
Time Series



Constituent: Arsenic Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

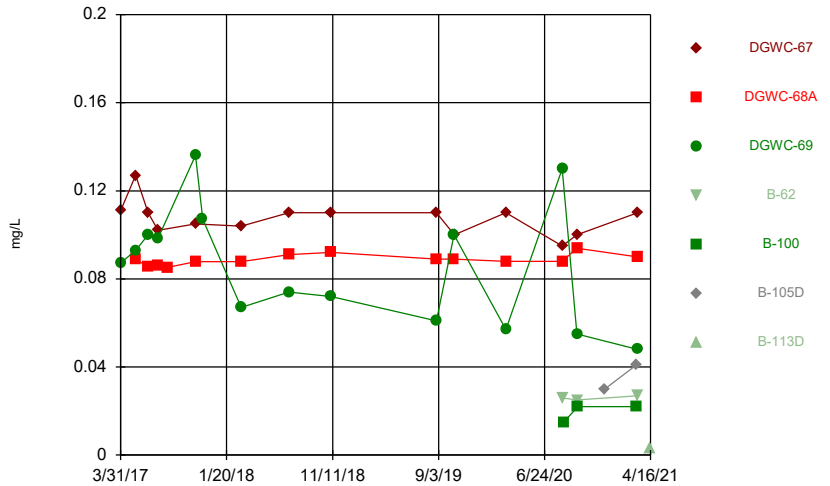
Time Series



Constituent: Barium Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

Time Series



Constituent: Barium Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG
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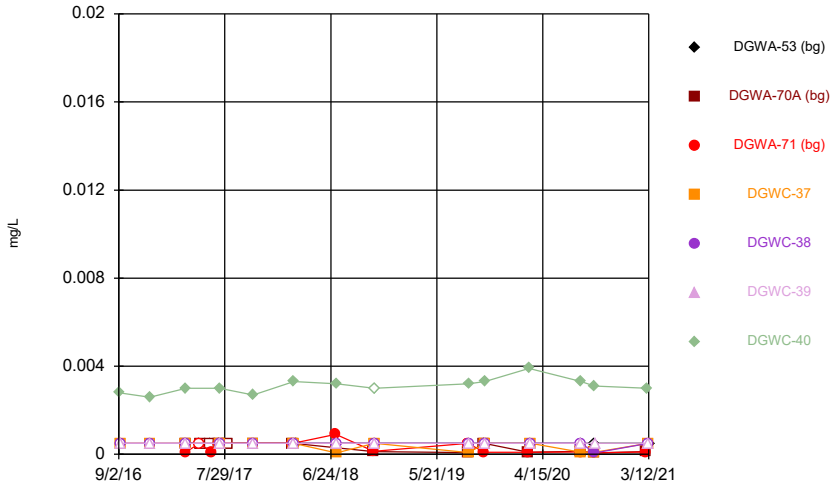
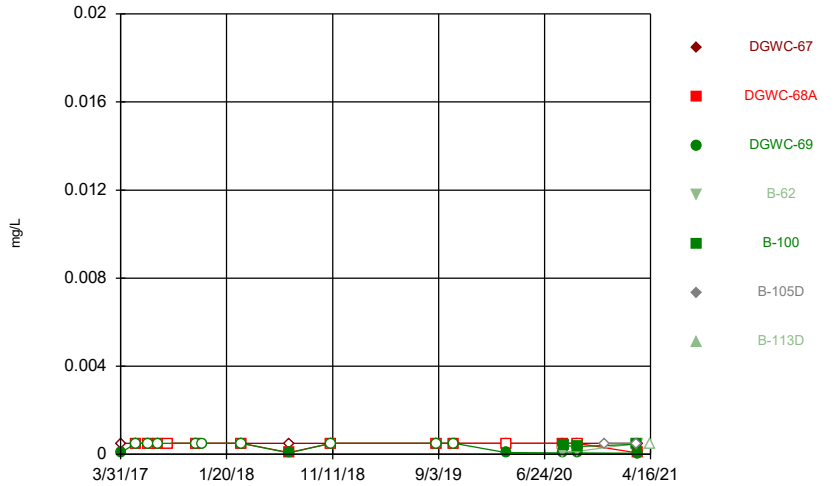
Time Series



Constituent: Beryllium Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

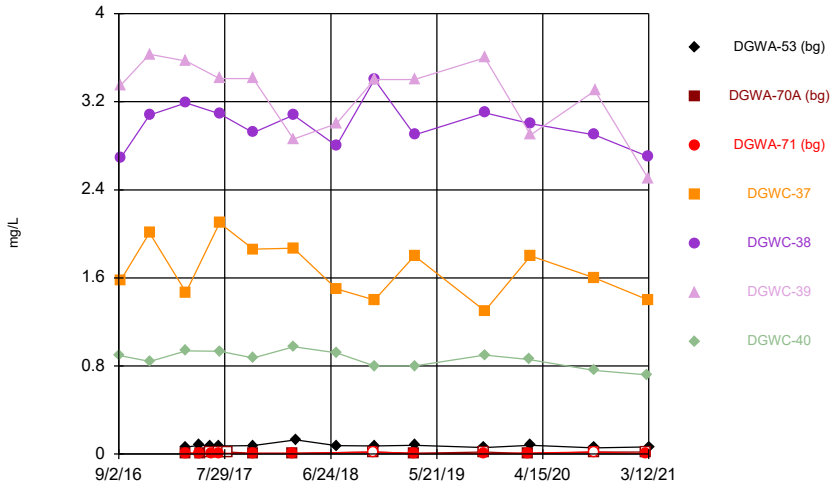
Time Series



Constituent: Beryllium Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

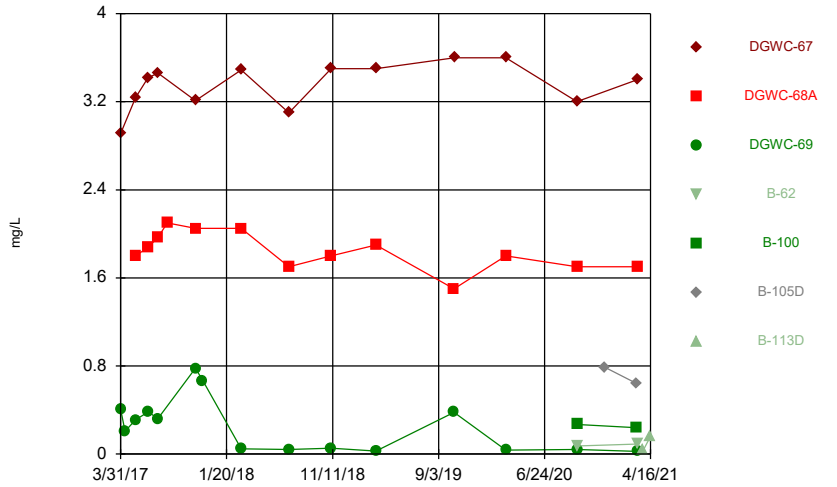
Time Series



Constituent: Boron Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

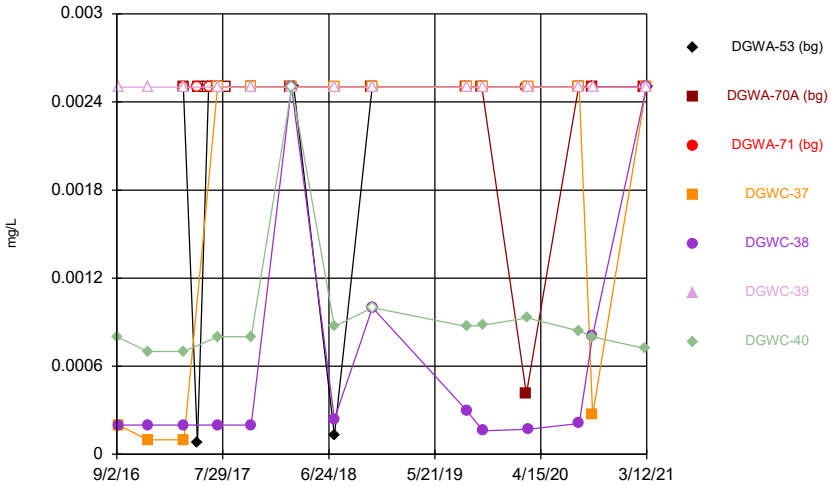
Time Series



Constituent: Boron Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

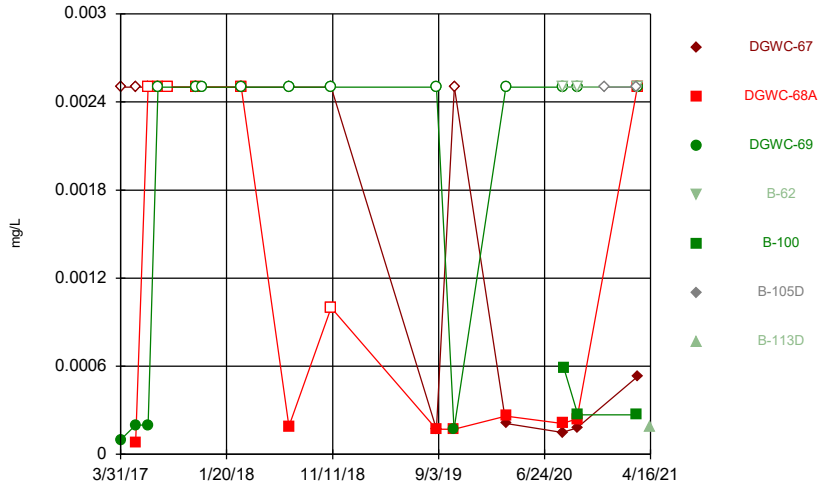
Time Series



Constituent: Cadmium Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

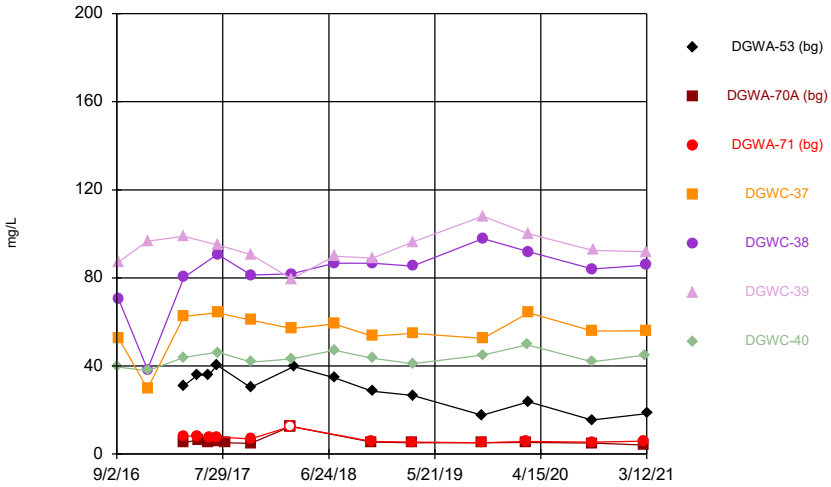
Time Series



Constituent: Cadmium Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

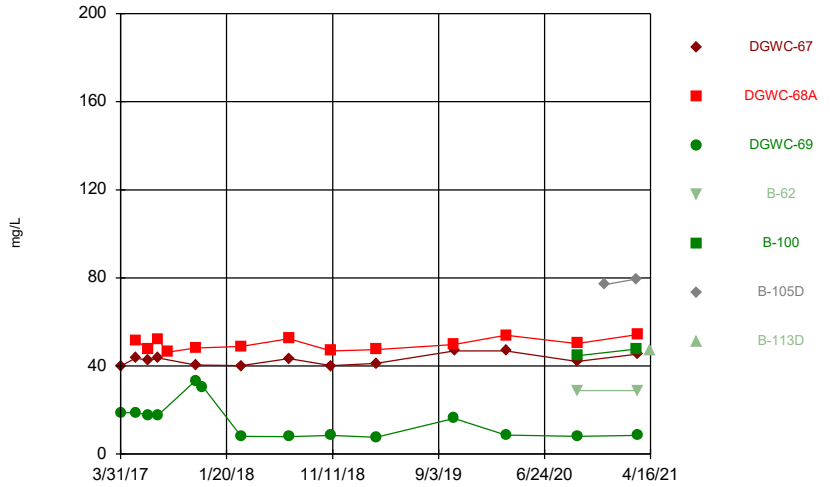
Time Series



Constituent: Calcium Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

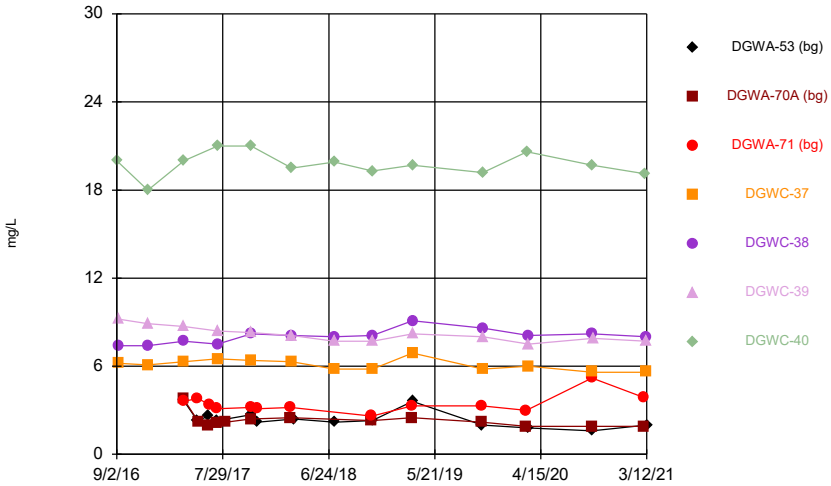
Time Series



Constituent: Calcium Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

Time Series



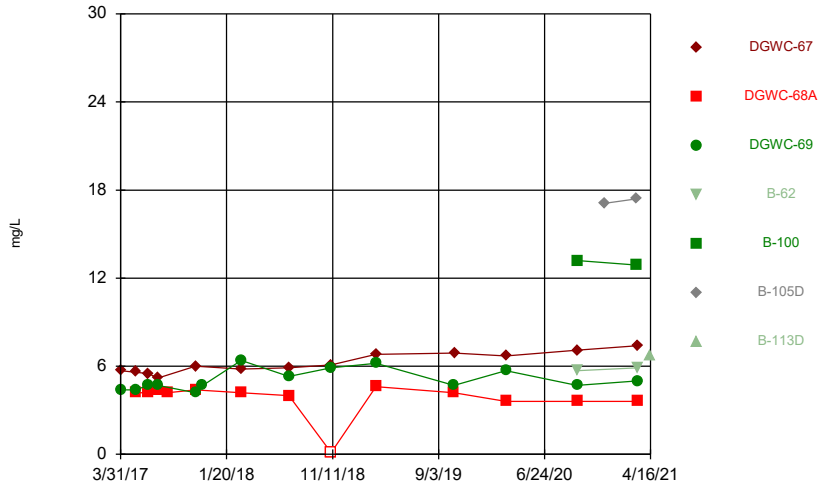
Constituent: Chloride Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Time Series



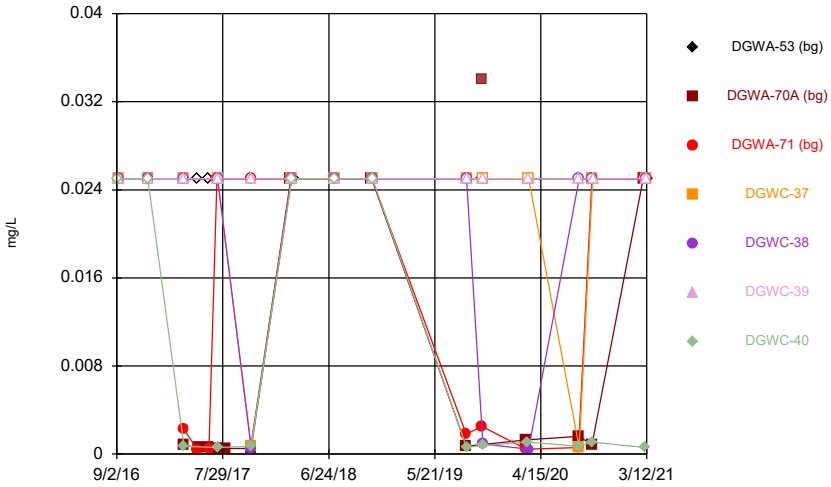
Constituent: Chloride Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Time Series



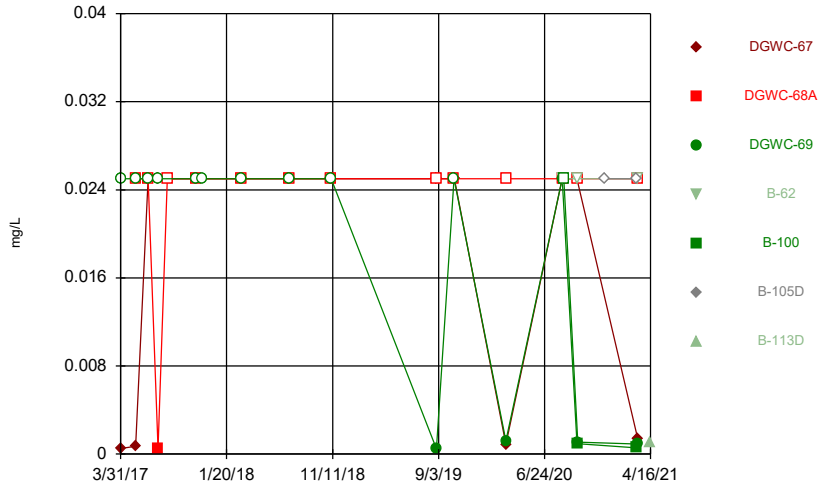
Constituent: Chromium Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Time Series

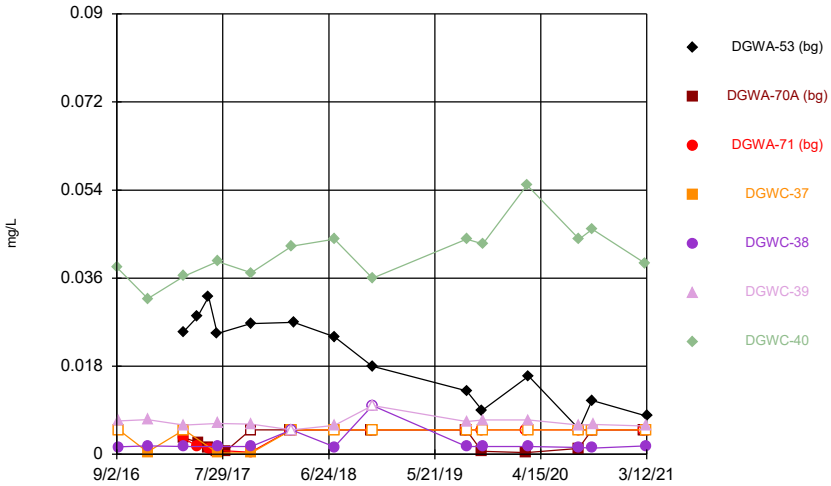


Constituent: Chromium Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

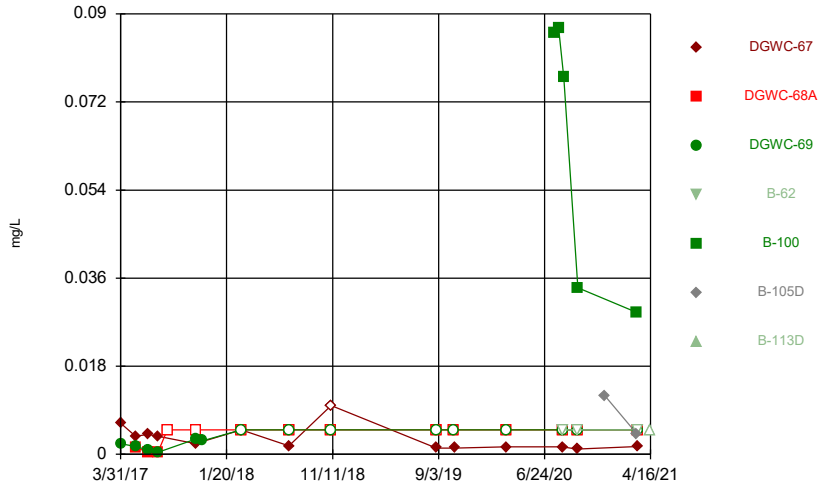
Time Series



Constituent: Cobalt Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

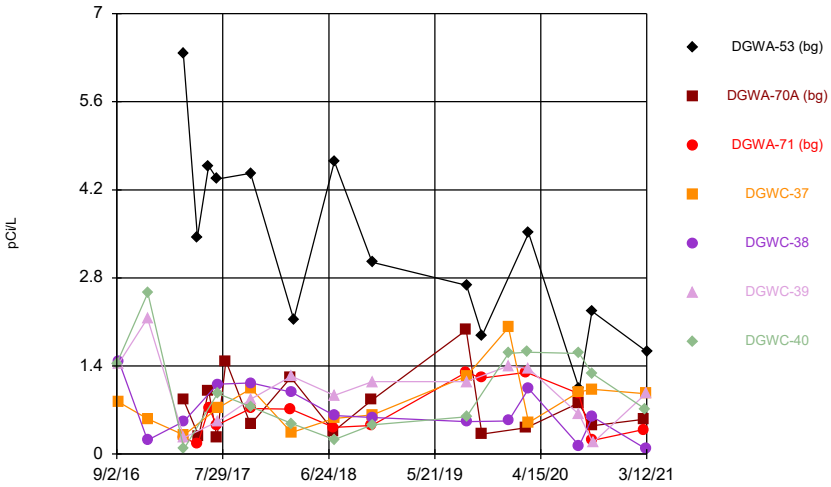
Time Series



Constituent: Cobalt Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

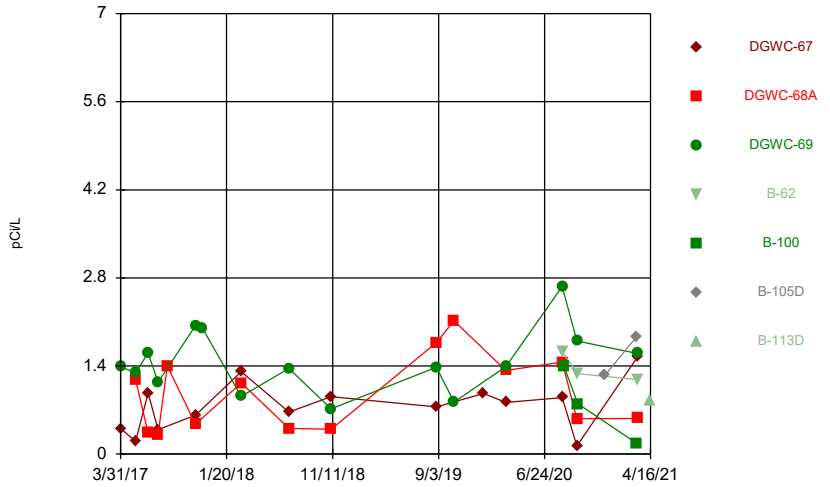
Time Series



Constituent: Combined Radium 226 + 228 Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

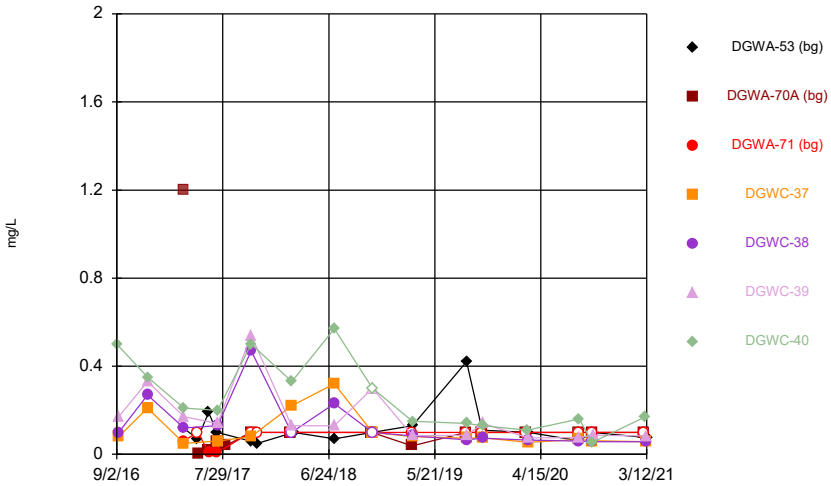
Time Series



Constituent: Combined Radium 226 + 228 Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

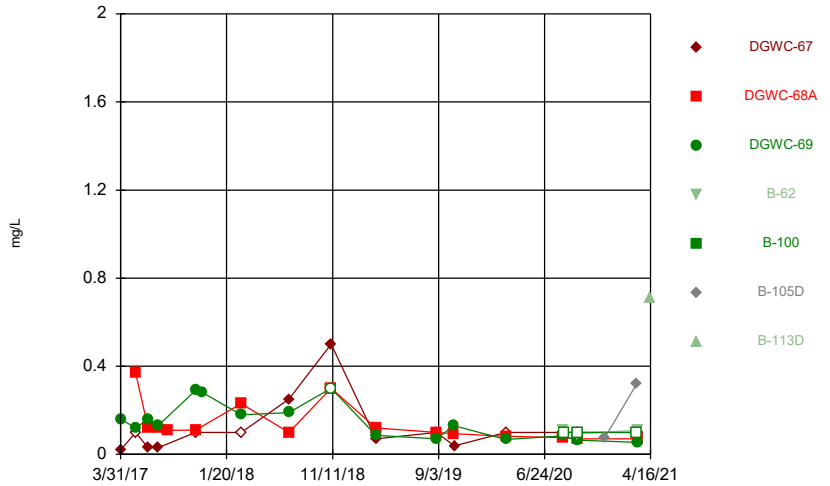
Time Series



Constituent: Fluoride Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

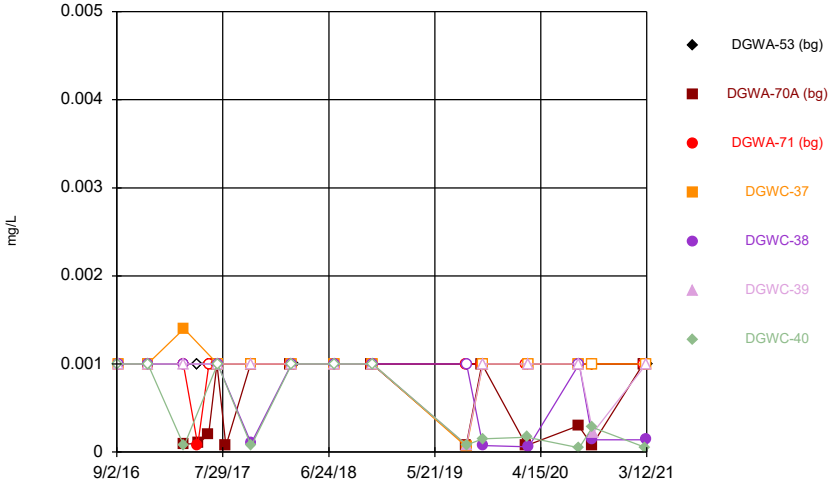
Time Series



Constituent: Fluoride Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

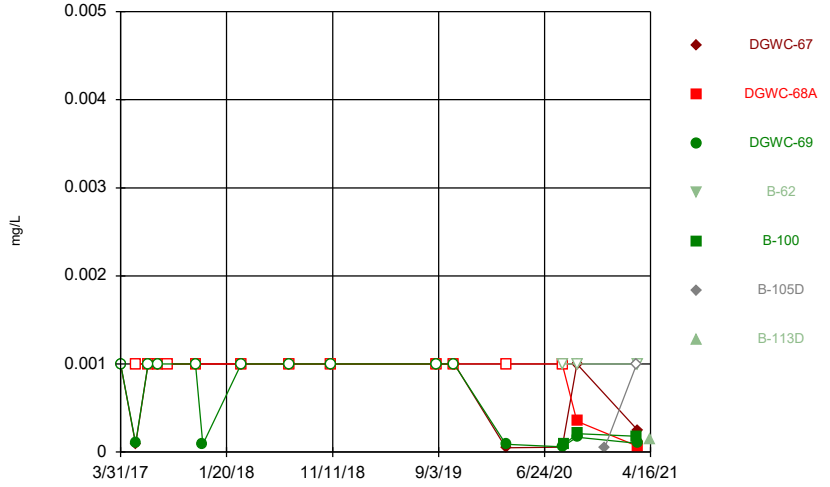
Time Series



Constituent: Lead Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

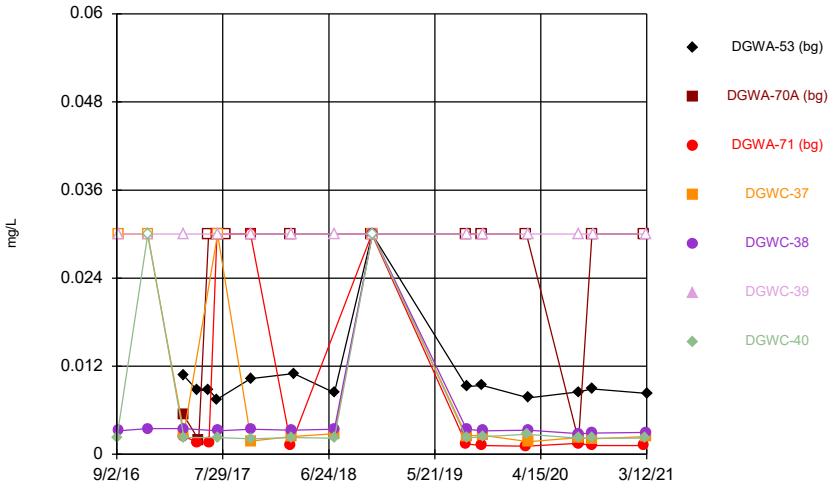
Time Series



Constituent: Lead Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

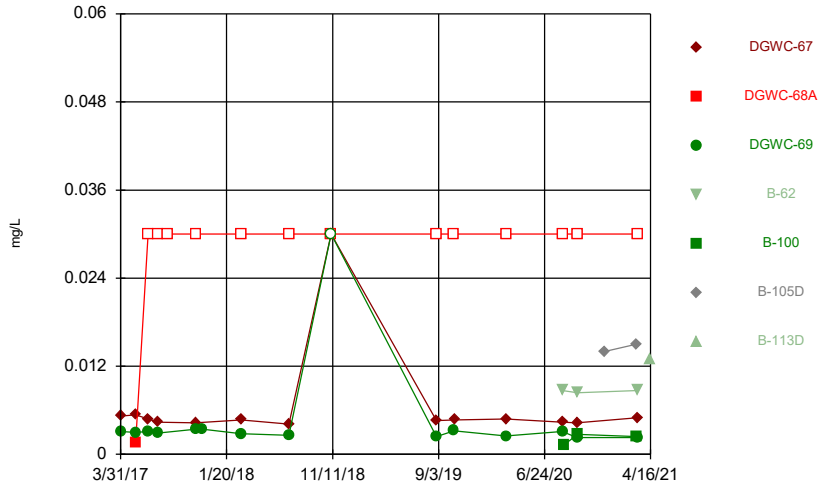
Time Series



Constituent: Lithium Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

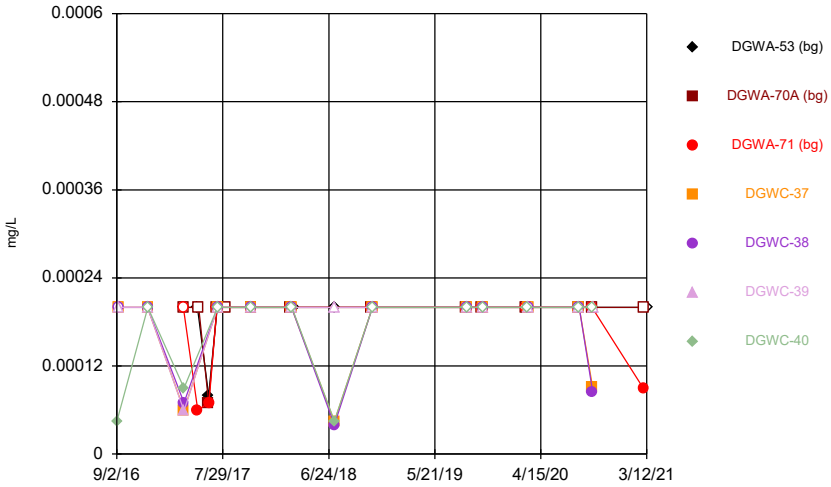
Time Series



Constituent: Lithium Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

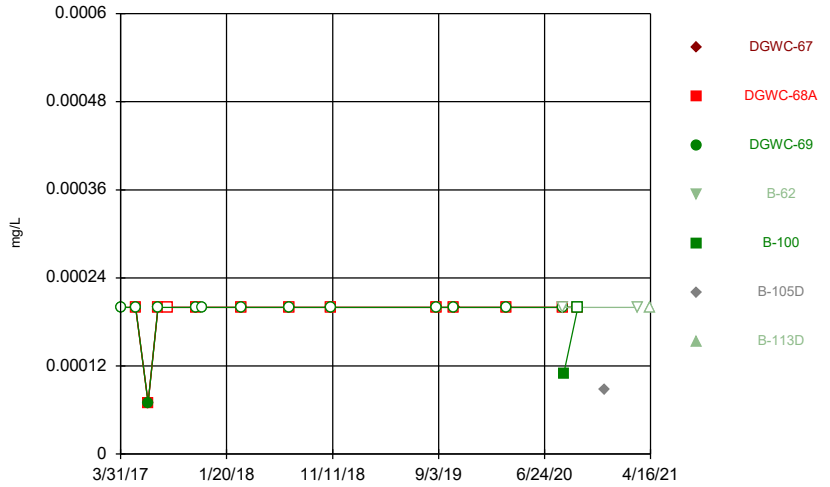
Time Series



Constituent: Mercury Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

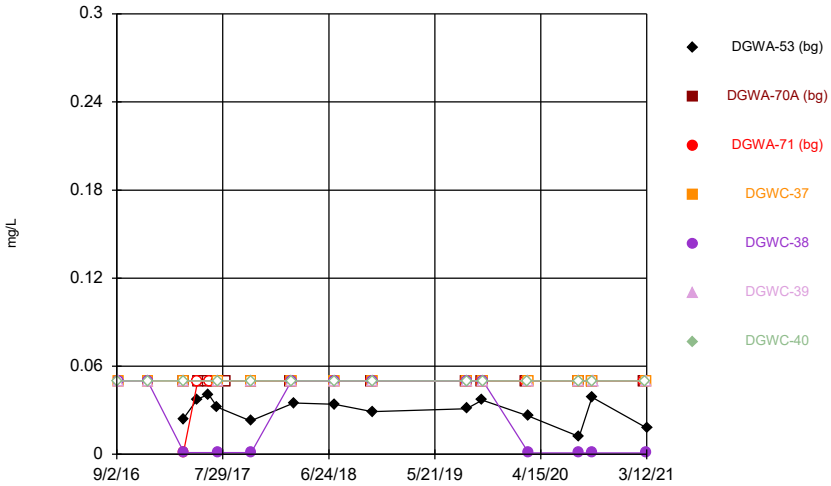
Time Series



Constituent: Mercury Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

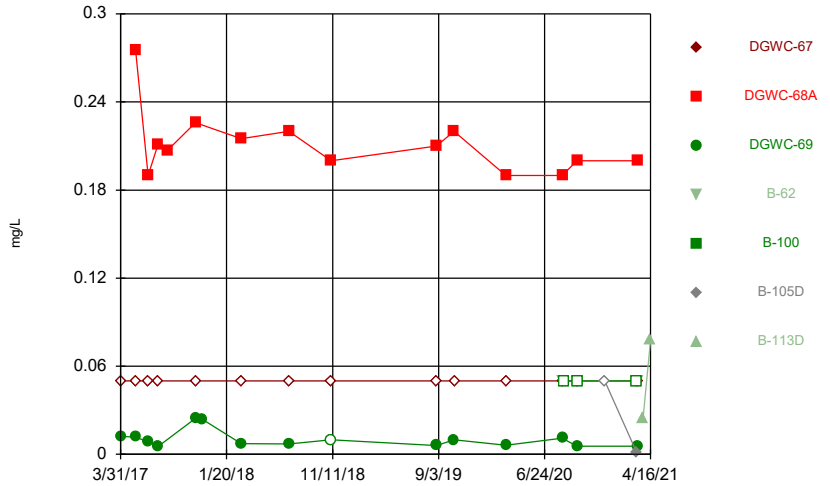
Time Series



Constituent: Molybdenum Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

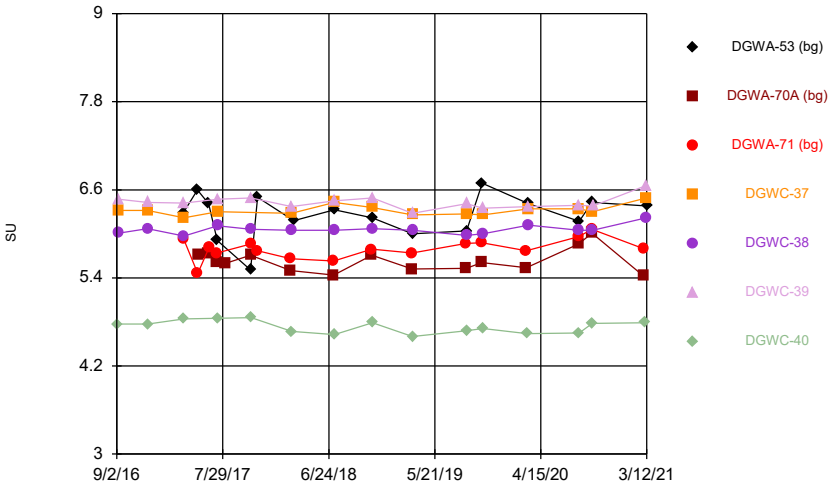
Time Series



Constituent: Molybdenum Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

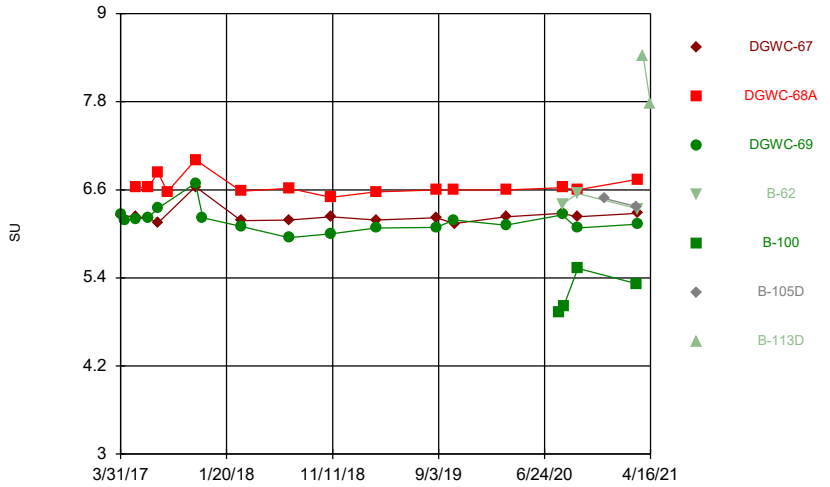
Time Series



Constituent: pH Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

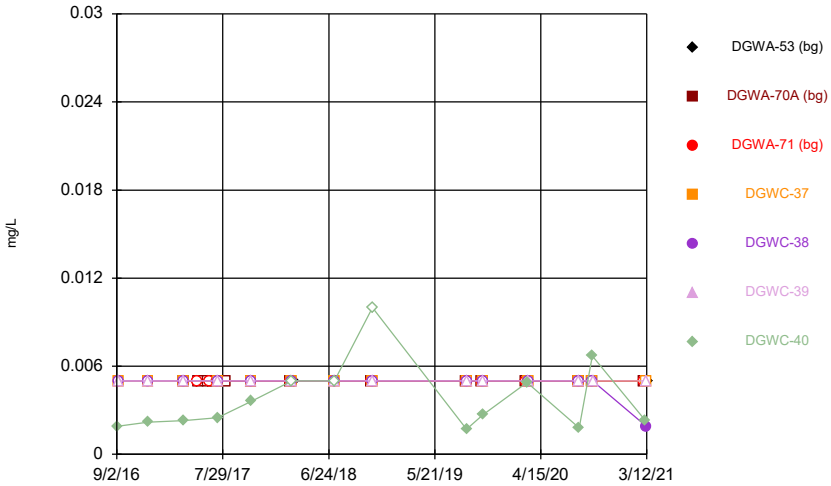
Time Series



Constituent: pH Analysis Run 7/27/2021 10:00 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

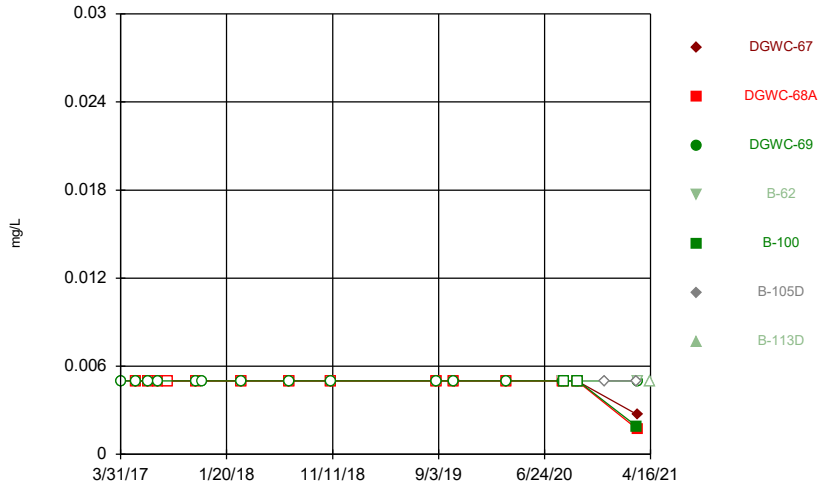
Time Series



Constituent: Selenium Analysis Run 7/27/2021 10:01 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

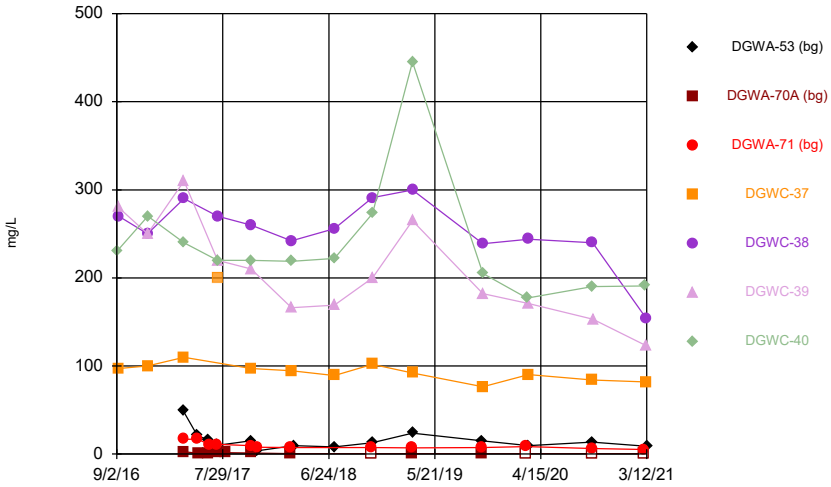
Time Series



Constituent: Selenium Analysis Run 7/27/2021 10:01 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

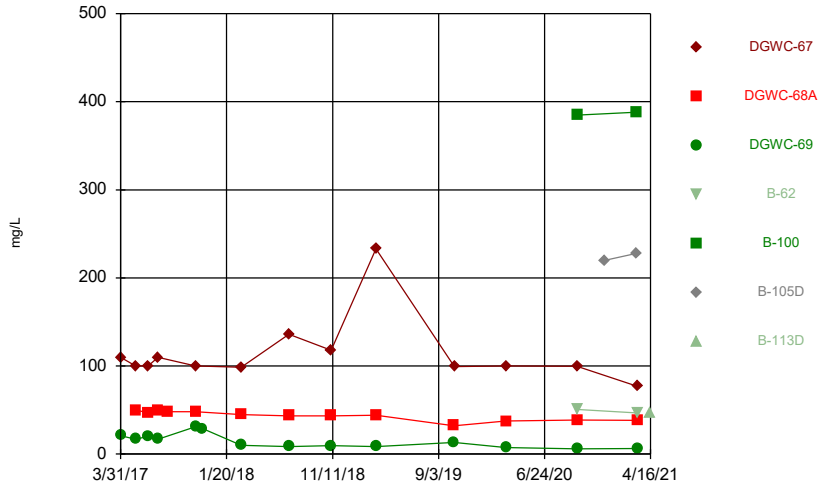
Time Series



Constituent: Sulfate Analysis Run 7/27/2021 10:01 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

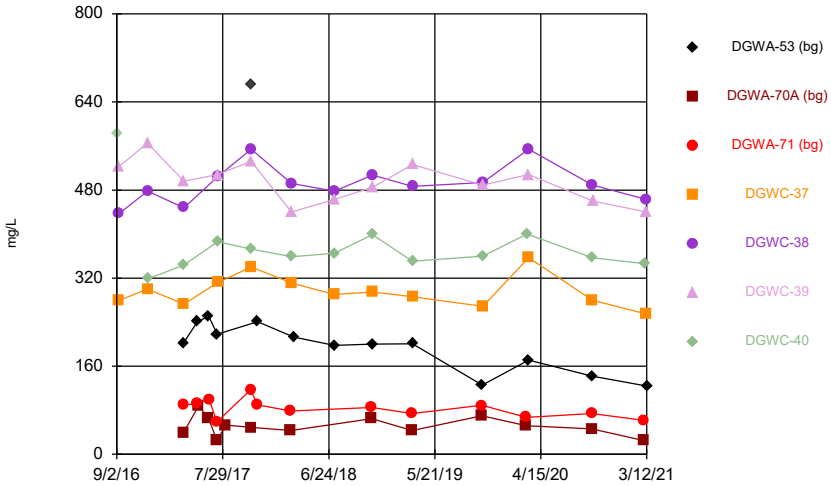
Time Series



Constituent: Sulfate Analysis Run 7/27/2021 10:01 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

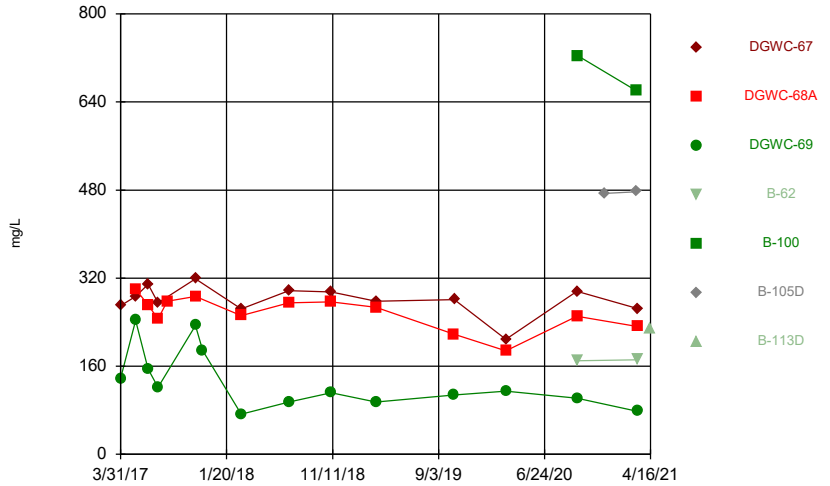
Time Series



Constituent: TDS Analysis Run 7/27/2021 10:01 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

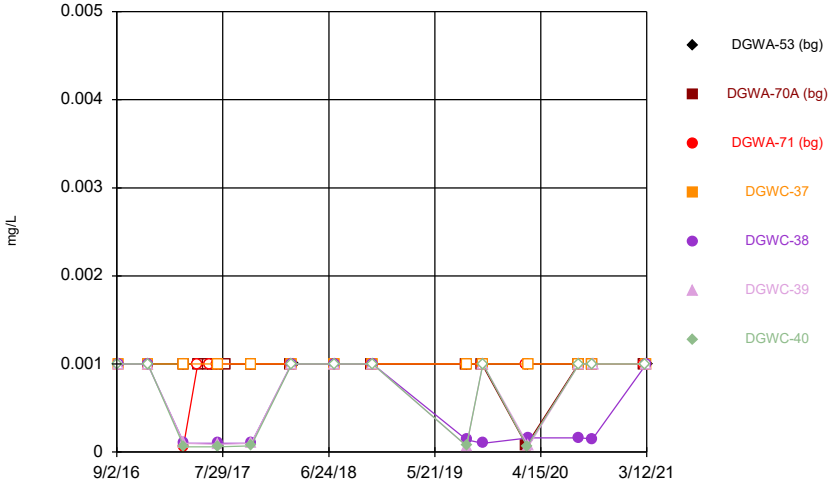
Time Series



Constituent: TDS Analysis Run 7/27/2021 10:01 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

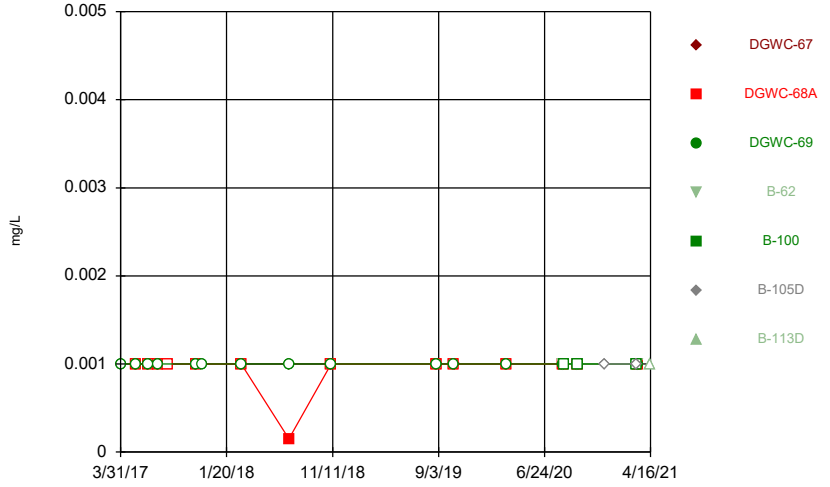
Time Series



Constituent: Thallium Analysis Run 7/27/2021 10:01 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Thallium Analysis Run 7/27/2021 10:01 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Time Series

Constituent: Arsenic (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							<0.005		
9/8/2016				<0.005	<0.005	<0.005			
12/7/2016				0.0019 (J)	<0.005	<0.005			
12/8/2016							<0.005		
3/28/2017	0.0005 (J)	<0.005	<0.005						
3/30/2017				<0.005	<0.005	0.0007 (J)	0.0006 (J)		
3/31/2017								<0.005	
5/11/2017	0.0005 (J)								
5/12/2017			0.0004 (J)					<0.005	<0.005
5/15/2017		<0.005							
6/15/2017	<0.005	<0.005							
6/16/2017			<0.005					<0.005	<0.005
7/11/2017		<0.005	<0.005						
7/12/2017	<0.005								
7/13/2017				<0.005	0.0005 (J)	0.0009 (J)	<0.005	<0.005	<0.005
8/8/2017		<0.005							<0.005
10/24/2017	<0.005	<0.005	<0.005						
10/26/2017				<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2/27/2018		<0.005	<0.005						
3/1/2018				<0.005	<0.005	0.0011 (J)			
3/2/2018							0.0011 (J)	<0.005	<0.005
3/8/2018	<0.005								
7/12/2018	<0.005			<0.005	<0.005	0.00057 (J)	<0.005		
7/13/2018								<0.005	<0.005
11/6/2018		<0.005	<0.005						
11/7/2018	<0.005 (J)								
11/8/2018				<0.005	<0.005	<0.005	<0.005	<0.005	<0.005 (J)
8/27/2019		<0.005	<0.005						
8/28/2019	<0.005			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
10/15/2019		0.00052 (J)	0.00071 (J)						
10/16/2019	0.0018 (J)								<0.005
10/17/2019								0.00042 (J)	
10/18/2019				<0.005	<0.005	0.00075 (J)	<0.005		
3/2/2020		<0.005	<0.005						
3/4/2020							0.00065 (J)		
3/9/2020	0.00068 (J)			<0.005	<0.005	0.00039 (J)		<0.005	<0.005
8/11/2020		<0.005	<0.005						
8/13/2020	<0.005			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
9/22/2020	0.00093 (J)	<0.005	<0.005						
9/23/2020							<0.005	<0.005	<0.005
9/24/2020				<0.005	<0.005				
9/25/2020						0.00087 (J)			
3/1/2021		<0.005	<0.005						
3/8/2021							<0.005		
3/10/2021									<0.005
3/11/2021				<0.005	<0.005	<0.005		0.0008 (J)	
3/12/2021	<0.005								

Time Series

Constituent: Arsenic (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-100	B-105D	B-113D
3/31/2017	0.0239				
4/12/2017	0.0077				
5/12/2017	0.0097				
6/16/2017	0.0113				
7/13/2017	0.0029 (J)				
10/26/2017	0.114				
11/15/2017	0.164				
3/2/2018	0.0127				
7/13/2018	0.017				
11/8/2018	0.02				
8/28/2019	0.025				
10/16/2019	0.023				
3/9/2020	0.029				
7/23/2020			<0.005		
8/13/2020	0.029	<0.005			
8/17/2020			<0.005		
9/23/2020	0.032				
9/24/2020		<0.005			
9/25/2020			<0.005		
12/9/2020				<0.005	
3/8/2021			<0.005	0.0025 (J)	
3/10/2021	0.028				
3/12/2021		<0.005			
4/16/2021					<0.005

Time Series

Constituent: Barium (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							0.0171		
9/8/2016				0.123	0.0333	0.0978			
12/7/2016				0.125	0.0336	0.0844			
12/8/2016							0.0163		
3/28/2017	0.134	0.0166	0.0378						
3/30/2017				0.11	0.0325	0.0858	0.0177		
3/31/2017								0.111	
5/11/2017	0.126								
5/12/2017			0.04					0.127	0.089
5/15/2017		0.0181							
6/15/2017	0.14	0.0277							
6/16/2017			0.0369					0.11	0.0855
7/11/2017		0.0306	0.0362						
7/12/2017	0.173								
7/13/2017				0.11	0.0332	0.0919	0.017	0.102	0.0859
8/8/2017		0.0277							0.0852
10/24/2017	0.109	0.0333	0.0313						
10/26/2017				0.112	0.0333	0.0899	0.0168	0.105	0.0878
2/27/2018		0.0341	0.0287						
3/1/2018				0.102	0.0333	0.0742			
3/2/2018							0.0169	0.104	0.0878
3/8/2018	0.19								
7/12/2018	0.18			0.11	0.034	0.094	0.018		
7/13/2018								0.11	0.091
11/6/2018		0.037	0.026						
11/7/2018	0.15								
11/8/2018				0.11	0.035	0.1	0.017	0.11	0.092
8/27/2019		0.037	0.027						
8/28/2019	0.087			0.086	0.033	0.099	0.017	0.11	0.089
10/15/2019		0.034	0.024						
10/16/2019	0.077								0.089
10/17/2019								0.1	
10/18/2019				0.079	0.032	0.1	0.019		
3/2/2020		0.035	0.026						
3/4/2020							0.018		
3/9/2020	0.099			0.092	0.032	0.076		0.11	0.088
8/11/2020		0.041	0.026						
8/13/2020	0.046			0.088	0.032	0.089	0.018	0.095	0.088
9/22/2020	0.07	0.038	0.024						
9/23/2020							0.019	0.1	0.094
9/24/2020				0.094	0.032				
9/25/2020						0.1			
3/1/2021		0.042	0.028						
3/8/2021							0.016		
3/10/2021									0.09
3/11/2021				0.075	0.032	0.078		0.11	
3/12/2021	0.076								

Time Series

Constituent: Barium (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-100	B-105D	B-113D
3/31/2017	0.0872				
5/12/2017	0.0929				
6/16/2017	0.1				
7/13/2017	0.0985				
10/26/2017	0.136				
11/15/2017	0.107				
3/2/2018	0.0671				
7/13/2018	0.074				
11/8/2018	0.072				
8/28/2019	0.061				
10/16/2019	0.1				
3/9/2020	0.057				
8/13/2020	0.13	0.026			
8/17/2020			0.015		
9/23/2020	0.055				
9/24/2020		0.025			
9/25/2020			0.022		
12/9/2020				0.03	
3/8/2021			0.022	0.041	
3/10/2021	0.048				
3/12/2021		0.027			
4/16/2021					0.0032 (J)

Time Series

Constituent: Beryllium (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							0.0028 (J)		
9/8/2016				<0.0005	<0.0005	<0.0005			
12/7/2016				<0.0005	<0.0005	<0.0005			
12/8/2016							0.0026 (J)		
3/28/2017	<0.0005	<0.0005	9E-05 (J)						
3/30/2017				<0.0005	<0.0005	<0.0005	0.003		
3/31/2017								<0.0005	
5/11/2017	<0.0005								
5/12/2017			<0.0005					<0.0005	<0.0005
5/15/2017		<0.0005							
6/15/2017	<0.0005	<0.0005							
6/16/2017			0.0001 (J)					<0.0005	<0.0005
7/11/2017		<0.0005	<0.0005						
7/12/2017	<0.0005								
7/13/2017				<0.0005	<0.0005	<0.0005	0.003 (J)	<0.0005	<0.0005
8/8/2017		<0.0005							<0.0005
10/24/2017	<0.0005	<0.0005	<0.0005						
10/26/2017				<0.0005	<0.0005	<0.0005	0.0027 (J)	<0.0005	<0.0005
2/27/2018		<0.0005	<0.0005						
3/1/2018				<0.0005	<0.0005	<0.0005			
3/2/2018							0.0033	<0.0005	<0.0005
3/8/2018	<0.0005								
7/10/2018			0.0009 (J)						
7/12/2018	<0.0005			7E-05 (J)	<0.0005	<0.0005	0.0032		
7/13/2018								<0.0005	8.4E-05 (J)
11/6/2018		0.00012 (J)	0.00013 (J)						
11/7/2018	<0.0005								
11/8/2018				<0.0005	<0.0005	<0.0005	<0.003 (J)	<0.0005	<0.0005
8/27/2019		7.9E-05 (J)	<0.0005						
8/28/2019	<0.0005			8.6E-05 (J)	<0.0005	<0.0005	0.0032	<0.0005	<0.0005
10/15/2019		<0.0005	8.8E-05 (J)						
10/16/2019	<0.0005								<0.0005
10/17/2019								<0.0005	
10/18/2019				<0.0005	<0.0005	<0.0005	0.0033		
3/2/2020		9.6E-05 (J)	0.0001 (J)						
3/4/2020							0.0039		
3/9/2020	<0.0005			<0.0005	<0.0005	<0.0005		<0.0005	<0.0005
8/11/2020		0.00013 (J)	0.00011 (J)						
8/13/2020	<0.0005			0.0001 (J)	<0.0005	<0.0005	0.0033	<0.0005	<0.0005
9/22/2020	<0.0005	6.8E-05 (J)	6.9E-05 (J)						
9/23/2020							0.0031	<0.0005	<0.0005
9/24/2020				8.8E-05 (J)	5.8E-05 (J)				
9/25/2020						<0.0005			
3/1/2021		0.00012 (J)	0.00011 (J)						
3/8/2021							0.003		
3/10/2021									6.1E-05 (J)
3/11/2021				<0.0005	<0.0005	<0.0005		<0.0005	
3/12/2021	<0.0005								

Time Series

Constituent: Beryllium (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-100	B-105D	B-113D
3/31/2017	7E-05 (J)				
5/12/2017	<0.0005				
6/16/2017	<0.0005				
7/13/2017	<0.0005				
10/26/2017	<0.0005				
11/15/2017	<0.0005				
3/2/2018	<0.0005				
7/13/2018	5.8E-05 (J)				
11/8/2018	<0.0005				
8/28/2019	<0.0005				
10/16/2019	<0.0005				
3/9/2020	7.5E-05 (J)				
8/13/2020	6.3E-05 (J)	0.00011 (J)			
8/17/2020			0.0004 (J)		
9/23/2020	6.1E-05 (J)				
9/24/2020		0.00013 (J)			
9/25/2020			0.00035 (J)		
12/9/2020				<0.0005	
3/8/2021			0.00046 (J)	<0.0005	
3/10/2021	5E-05 (J)				
3/12/2021		<0.0005			
4/16/2021					<0.0005

Time Series

Constituent: Boron (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							0.895		
9/8/2016				1.58	2.69	3.35			
12/7/2016				2.01	3.08	3.63			
12/8/2016							0.841		
3/28/2017	0.0612	0.0067 (J)	0.0097 (J)						
3/30/2017				1.47	3.19	3.57	0.937		
3/31/2017								2.91	
5/11/2017	0.0805								
5/12/2017			0.0082 (J)					3.24	1.8
5/15/2017		0.0073 (J)							
6/15/2017	0.0725	<0.04							
6/16/2017			0.0085 (J)					3.42	1.88
7/11/2017		<0.04	0.0077 (J)						
7/12/2017	0.0735								
7/13/2017				2.1	3.09	3.41	0.933	3.46	1.97
8/8/2017		<0.04							2.1
10/24/2017	0.077	0.0082 (J)	0.0083 (J)						
10/26/2017				1.86	2.92	3.41	0.873	3.21	2.05
2/27/2018		0.0062 (J)	0.0069 (J)						
3/1/2018				1.87	3.08	2.86			
3/2/2018							0.974	3.49	2.05
3/8/2018	0.13 (J)								
7/12/2018	0.076			1.5	2.8	3	0.92		
7/13/2018								3.1	1.7
11/6/2018		<0.04 (J)	<0.04 (J)						
11/7/2018	0.073								
11/8/2018				1.4	3.4	3.4	0.8	3.5	1.8
3/12/2019		0.0073 (J)	0.0068 (J)						
3/13/2019	0.08			1.8	2.9	3.4	0.8	3.5	1.9
10/15/2019		<0.04	0.0054 (J)						
10/16/2019	0.059								1.5
10/17/2019								3.6	
10/18/2019				1.3	3.1	3.6	0.9		
3/2/2020		0.0055 (J)	0.01 (J)						
3/4/2020							0.86		
3/9/2020	0.08 (J)			1.8	3	2.9		3.6	1.8
9/22/2020	0.056 (J)	<0.04	<0.04						
9/23/2020							0.76	3.2	1.7
9/24/2020				1.6	2.9				
9/25/2020						3.3			
3/1/2021		<0.04	0.0054 (J)						
3/8/2021							0.72		
3/10/2021									1.7
3/11/2021				1.4	2.7	2.5		3.4	
3/12/2021	0.064								

Time Series

Constituent: Boron (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-100	B-105D	B-113D
3/31/2017	0.407				
4/12/2017	0.207				
5/12/2017	0.311				
6/16/2017	0.381				
7/13/2017	0.323				
10/26/2017	0.779				
11/15/2017	0.667				
3/2/2018	0.0478				
7/13/2018	0.043				
11/8/2018	0.054				
3/13/2019	0.028 (J)				
10/16/2019	0.38				
3/9/2020	0.035 (J)				
9/23/2020	0.041 (J)				
9/24/2020		0.074 (J)			
9/25/2020			0.27		
12/9/2020				0.79	
3/8/2021			0.24	0.64	
3/10/2021	0.024 (J)				
3/12/2021		0.092 (J)			
3/26/2021					0.034 (J)
4/16/2021					0.16

Time Series

Constituent: Cadmium (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							0.0008 (J)		
9/8/2016				0.0002 (J)	0.0002 (J)	<0.0025			
12/7/2016				0.0001 (J)	0.0002 (J)	<0.0025			
12/8/2016							0.0007 (J)		
3/28/2017	<0.0025	<0.0025	<0.0025						
3/30/2017				0.0001 (J)	0.0002 (J)	<0.0025	0.0007 (J)		
3/31/2017								<0.0025	
5/11/2017	8E-05 (J)								
5/12/2017			<0.0025					<0.0025	8E-05 (J)
5/15/2017		<0.0025							
6/15/2017	<0.0025	<0.0025							
6/16/2017			<0.0025					<0.0025	<0.0025
7/11/2017		<0.0025	<0.0025						
7/12/2017	<0.0025								
7/13/2017				<0.0025	0.0002 (J)	<0.0025	0.0008 (J)	<0.0025	<0.0025
8/8/2017		<0.0025							<0.0025
10/24/2017	<0.0025	<0.0025	<0.0025						
10/26/2017				<0.0025	0.0002 (J)	<0.0025	0.0008 (J)	<0.0025	<0.0025
2/27/2018		<0.0025	<0.0025						
3/1/2018				<0.0025	<0.0025	<0.0025			
3/2/2018							<0.0025	<0.0025	<0.0025
3/8/2018	<0.0025								
7/12/2018	0.00013 (J)			<0.0025	0.00024 (J)	<0.0025	0.00087 (J)		
7/13/2018								<0.0025	0.00019 (J)
11/6/2018		<0.0025	<0.0025						
11/7/2018	<0.0025								
11/8/2018				<0.0025	<0.001 (J)	<0.0025	<0.001 (J)	<0.0025	<0.001 (J)
8/27/2019		<0.0025	<0.0025						
8/28/2019	<0.0025			<0.0025	0.0003 (J)	<0.0025	0.00087 (J)	0.00017 (J)	0.00017 (J)
10/15/2019		<0.0025	<0.0025						
10/16/2019	<0.0025								0.00017 (J)
10/17/2019								<0.0025	
10/18/2019				<0.0025	0.00016 (J)	<0.0025	0.00088 (J)		
3/2/2020		0.00041 (J)	<0.0025						
3/4/2020							0.00093 (J)		
3/9/2020	<0.0025			<0.0025	0.00017 (J)	<0.0025		0.00021 (J)	0.00026 (J)
8/11/2020		<0.0025	<0.0025						
8/13/2020	<0.0025			<0.0025	0.00021 (J)	<0.0025	0.00084 (J)	0.00015 (J)	0.00021 (J)
9/22/2020	<0.0025	<0.0025	<0.0025						
9/23/2020							0.0008 (J)	0.00018 (J)	0.00024 (J)
9/24/2020				0.00027 (J)	0.00081 (J)				
9/25/2020						<0.0025			
3/1/2021		<0.0025	<0.0025						
3/8/2021							0.00072		
3/10/2021									<0.0025
3/11/2021				<0.0025	<0.0025	<0.0025		0.00053	
3/12/2021	<0.0025								

Time Series

Constituent: Cadmium (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-100	B-105D	B-113D
3/31/2017	0.0001 (J)				
5/12/2017	0.0002 (J)				
6/16/2017	0.0002 (J)				
7/13/2017	<0.0025				
10/26/2017	<0.0025				
11/15/2017	<0.0025				
3/2/2018	<0.0025				
7/13/2018	<0.0025				
11/8/2018	<0.0025				
8/28/2019	<0.0025				
10/16/2019	0.00017 (J)				
3/9/2020	<0.0025				
8/13/2020	<0.0025	<0.0025			
8/17/2020			0.00059 (J)		
9/23/2020	<0.0025				
9/24/2020		<0.0025			
9/25/2020			0.00027 (J)		
12/9/2020				<0.0025	
3/8/2021			0.00027 (J)	<0.0025	
3/10/2021	<0.0025				
3/12/2021		<0.0025			
4/16/2021					0.00019 (J)

Time Series

Constituent: Calcium (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							39.6		
9/8/2016				52.5	70.3	87.2			
12/7/2016				29.7	38.4	96.7			
12/8/2016							37.9		
3/28/2017	30.8	5.14	8.31						
3/30/2017				62.6	80.3	98.9	43.9		
3/31/2017								39.9	
5/11/2017	35.8								
5/12/2017			8.04					43.6	51.7
5/15/2017		6.5							
6/15/2017	36	5.38							
6/16/2017			7.66					42.5	47.9
7/11/2017		5.96	7.71						
7/12/2017	40.3								
7/13/2017				64.1	90.8	95	46.2	43.7	52.3
8/8/2017		5.2							46.3
10/24/2017	30.3	4.93	6.86						
10/26/2017				60.8	81.3	90.6	41.8	40.4	48.2
2/27/2018		<25	<25						
3/1/2018				57	81.8	79.6			
3/2/2018							43.2	40.1	48.9
3/8/2018	39.8								
7/12/2018	34.7			59.1	86.7	89.8	47.1		
7/13/2018								43.3	52.4
11/6/2018		5.5	5.7						
11/7/2018	28.6								
11/8/2018				53.6	86.6	89	43.5	40.1	46.8
3/12/2019		5.1	5.5						
3/13/2019	26.7			54.8	85.3	96.3	41	41.2	47.5
10/15/2019		5.1	5.1						
10/16/2019	17.7								49.7
10/17/2019								46.9	
10/18/2019				52.5	97.8	108	44.9		
3/2/2020		5.3	5.8						
3/4/2020							49.6		
3/9/2020	23.7			64.2	91.9	100		46.9	54
9/22/2020	15.5	5	5.4						
9/23/2020							41.9	42	50.2
9/24/2020				55.9	84.1				
9/25/2020						92.5			
3/1/2021		4.1	5.9						
3/8/2021							44.9		
3/10/2021									54.2
3/11/2021				56	85.8	91.9		45.4	
3/12/2021	18.4								

Time Series

Constituent: Calcium (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-100	B-105D	B-113D
3/31/2017	18.6 (J)				
5/12/2017	18.9 (J)				
6/16/2017	17.7				
7/13/2017	17.6				
10/26/2017	33.3				
11/15/2017	30.6				
3/2/2018	8.09				
7/13/2018	7.9				
11/8/2018	8.5				
3/13/2019	7.6				
10/16/2019	16.2				
3/9/2020	8.6				
9/23/2020	8				
9/24/2020		28.8			
9/25/2020			44.7		
12/9/2020				76.9	
3/8/2021			47.7	79.6	
3/10/2021	8.5				
3/12/2021		28.8			
4/16/2021					47.2

Time Series

Constituent: Chloride (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							20		
9/8/2016				6.2	7.4	9.2			
12/7/2016				6.1	7.4	8.9			
12/8/2016							18		
3/28/2017	3.7	3.8	3.6						
3/30/2017				6.3	7.7	8.7	20		
3/31/2017								5.7	
5/11/2017	2.3								
5/12/2017			3.8					5.6	4.2
5/15/2017		2.2							
6/15/2017	2.6	2							
6/16/2017			3.4					5.5	4.2
7/11/2017		2.1	3.1						
7/12/2017	2.3								
7/13/2017				6.5	7.5	8.4	21	5.2	4.4
8/8/2017		2.2							4.2
10/24/2017	2.7	2.4	3.2						
10/26/2017				6.4	8.2	8.3	21	6	4.4
11/15/2017	2.2		3.1						
2/27/2018		2.5	3.2						
3/1/2018				6.3	8.1	8.1			
3/2/2018							19.5	5.8	4.2
3/8/2018	2.4								
7/12/2018	2.2			5.8	8	7.7	19.9		
7/13/2018								5.9	4
11/6/2018		2.3	2.6						
11/7/2018	2.3								
11/8/2018				5.8	8.1	7.7	19.3	6.1	<0.25
3/12/2019		2.5	3.3						
3/13/2019	3.6			6.9	9.1	8.2	19.7	6.8	4.6
10/15/2019		2.2	3.3						
10/16/2019	2								4.2
10/17/2019								6.9	
10/18/2019				5.8	8.6	8	19.2		
3/2/2020		1.9	3						
3/4/2020							20.6		
3/9/2020	1.8			6	8.1	7.5		6.7	3.6
9/22/2020	1.6	1.9	5.2						
9/23/2020							19.7	7.1	3.6
9/24/2020				5.6	8.2				
9/25/2020						7.9			
3/1/2021		1.9	3.9						
3/8/2021							19.1		
3/10/2021									3.6
3/11/2021				5.6	8	7.7		7.4	
3/12/2021	2								

Time Series

Constituent: Chloride (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-100	B-105D	B-113D
3/31/2017	4.4				
5/12/2017	4.4				
6/16/2017	4.7				
7/13/2017	4.7				
10/26/2017	4.2				
11/15/2017	4.7				
3/2/2018	6.4				
7/13/2018	5.3				
11/8/2018	5.9				
3/13/2019	6.2				
10/16/2019	4.7				
3/9/2020	5.7				
9/23/2020	4.7				
9/24/2020		5.7			
9/25/2020			13.2		
12/9/2020				17.1	
3/8/2021			12.9	17.4	
3/10/2021	5				
3/12/2021		5.9			
4/16/2021					6.7

Time Series

Constituent: Chromium (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							<0.025		
9/8/2016				<0.025	<0.025	<0.025			
12/7/2016				<0.025	<0.025	<0.025			
12/8/2016							<0.025		
3/28/2017	<0.025	0.0008 (J)	0.0023 (J)						
3/30/2017				<0.025	<0.025	<0.025	0.0007 (J)		
3/31/2017								0.0005 (J)	
5/11/2017	<0.025								
5/12/2017			0.0004 (J)					0.0007 (J)	<0.025
5/15/2017		0.0006 (J)							
6/15/2017	<0.025	0.0006 (J)							
6/16/2017			0.0005 (J)					<0.025	<0.025
7/11/2017		0.0005 (J)	<0.025						
7/12/2017	<0.025								
7/13/2017				<0.025	<0.025	<0.025	0.0006 (J)	<0.025	0.0005 (J)
8/8/2017		0.0005 (J)							<0.025
10/24/2017	<0.025	0.0005 (J)	<0.025						
10/26/2017				0.0007 (J)	0.0005 (J)	<0.025	0.0007 (J)	<0.025	<0.025
2/27/2018		<0.025	<0.025						
3/1/2018				<0.025	<0.025	<0.025			
3/2/2018							<0.025	<0.025	<0.025
3/8/2018	<0.025								
7/12/2018	<0.025			<0.025	<0.025	<0.025	<0.025		
7/13/2018								<0.025	<0.025
11/6/2018		<0.025	<0.025						
11/7/2018	<0.025								
11/8/2018				<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
8/27/2019		0.00071 (J)	0.0018 (J)						
8/28/2019	<0.025			<0.025	<0.025	<0.025	0.00061 (J)	<0.025	<0.025
10/15/2019		0.034 (O)	0.0025 (J)						
10/16/2019	<0.025								<0.025
10/17/2019								<0.025	
10/18/2019				<0.025	0.00092 (J)	<0.025	0.00078 (J)		
3/2/2020		0.0013 (J)	0.00045 (J)						
3/4/2020							0.0011 (J)		
3/9/2020	<0.025			<0.025	0.00044 (J)	<0.025		0.00088 (J)	<0.025
8/11/2020		0.0016 (J)	0.0006 (J)						
8/13/2020	<0.025			0.00058 (J)	<0.025	<0.025	0.00072 (J)	<0.025	<0.025
9/22/2020	<0.025	0.00089 (J)	<0.025						
9/23/2020							0.0011 (J)	<0.025	<0.025
9/24/2020				<0.025	<0.025				
9/25/2020						<0.025			
3/1/2021		<0.025	<0.025						
3/8/2021							0.0006 (J)		
3/10/2021									<0.025
3/11/2021				<0.025	<0.025	<0.025		0.0014 (J)	
3/12/2021	<0.025								

Time Series

Constituent: Chromium (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-100	B-105D	B-113D
3/31/2017	<0.025				
5/12/2017	<0.025				
6/16/2017	<0.025				
7/13/2017	<0.025				
10/26/2017	<0.025				
11/15/2017	<0.025				
3/2/2018	<0.025				
7/13/2018	<0.025				
11/8/2018	<0.025				
8/28/2019	0.00049 (J)				
10/16/2019	<0.025				
3/9/2020	0.0012 (J)				
8/13/2020	<0.025	<0.025			
8/17/2020			<0.025		
9/23/2020	0.0011 (J)				
9/24/2020		<0.025			
9/25/2020			0.00094 (J)		
12/9/2020				<0.025	
3/8/2021			0.00057 (J)	<0.025	
3/10/2021	0.0009 (J)				
3/12/2021		<0.025			
4/16/2021					0.0011 (J)

Time Series

Constituent: Cobalt (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							0.0382		
9/8/2016				<0.005	0.0015 (J)	0.0068 (J)			
12/7/2016				0.0005 (J)	0.0017 (J)	0.0071 (J)			
12/8/2016							0.0318		
3/28/2017	0.025	0.0034 (J)	0.0033 (J)						
3/30/2017				<0.005	0.0016 (J)	0.006 (J)	0.0364		
3/31/2017								0.0064 (J)	
5/11/2017	0.0281								
5/12/2017			0.0016 (J)					0.0037 (J)	0.0015 (J)
5/15/2017		0.0024 (J)							
6/15/2017	0.0322	0.0014 (J)							
6/16/2017			0.0011 (J)					0.0041 (J)	0.0003 (J)
7/11/2017		0.0007 (J)	0.0008 (J)						
7/12/2017	0.0247								
7/13/2017				0.0003 (J)	0.0016 (J)	0.0063 (J)	0.0394	0.0037 (J)	0.0005 (J)
8/8/2017		0.0007 (J)							<0.005
10/24/2017	0.0267	<0.005	0.0004 (J)						
10/26/2017				0.0003 (J)	0.0016 (J)	0.0062 (J)	0.0371	0.0022 (J)	<0.005
2/27/2018		<0.005	<0.005						
3/1/2018				<0.005	<0.005	<0.005			
3/2/2018							0.0425	<0.005	<0.005
3/8/2018	0.027								
7/12/2018	0.024			<0.005	0.0015 (J)	0.0059 (J)	0.044		
7/13/2018								0.0017 (J)	<0.005
11/6/2018		<0.005	<0.005						
11/7/2018	0.018								
11/8/2018				<0.005	<0.01 (J)	<0.01 (J)	0.036	<0.01 (J)	<0.005
8/27/2019		<0.005	<0.005						
8/28/2019	0.013			<0.005	0.0016 (J)	0.0067	0.044	0.0013 (J)	<0.005
10/15/2019		0.00064 (J)	<0.005						
10/16/2019	0.009								<0.005
10/17/2019								0.0013 (J)	
10/18/2019				<0.005	0.0016 (J)	0.007	0.043		
3/2/2020		0.00037 (J)	<0.005						
3/4/2020							0.055		
3/9/2020	0.016			<0.005	0.0016 (J)	0.007		0.0015 (J)	<0.005
8/11/2020		0.0012 (J)	<0.005						
8/13/2020	0.0051			<0.005	0.0014 (J)	0.006	0.044	0.0015 (J)	<0.005
9/22/2020	0.011	<0.005	<0.005						
9/23/2020							0.046	0.0011 (J)	<0.005
9/24/2020				<0.005	0.0013 (J)				
9/25/2020						0.0061			
3/1/2021		<0.005	<0.005						
3/8/2021							0.039		
3/10/2021									<0.005
3/11/2021				<0.005	0.0017 (J)	0.0058		0.0016 (J)	
3/12/2021	0.0078								

Time Series

Constituent: Cobalt (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-100	B-105D	B-113D
3/31/2017	0.0022 (J)				
5/12/2017	0.0016 (J)				
6/16/2017	0.0009 (J)				
7/13/2017	0.0004 (J)				
10/26/2017	0.0031 (J)				
11/15/2017	0.0028 (J)				
3/2/2018	<0.005				
7/13/2018	<0.005				
11/8/2018	<0.005				
8/28/2019	<0.005				
10/16/2019	<0.005				
3/9/2020	<0.005				
7/23/2020			0.086		
8/3/2020			0.087		
8/13/2020	<0.005	<0.005			
8/17/2020			0.077		
9/23/2020	<0.005				
9/24/2020		<0.005			
9/25/2020			0.034		
12/9/2020				0.012	
3/8/2021			0.029	0.0042 (J)	
3/10/2021	<0.005				
3/12/2021		<0.005			
4/16/2021					<0.005

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							1.44		
9/8/2016				0.827 (U)	1.48	1.44			
12/7/2016				0.56 (U)	0.22 (U)	2.16			
12/8/2016							2.56		
3/28/2017	6.36	0.866 (U)	0.257 (U)						
3/30/2017				0.302 (U)	0.519 (U)	0.264 (U)	0.0844 (U)		
3/31/2017								0.404 (U)	
5/11/2017	3.45								
5/12/2017			0.165 (U)					0.206 (U)	1.18
5/15/2017		0.288 (U)							
6/15/2017	4.58	1.01 (U)							
6/16/2017			0.732 (U)					0.966 (U)	0.332 (U)
7/11/2017		0.254 (U)	0.461 (U)						
7/12/2017	4.37								
7/13/2017				0.731 (U)	1.11	0.517 (U)	0.963 (U)	0.387 (U)	0.304 (U)
8/8/2017		1.48							1.4
10/24/2017	4.46	0.472 (U)	0.724 (U)						
10/26/2017				1.04 (U)	1.13 (U)	0.875 (U)	0.748 (U)	0.619 (U)	0.477 (U)
2/27/2018		1.22	0.714 (U)						
3/1/2018				0.344 (U)	0.985 (U)	1.24			
3/2/2018							0.485 (U)	1.31	1.13
3/8/2018	2.14								
7/10/2018		0.362 (U)	0.426 (U)						
7/12/2018	4.65			0.566 (U)	0.615 (U)	0.935 (U)	0.231 (U)		
7/13/2018								0.667 (U)	0.407 (U)
11/6/2018		0.859 (U)	0.455 (U)						
11/7/2018	3.05								
11/8/2018				0.623 (U)	0.58 (U)	1.15 (U)	0.465 (U)	0.911 (U)	0.393 (U)
8/27/2019		1.97	1.3 (U)						
8/28/2019	2.68			1.24 (U)	0.517 (U)	1.15 (U)	0.592 (U)	0.751 (U)	1.77
10/15/2019		0.319 (U)	1.21 (U)						
10/16/2019	1.89								2.12
1/6/2020				2.01	0.527 (U)	1.4	1.6	0.965 (U)	
3/2/2020		0.419 (U)	1.3						
3/4/2020							1.62		
3/9/2020	3.51			0.499 (U)	1.04	1.36		0.819 (U)	1.33
8/11/2020		0.812 (U)	0.965 (U)						
8/13/2020	1.04			0.99	0.132 (U)	0.626 (U)	1.6	0.897 (U)	1.46
9/22/2020	2.27	0.45 (U)	0.216 (U)						
9/23/2020							1.28 (U)	0.131 (U)	0.563 (U)
9/24/2020				1.03 (U)	0.593 (U)				
9/25/2020						0.181 (U)			
3/1/2021		0.552 (U)	0.389 (U)						
3/8/2021							0.714 (U)		
3/10/2021									0.568 (U)
3/11/2021				0.956 (U)	0.0784 (U)	0.969 (U)		1.55	
3/12/2021	1.63								

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-100	B-105D	B-113D
3/31/2017	1.39				
5/12/2017	1.29				
6/16/2017	1.61				
7/13/2017	1.14				
10/26/2017	2.04				
11/15/2017	1.99				
3/2/2018	0.918 (U)				
7/13/2018	1.36 (U)				
11/8/2018	0.719 (U)				
8/28/2019	1.38				
10/16/2019	0.826 (U)				
3/9/2020	1.39				
8/13/2020	2.66	1.63			
8/17/2020			1.4 (U)		
9/23/2020	1.8				
9/24/2020		1.28 (U)			
9/25/2020			0.799 (U)		
12/9/2020				1.25 (U)	
3/8/2021			0.168 (U)	1.87	
3/10/2021	1.6				
3/12/2021		1.18 (U)			
4/16/2021					0.852 (U)

Time Series

Constituent: Fluoride (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							0.5		
9/8/2016				0.08 (J)	0.1 (J)	0.17 (J)			
12/7/2016				0.21 (J)	0.27 (J)	0.33			
12/8/2016							0.35		
3/28/2017	0.12 (J)	1.2 (o)	0.06 (J)						
3/30/2017				0.05 (J)	0.12 (J)	0.17 (J)	0.21 (J)		
3/31/2017								0.02 (J)	
5/11/2017	0.07 (J)								
5/12/2017			<0.1					<0.1	0.37
5/15/2017		0.005 (J)							
6/15/2017	0.19 (J)	0.02 (J)							
6/16/2017			0.008 (J)					0.03 (J)	0.12 (J)
7/11/2017		0.06 (J)	0.007 (J)						
7/12/2017	0.1 (J)								
7/13/2017				0.06 (J)	0.13 (J)	0.14 (J)	0.2 (J)	0.03 (J)	0.12 (J)
8/8/2017		0.04 (J)							0.11 (J)
10/24/2017	0.06 (J)	<0.1	<0.1						
10/26/2017				0.08 (J)	0.47	0.54	0.5	<0.1	0.11 (J)
11/15/2017	0.05 (J)		<0.1						
2/27/2018		<0.1	<0.1						
3/1/2018				0.22	<0.1	0.13			
3/2/2018							0.33	<0.1	0.23
3/8/2018	<0.1								
7/12/2018	0.071 (J)			0.32	0.23 (J)	0.13 (J)	0.57		
7/13/2018								0.25 (J)	0.099 (J)
11/6/2018		<0.1	<0.1						
11/7/2018	<0.1								
11/8/2018				<0.1	<0.1	<0.3 (J)	<0.3 (J)	0.5	<0.3 (J)
3/12/2019		0.039 (J)	<0.1						
3/13/2019	0.13 (J)			0.08 (J)	0.084 (J)	0.085 (J)	0.15 (J)	0.07 (J)	0.12 (J)
8/27/2019		<0.1	<0.1						
8/28/2019	0.42			0.074 (J)	0.066 (J)	0.086 (J)	0.14	<0.1	0.1
10/15/2019		<0.1	<0.1						
10/16/2019	0.11 (J)								0.093 (J)
10/17/2019								0.038 (J)	
10/18/2019				0.075 (J)	0.073 (J)	0.14 (J)	0.13 (J)		
3/2/2020		<0.1	<0.1						
3/4/2020							0.11 (J)		
3/9/2020	0.1 (J)			0.054 (J)	0.064 (J)	0.075 (J)		<0.1	0.082 (J)
8/11/2020		<0.1	<0.1						
8/13/2020	0.062 (J)			0.068 (J)	0.06 (J)	0.076 (J)	0.16	<0.1	0.076 (J)
9/22/2020	0.099 (J)	<0.1	<0.1						
9/23/2020							0.054 (J)	<0.1	0.07 (J)
9/24/2020				0.061 (J)	0.057 (J)				
9/25/2020						0.086 (J)			
3/1/2021		<0.1	<0.1						
3/8/2021							0.17		
3/10/2021									0.07 (J)
3/11/2021				0.057 (J)	0.058 (J)	0.083 (J)		<0.1	
3/12/2021	0.076 (J)								

Time Series

Constituent: Fluoride (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-100	B-105D	B-113D
3/31/2017	0.16 (J)				
5/12/2017	0.12 (J)				
6/16/2017	0.16 (J)				
7/13/2017	0.13 (J)				
10/26/2017	0.29 (J)				
11/15/2017	0.28 (J)				
3/2/2018	0.18				
7/13/2018	0.19 (J)				
11/8/2018	<0.3 (J)				
3/13/2019	0.086 (J)				
8/28/2019	0.07 (J)				
10/16/2019	0.13 (J)				
3/9/2020	0.068 (J)				
8/13/2020	0.084 (J)	0.11			
8/17/2020			<0.1		
9/23/2020	0.064 (J)				
9/24/2020		0.093 (J)			
9/25/2020			<0.1		
12/9/2020				0.075 (J)	
3/8/2021			<0.1	0.32	
3/10/2021	0.055 (J)				
3/12/2021		0.11			
4/16/2021					0.71

Time Series

Constituent: Lead (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							<0.001		
9/8/2016				<0.001	<0.001	<0.001			
12/7/2016				<0.001	<0.001	<0.001			
12/8/2016							<0.001		
3/28/2017	<0.001	9E-05 (J)	<0.001						
3/30/2017				0.0014 (J)	<0.001	<0.001	7E-05 (J)		
3/31/2017								<0.001	
5/11/2017	<0.001								
5/12/2017			8E-05 (J)					9E-05 (J)	<0.001
5/15/2017		0.0001 (J)							
6/15/2017	<0.001	0.0002 (J)							
6/16/2017			<0.001					<0.001	<0.001
7/11/2017		<0.001	<0.001						
7/12/2017	<0.001								
7/13/2017				<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
8/8/2017		7E-05 (J)							<0.001
10/24/2017	<0.001	<0.001	<0.001						
10/26/2017				<0.001	0.0001 (J)	<0.001	7E-05 (J)	<0.001	<0.001
2/27/2018		<0.001	<0.001						
3/1/2018				<0.001	<0.001	<0.001			
3/2/2018							<0.001	<0.001	<0.001
3/8/2018	<0.001								
7/12/2018	<0.001			<0.001	<0.001	<0.001	<0.001		
7/13/2018								<0.001	<0.001
11/6/2018		<0.001	<0.001						
11/7/2018	<0.001								
11/8/2018				<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
8/27/2019		7.8E-05 (J)	<0.001						
8/28/2019	<0.001			6.1E-05 (J)	<0.001	8E-05 (J)	8.1E-05 (J)	<0.001	<0.001
10/15/2019		<0.001	<0.001						
10/16/2019	<0.001								<0.001
10/17/2019								<0.001	
10/18/2019				<0.001	7.4E-05 (J)	<0.001	0.00015 (J)		
3/2/2020		7.4E-05 (J)	<0.001						
3/4/2020							0.00017 (J)		
3/9/2020	<0.001			<0.001	6.1E-05 (J)	<0.001		4.7E-05 (J)	<0.001
8/11/2020		0.0003 (J)	<0.001						
8/13/2020	<0.001			<0.001	<0.001	<0.001	4.9E-05 (J)	5.6E-05 (J)	<0.001
9/22/2020	<0.001	7.8E-05 (J)	<0.001						
9/23/2020							0.00028 (J)	<0.001	0.00035 (J)
9/24/2020				<0.001	0.00014 (J)				
9/25/2020						0.00022 (J)			
3/1/2021		<0.001	<0.001						
3/8/2021							5.4E-05 (J)		
3/10/2021									6.7E-05 (J)
3/11/2021				<0.001	0.00014 (J)	<0.001		0.00025 (J)	
3/12/2021	<0.001								

Time Series

Constituent: Lead (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-100	B-105D	B-113D
3/31/2017	<0.001				
5/12/2017	0.0001 (J)				
6/16/2017	<0.001				
7/13/2017	<0.001				
10/26/2017	<0.001				
11/15/2017	9E-05 (J)				
3/2/2018	<0.001				
7/13/2018	<0.001				
11/8/2018	<0.001				
8/28/2019	<0.001				
10/16/2019	<0.001				
3/9/2020	9E-05 (J)				
8/13/2020	5.9E-05 (J)	<0.001			
8/17/2020			8.8E-05 (J)		
9/23/2020	0.00017 (J)				
9/24/2020		<0.001			
9/25/2020			0.00021 (J)		
12/9/2020				5.2E-05 (J)	
3/8/2021			0.00018 (J)	<0.001	
3/10/2021	0.0001 (J)				
3/12/2021		<0.001			
4/16/2021					0.00014 (J)

Time Series

Constituent: Lithium (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							0.0022 (J)		
9/8/2016				<0.03	0.0032 (J)	<0.03			
12/7/2016				<0.03	0.0035 (J)	<0.03			
12/8/2016							<0.03		
3/28/2017	0.0108 (J)	0.0054 (J)	0.0025 (J)						
3/30/2017				0.0029 (J)	0.0035 (J)	<0.03	0.0023 (J)		
3/31/2017								0.0052 (J)	
5/11/2017	0.0087 (J)								
5/12/2017			0.0016 (J)					0.0054 (J)	0.0016 (J)
5/15/2017		0.002 (J)							
6/15/2017	0.0088 (J)	<0.03							
6/16/2017			0.0016 (J)					0.0048 (J)	<0.03
7/11/2017		<0.03	<0.03						
7/12/2017	0.0075 (J)								
7/13/2017				<0.03	0.0032 (J)	<0.03	0.0023 (J)	0.0044 (J)	<0.03
8/8/2017		<0.03							<0.03
10/24/2017	0.0103 (J)	<0.03	<0.03						
10/26/2017				0.0018 (J)	0.0034 (J)	<0.03	0.0021 (J)	0.0043 (J)	<0.03
2/27/2018		<0.03	0.0013 (J)						
3/1/2018				0.0024 (J)	0.0033 (J)	<0.03			
3/2/2018							0.0023 (J)	0.0047 (J)	<0.03
3/8/2018	0.011 (J)								
7/12/2018	0.0084 (J)			0.0028 (J)	0.0034 (J)	<0.03	0.0022 (J)		
7/13/2018								0.0041 (J)	<0.03
11/6/2018		<0.03	<0.03						
11/7/2018	<0.03								
11/8/2018				<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
8/27/2019		<0.03	0.0014 (J)						
8/28/2019	0.0092 (J)			0.0025 (J)	0.0034 (J)	<0.03	0.0022 (J)	0.0046 (J)	<0.03
10/15/2019		<0.03	0.0012 (J)						
10/16/2019	0.0094 (J)								<0.03
10/17/2019								0.0047 (J)	
10/18/2019				0.0026 (J)	0.0032 (J)	<0.03	0.0024 (J)		
3/2/2020		<0.03	0.0011 (J)						
3/4/2020							0.0027 (J)		
3/9/2020	0.0077 (J)			0.0017 (J)	0.0033 (J)	<0.03		0.0048 (J)	<0.03
8/11/2020		0.0019 (J)	0.0015 (J)						
8/13/2020	0.0085 (J)			0.0023 (J)	0.0028 (J)	<0.03	0.0022 (J)	0.0044 (J)	<0.03
9/22/2020	0.0089 (J)	<0.03	0.0012 (J)						
9/23/2020							0.0022 (J)	0.0043 (J)	<0.03
9/24/2020				0.0021 (J)	0.0029 (J)				
9/25/2020						<0.03			
3/1/2021		<0.03	0.0012 (J)						
3/8/2021							0.0022 (J)		
3/10/2021									<0.03
3/11/2021				0.0024 (J)	0.003 (J)	<0.03		0.005 (J)	
3/12/2021	0.0083 (J)								

Time Series

Constituent: Lithium (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-100	B-105D	B-113D
3/31/2017	0.0031 (J)				
5/12/2017	0.003 (J)				
6/16/2017	0.0031 (J)				
7/13/2017	0.0029 (J)				
10/26/2017	0.0034 (J)				
11/15/2017	0.0034 (J)				
3/2/2018	0.0028 (J)				
7/13/2018	0.0026 (J)				
11/8/2018	<0.03				
8/28/2019	0.0024 (J)				
10/16/2019	0.0032 (J)				
3/9/2020	0.0025 (J)				
8/13/2020	0.0031 (J)	0.0087 (J)			
8/17/2020			0.0013 (J)		
9/23/2020	0.0023 (J)				
9/24/2020		0.0084 (J)			
9/25/2020			0.0027 (J)		
12/9/2020				0.014 (J)	
3/8/2021			0.0024 (J)	0.015 (J)	
3/10/2021	0.0023 (J)				
3/12/2021		0.0087 (J)			
4/16/2021					0.013 (J)

Time Series

Constituent: Mercury (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							4.4E-05 (J)		
9/8/2016				<0.0002	<0.0002	<0.0002			
12/7/2016				<0.0002	<0.0002	<0.0002			
12/8/2016							<0.0002		
3/28/2017	<0.0002	<0.0002	<0.0002						
3/30/2017				6E-05 (J)	7E-05 (J)	5.9E-05 (J)	9E-05 (J)		
3/31/2017								<0.0002	
5/11/2017	<0.0002								
5/12/2017			6E-05 (J)					<0.0002	<0.0002
5/15/2017		<0.0002							
6/15/2017	8E-05 (J)	7E-05 (J)							
6/16/2017			7E-05 (J)					7E-05 (J)	7E-05 (J)
7/11/2017		<0.0002	<0.0002						
7/12/2017	<0.0002								
7/13/2017				<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
8/8/2017		<0.0002							<0.0002
10/24/2017	<0.0002	<0.0002	<0.0002						
10/26/2017				<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
2/27/2018		<0.0002	<0.0002						
3/1/2018				<0.0002	<0.0002	<0.0002			
3/2/2018							<0.0002	<0.0002	<0.0002
3/8/2018	<0.0002								
7/12/2018	<0.0002			4.4E-05 (J)	4E-05 (J)	<0.0002	4.5E-05 (J)		
7/13/2018								<0.0002	<0.0002
11/6/2018		<0.0002	<0.0002						
11/7/2018	<0.0002								
11/8/2018				<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
8/27/2019		<0.0002	<0.0002						
8/28/2019	<0.0002			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
10/15/2019		<0.0002	<0.0002						
10/16/2019	<0.0002								<0.0002
10/17/2019								<0.0002	
10/18/2019				<0.0002	<0.0002	<0.0002	<0.0002		
3/2/2020		<0.0002	<0.0002						
3/4/2020							<0.0002		
3/9/2020	<0.0002			<0.0002	<0.0002	<0.0002		<0.0002	<0.0002
8/11/2020		<0.0002	<0.0002						
8/13/2020	<0.0002			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
9/22/2020	<0.0002	<0.0002	<0.0002						
9/23/2020							<0.0002	<0.0002	<0.0002
9/24/2020				9.1E-05 (J)	8.5E-05 (J)				
9/25/2020						<0.0002			
3/1/2021		<0.0002	9E-05 (J)						
3/12/2021	<0.0002								

Time Series

Constituent: Mercury (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-100	B-105D	B-113D
3/31/2017	<0.0002				
5/12/2017	<0.0002				
6/16/2017	7E-05 (J)				
7/13/2017	<0.0002				
10/26/2017	<0.0002				
11/15/2017	<0.0002				
3/2/2018	<0.0002				
7/13/2018	<0.0002				
11/8/2018	<0.0002				
8/28/2019	<0.0002				
10/16/2019	<0.0002				
3/9/2020	<0.0002				
8/13/2020	<0.0002	<0.0002			
8/17/2020			0.00011 (J)		
9/23/2020	<0.0002				
9/24/2020		<0.0002			
9/25/2020			<0.0002		
12/9/2020				8.7E-05 (J)	
3/12/2021		<0.0002			
4/16/2021					<0.0002

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							<0.05		
9/8/2016				<0.05	<0.05	<0.05			
12/7/2016				<0.05	<0.05	<0.05			
12/8/2016							<0.05		
3/28/2017	0.0242	<0.05	0.0009 (J)						
3/30/2017				<0.05	0.0011 (J)	<0.05	<0.05		
3/31/2017								<0.05	
5/11/2017	0.0375								
5/12/2017			<0.05					<0.05	0.275
5/15/2017		<0.05							
6/15/2017	0.0409	<0.05							
6/16/2017			<0.05					<0.05	0.19
7/11/2017		<0.05	<0.05						
7/12/2017	0.0321								
7/13/2017				<0.05	0.0012 (J)	<0.05	<0.05	<0.05	0.211
8/8/2017		<0.05							0.207
10/24/2017	0.0227	<0.05	<0.05						
10/26/2017				<0.05	0.0011 (J)	<0.05	<0.05	<0.05	0.226
2/27/2018		<0.05	<0.05						
3/1/2018				<0.05	<0.05	<0.05			
3/2/2018							<0.05	<0.05	0.215
3/8/2018	0.035								
7/12/2018	0.034			<0.05	<0.05	<0.05	<0.05		
7/13/2018								<0.05	0.22
11/6/2018		<0.05	<0.05						
11/7/2018	0.029								
11/8/2018				<0.05	<0.05	<0.05	<0.05	<0.05	0.2
8/27/2019		<0.05	<0.05						
8/28/2019	0.031			<0.05	<0.05	<0.05	<0.05	<0.05	0.21
10/15/2019		<0.05	<0.05						
10/16/2019	0.037								0.22
10/17/2019								<0.05	
10/18/2019				<0.05	<0.05	<0.05	<0.05		
3/2/2020		<0.05	<0.05						
3/4/2020							<0.05		
3/9/2020	0.026			<0.05	0.001 (J)	<0.05		<0.05	0.19
8/11/2020		<0.05	<0.05						
8/13/2020	0.012			<0.05	0.00098 (J)	<0.05	<0.05	<0.05	0.19
9/22/2020	0.039	<0.05	<0.05						
9/23/2020							<0.05	<0.05	0.2
9/24/2020				<0.05	0.001 (J)				
9/25/2020						<0.05			
3/1/2021		<0.05	<0.05						
3/8/2021							<0.05		
3/10/2021									0.2
3/11/2021				<0.05	0.00092 (J)	<0.05		<0.05	
3/12/2021	0.018								

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-100	B-105D	B-113D
3/31/2017	0.0124				
5/12/2017	0.0117				
6/16/2017	0.0087 (J)				
7/13/2017	0.0053 (J)				
10/26/2017	0.0244				
11/15/2017	0.0237				
3/2/2018	0.0072 (J)				
7/13/2018	0.007 (J)				
11/8/2018	<0.01 (J)				
8/28/2019	0.0059 (J)				
10/16/2019	0.01				
3/9/2020	0.0062 (J)				
8/13/2020	0.011	<0.05			
8/17/2020			<0.05		
9/23/2020	0.0056 (J)				
9/24/2020		<0.05			
9/25/2020			<0.05		
12/9/2020				<0.05	
3/8/2021			<0.05	0.0011 (J)	
3/10/2021	0.0056 (J)				
3/12/2021		<0.05			
3/26/2021					0.025
4/16/2021					0.078

Time Series

Constituent: pH (SU) Analysis Run 7/27/2021 10:02 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							4.77		
9/8/2016				6.32	6.01	6.47			
12/7/2016				6.32	6.07	6.43			
12/8/2016							4.77		
3/28/2017	6.29		5.94						
3/30/2017				6.22	5.97	6.42	4.84		
3/31/2017								6.25	
5/11/2017	6.6								
5/12/2017			5.46					6.23	6.63
5/15/2017		5.72							
6/15/2017	6.41	5.74							
6/16/2017			5.81					6.22	6.63
7/11/2017		5.62	5.74						
7/12/2017	5.91								
7/13/2017				6.3	6.11	6.47	4.85	6.15	6.84
8/8/2017		5.6							6.57
10/24/2017	5.51	5.71	5.86						
10/26/2017					6.06	6.49	4.86	6.64	7.01
11/15/2017	6.5		5.77						
2/27/2018		5.5	5.66						
3/1/2018				6.28	6.05	6.37			
3/2/2018							4.67	6.18	6.58
3/8/2018	6.18								
7/10/2018		5.44	5.63						
7/12/2018	6.33			6.43	6.05	6.45	4.63		
7/13/2018								6.19	6.62
11/6/2018		5.71	5.79						
11/7/2018	6.22								
11/8/2018				6.36	6.07	6.49	4.79	6.23	6.5
3/12/2019		5.52	5.74						
3/13/2019	6			6.26	6.05	6.28	4.6	6.19	6.57
8/27/2019		5.53	5.87						
8/28/2019	6.04			6.27	5.98	6.41	4.68	6.22	6.6
10/15/2019		5.61	5.88						
10/16/2019	6.69								6.6
10/17/2019								6.14	
10/18/2019				6.26	6	6.35	4.71		
3/2/2020		5.54	5.77						
3/4/2020							4.64		
3/9/2020	6.41 (D)			6.34	6.12	6.37		6.23	6.6
8/11/2020		5.86	5.96						
8/13/2020	6.17			6.34	6.05	6.39	4.65	6.28	6.63
9/22/2020	6.43	6.01	6.06						
9/23/2020							4.78	6.23	6.6
9/24/2020				6.3	6.05				
9/25/2020						6.38			
3/1/2021		5.43	5.8						
3/8/2021							4.79 (D)		
3/10/2021									6.74 (D)
3/11/2021				6.49 (D)	6.22 (D)	6.66 (D)		6.28 (D)	
3/12/2021	6.38								

Time Series

Constituent: pH (SU) Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-100	B-105D	B-113D
3/31/2017	6.26				
4/12/2017	6.19				
5/12/2017	6.2				
6/16/2017	6.22				
7/13/2017	6.35				
10/26/2017	6.69				
11/15/2017	6.22				
3/2/2018	6.1				
7/13/2018	5.95				
11/8/2018	6				
3/13/2019	6.08				
8/28/2019	6.09				
10/16/2019	6.19				
3/9/2020	6.12				
8/3/2020			4.93		
8/13/2020	6.26	6.4			
8/17/2020			5.02		
9/23/2020	6.08				
9/24/2020		6.55			
9/25/2020			5.53		
12/9/2020				6.48	
3/8/2021			5.32	6.37	
3/10/2021	6.13 (D)				
3/12/2021		6.34			
3/26/2021					8.42
4/16/2021					7.77

Time Series

Constituent: Selenium (mg/L) Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							0.0019 (J)		
9/8/2016				<0.005	<0.005	<0.005			
12/7/2016				<0.005	<0.005	<0.005			
12/8/2016							0.0022 (J)		
3/28/2017	<0.005	<0.005	<0.005						
3/30/2017				<0.005	<0.005	<0.005	0.0023 (J)		
3/31/2017								<0.005	
5/11/2017	<0.005								
5/12/2017			<0.005					<0.005	<0.005
5/15/2017		<0.005							
6/15/2017	<0.005	<0.005							
6/16/2017			<0.005					<0.005	<0.005
7/11/2017		<0.005	<0.005						
7/12/2017	<0.005								
7/13/2017				<0.005	<0.005	<0.005	0.0025 (J)	<0.005	<0.005
8/8/2017		<0.005							<0.005
10/24/2017	<0.005	<0.005	<0.005						
10/26/2017				<0.005	<0.005	<0.005	0.0036 (J)	<0.005	<0.005
2/27/2018		<0.005	<0.005						
3/1/2018				<0.005	<0.005	<0.005			
3/2/2018							<0.005	<0.005	<0.005
3/8/2018	<0.005								
7/12/2018	<0.005			<0.005	<0.005	<0.005	<0.005		
7/13/2018								<0.005	<0.005
11/6/2018		<0.005	<0.005						
11/7/2018	<0.005								
11/8/2018				<0.005	<0.005	<0.005	<0.01 (J)	<0.005	<0.005
8/27/2019		<0.005	<0.005						
8/28/2019	<0.005			<0.005	<0.005	<0.005	0.0017 (J)	<0.005	<0.005
10/15/2019		<0.005	<0.005						
10/16/2019	<0.005								<0.005
10/17/2019								<0.005	
10/18/2019				<0.005	<0.005	<0.005	0.0027 (J)		
3/2/2020		<0.005	<0.005						
3/4/2020							0.0049 (J)		
3/9/2020	<0.005			<0.005	<0.005	<0.005		<0.005	<0.005
8/11/2020		<0.005	<0.005						
8/13/2020	<0.005			<0.005	<0.005	<0.005	0.0018 (J)	<0.005	<0.005
9/22/2020	<0.005	<0.005	<0.005						
9/23/2020							0.0067 (J)	<0.005	<0.005
9/24/2020				<0.005	<0.005				
9/25/2020						<0.005			
3/1/2021		<0.005	<0.005						
3/8/2021							0.0023 (J)		
3/10/2021									0.0017 (J)
3/11/2021				<0.005	0.0019 (J)	<0.005		0.0027 (J)	
3/12/2021	<0.005								

Time Series

Constituent: Selenium (mg/L) Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-100	B-105D	B-113D
3/31/2017	<0.005				
5/12/2017	<0.005				
6/16/2017	<0.005				
7/13/2017	<0.005				
10/26/2017	<0.005				
11/15/2017	<0.005				
3/2/2018	<0.005				
7/13/2018	<0.005				
11/8/2018	<0.005				
8/28/2019	<0.005				
10/16/2019	<0.005				
3/9/2020	<0.005				
8/13/2020	<0.005	<0.005			
8/17/2020			<0.005		
9/23/2020	<0.005				
9/24/2020		<0.005			
9/25/2020			<0.005		
12/9/2020				<0.005	
3/8/2021			0.0019 (J)	<0.005	
3/10/2021	<0.005				
3/12/2021		<0.005			
4/16/2021					<0.005

Time Series

Constituent: Sulfate (mg/L) Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							230		
9/8/2016				97	270	280			
12/7/2016				100	250	250			
12/8/2016							270		
3/28/2017	49	2.7	17						
3/30/2017				110	290	310	240		
3/31/2017								110	
5/11/2017	21								
5/12/2017			17					100	50
5/15/2017		1							
6/15/2017	16	0.86 (J)							
6/16/2017			11					100	47
7/11/2017		1.4	11						
7/12/2017	10								
7/13/2017				200 (o)	270	220	220	110	49
8/8/2017		1.5							48
10/24/2017	15	1.4	9.6						
10/26/2017				97	260	210	220	100	48
11/15/2017	3.8		7.8						
2/27/2018		0.54 (J)	7.4						
3/1/2018				94.6	242	166			
3/2/2018							219	98.5	44.7
3/8/2018	9.7								
7/12/2018	8			89.2	256	169	222		
7/13/2018								136	43.3
11/6/2018		<1 (J)	7.3						
11/7/2018	12.8								
11/8/2018				102	291	200	273	118	43.5
3/12/2019		0.35 (J)	7						
3/13/2019	23.7			92.2	300	265	445	233	44.1
10/15/2019		0.16 (J)	7.4						
10/16/2019	15.1								32.1
10/17/2019								99.4	
10/18/2019				76.4	239	182	205		
3/2/2020		<1	8.5						
3/4/2020							177		
3/9/2020	9.5			90.3	244	171		100	37.4
9/22/2020	13.5	<1	6.5						
9/23/2020							190	99.8	38.7
9/24/2020				84.1	240				
9/25/2020						153			
3/1/2021		<1	5.2						
3/8/2021							191		
3/10/2021									38.4
3/11/2021				81.9	154	123		76.7	
3/12/2021	8.8								

Time Series

Constituent: Sulfate (mg/L) Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-100	B-105D	B-113D
3/31/2017	21				
5/12/2017	17				
6/16/2017	20				
7/13/2017	17				
10/26/2017	31				
11/15/2017	29				
3/2/2018	10.1				
7/13/2018	8.6				
11/8/2018	9.7				
3/13/2019	8.4				
10/16/2019	13.3				
3/9/2020	7.6				
9/23/2020	5.9				
9/24/2020		50.6			
9/25/2020			385		
12/9/2020				220	
3/8/2021			388	228	
3/10/2021	6.4				
3/12/2021		46.5			
4/16/2021					46.5

Time Series

Constituent: TDS (mg/L) Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							583 (o)		
9/8/2016				279	437	522			
12/7/2016				300	478	565			
12/8/2016							319		
3/28/2017	202	39	90						
3/30/2017				273	448	496	344		
3/31/2017								270	
5/11/2017	241								
5/12/2017			92					287	300
5/15/2017		88							
6/15/2017	251	65							
6/16/2017			100					309	271
7/11/2017		25	59						
7/12/2017	218								
7/13/2017				312	504	508	386	275	246
8/8/2017		53							278
10/24/2017	671 (o)	49	117						
10/26/2017				340	554	532	373	319	287
11/15/2017	241		90						
2/27/2018		43	79						
3/1/2018				311	492	440			
3/2/2018							359	264	252
3/8/2018	213								
7/12/2018	198			290	478	463	365		
7/13/2018								297	275
11/6/2018		65	85						
11/7/2018	200								
11/8/2018				295	507	485	399	295	277
3/12/2019		43	74						
3/13/2019	201			286	487	526	351	278	267
10/15/2019		70	89						
10/16/2019	126								218
10/17/2019								281	
10/18/2019				269	494	489	360		
3/2/2020		52	67						
3/4/2020							400		
3/9/2020	171			357	554	508		209	188
9/22/2020	142	46	74						
9/23/2020							357	296	251
9/24/2020				280	489				
9/25/2020						460			
3/1/2021		25	62						
3/8/2021							346		
3/10/2021									232
3/11/2021				255	463	440		265	
3/12/2021	124								

Time Series

Constituent: TDS (mg/L) Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-100	B-105D	B-113D
3/31/2017	138				
5/12/2017	243				
6/16/2017	155				
7/13/2017	122				
10/26/2017	234				
11/15/2017	188				
3/2/2018	73				
7/13/2018	95				
11/8/2018	112				
3/13/2019	95				
10/16/2019	108				
3/9/2020	115				
9/23/2020	102				
9/24/2020		170			
9/25/2020			724		
12/9/2020				474	
3/8/2021			660	477	
3/10/2021	78				
3/12/2021		172			
4/16/2021					229

Time Series

Constituent: Thallium (mg/L) Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-53 (bg)	DGWA-70A (bg)	DGWA-71 (bg)	DGWC-37	DGWC-38	DGWC-39	DGWC-40	DGWC-67	DGWC-68A
9/2/2016							<0.001		
9/8/2016				<0.001	<0.001	<0.001			
12/7/2016				<0.001	<0.001	<0.001			
12/8/2016							<0.001		
3/28/2017	<0.001	<0.001	6E-05 (J)						
3/30/2017				<0.001	0.0001 (J)	0.0001 (J)	6E-05 (J)		
3/31/2017								<0.001	
5/11/2017	<0.001								
5/12/2017			<0.001					<0.001	<0.001
5/15/2017		<0.001							
6/15/2017	<0.001	<0.001							
6/16/2017			<0.001					<0.001	<0.001
7/11/2017		<0.001	<0.001						
7/12/2017	<0.001								
7/13/2017				<0.001	0.0001 (J)	9E-05 (J)	6E-05 (J)	<0.001	<0.001
8/8/2017		<0.001							<0.001
10/24/2017	<0.001	<0.001	<0.001						
10/26/2017				<0.001	0.0001 (J)	0.0001 (J)	7E-05 (J)	<0.001	<0.001
2/27/2018		<0.001	<0.001						
3/1/2018				<0.001	<0.001	<0.001			
3/2/2018							<0.001	<0.001	<0.001
3/8/2018	<0.001								
7/12/2018	<0.001			<0.001	<0.001	<0.001	<0.001		
7/13/2018								<0.001	0.00015 (J)
11/6/2018		<0.001	<0.001						
11/7/2018	<0.001								
11/8/2018				<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
8/27/2019		<0.001	<0.001						
8/28/2019	<0.001			<0.001	0.00014 (J)	6.9E-05 (J)	7E-05 (J)	<0.001	<0.001
10/15/2019		<0.001	<0.001						
10/16/2019	<0.001								<0.001
10/17/2019								<0.001	
10/18/2019				<0.001	0.0001 (J)	<0.001	<0.001		
3/2/2020		7.8E-05 (J)	<0.001						
3/4/2020							6.8E-05 (J)		
3/9/2020	<0.001			<0.001	0.00016 (J)	7.1E-05 (J)		<0.001	<0.001
8/11/2020		<0.001	<0.001						
8/13/2020	<0.001			<0.001	0.00016 (J)	<0.001	<0.001	<0.001	<0.001
9/22/2020	<0.001	<0.001	<0.001						
9/23/2020							<0.001	<0.001	<0.001
9/24/2020				<0.001	0.00015 (J)				
9/25/2020						<0.001			
3/1/2021		<0.001	<0.001						
3/8/2021							<0.001		
3/10/2021									<0.001
3/11/2021				<0.001	<0.001	<0.001		<0.001	
3/12/2021	<0.001								

Time Series

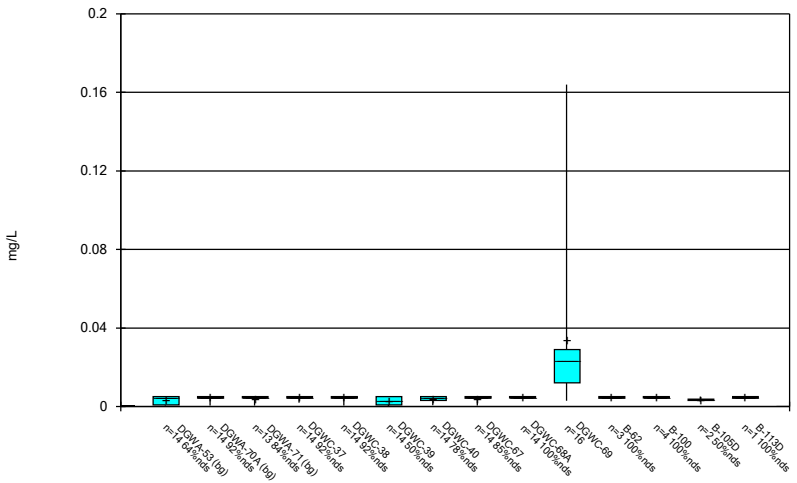
Constituent: Thallium (mg/L) Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-69	B-62	B-100	B-105D	B-113D
3/31/2017	<0.001				
5/12/2017	<0.001				
6/16/2017	<0.001				
7/13/2017	<0.001				
10/26/2017	<0.001				
11/15/2017	<0.001				
3/2/2018	<0.001				
7/13/2018	<0.001				
11/8/2018	<0.001				
8/28/2019	<0.001				
10/16/2019	<0.001				
3/9/2020	<0.001				
8/13/2020	<0.001	<0.001			
8/17/2020			<0.001		
9/23/2020	<0.001				
9/24/2020		<0.001			
9/25/2020			<0.001		
12/9/2020				<0.001	
3/8/2021			<0.001	<0.001	
3/10/2021	<0.001				
3/12/2021		<0.001			
4/16/2021					<0.001

FIGURE B.

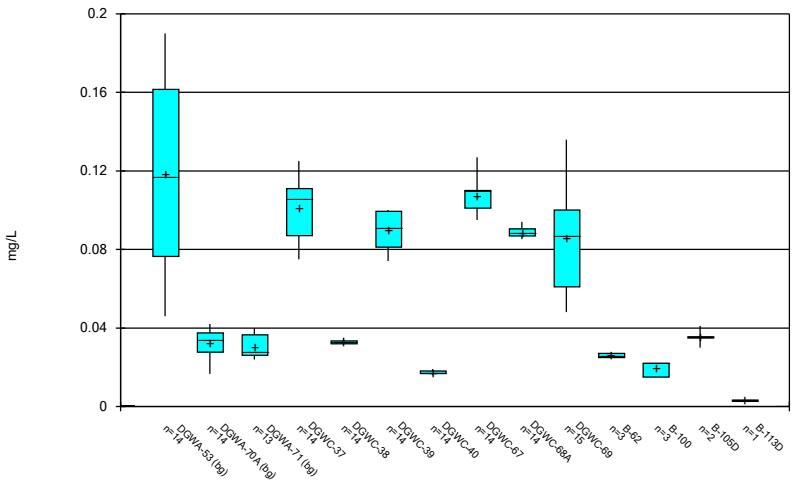
Box & Whiskers Plot



Constituent: Arsenic Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

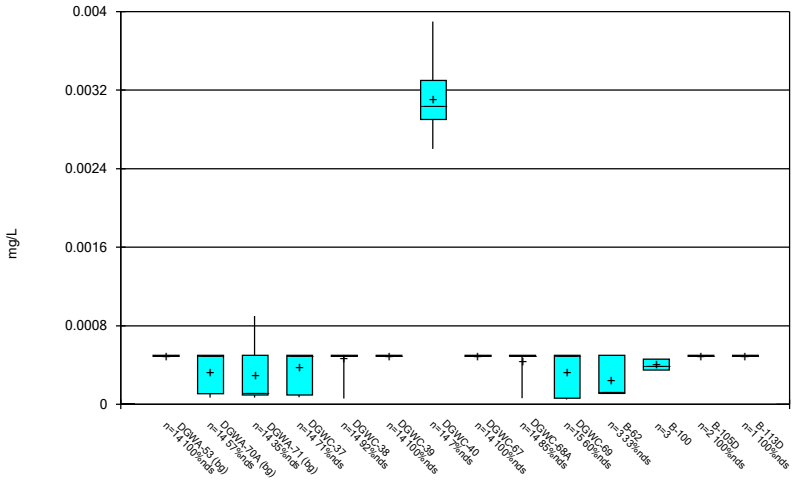
Box & Whiskers Plot



Constituent: Barium Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

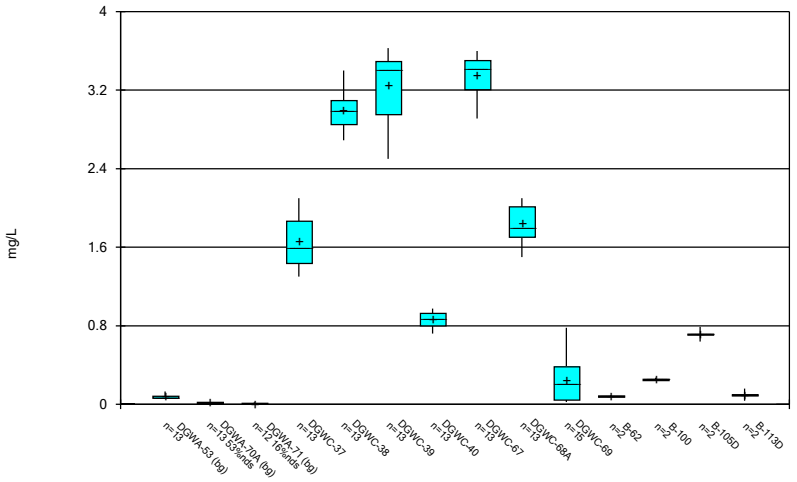
Box & Whiskers Plot



Constituent: Beryllium Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

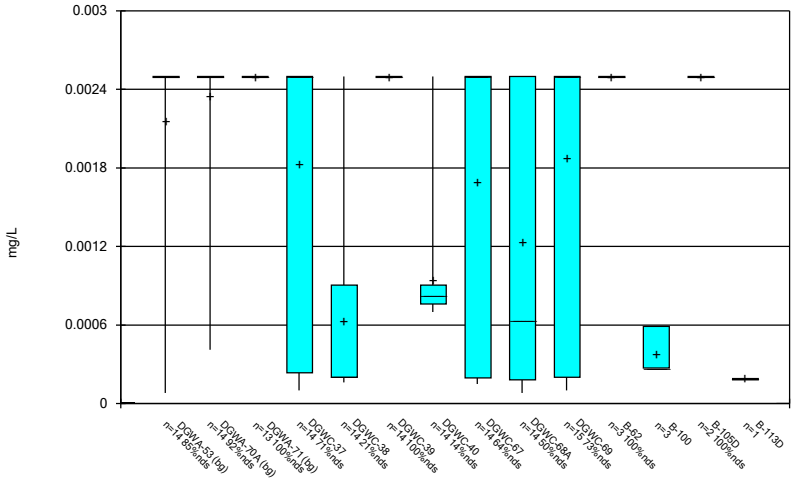
Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Boron Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Box & Whiskers Plot

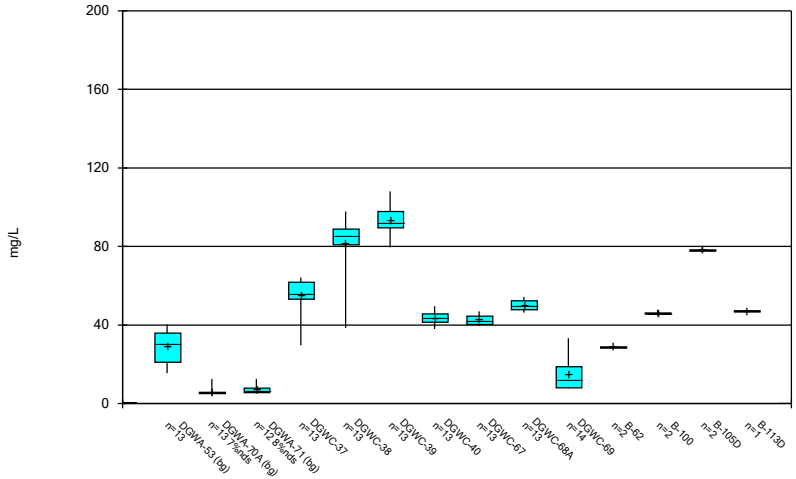


Constituent: Cadmium Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot

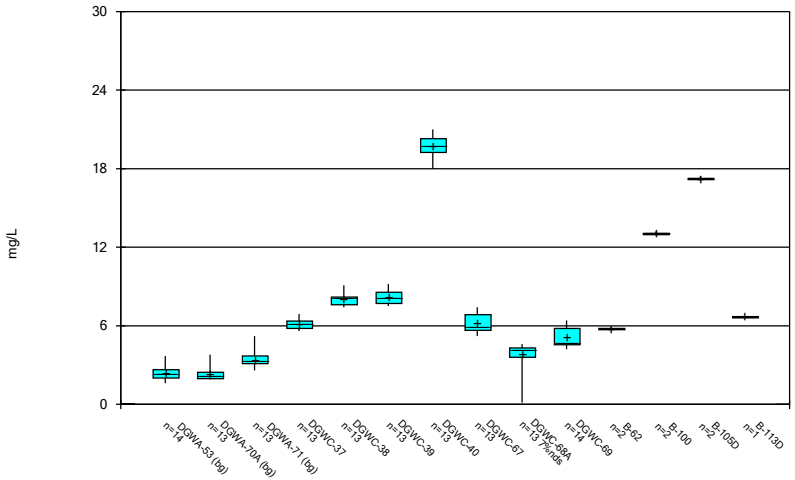


Constituent: Calcium Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot

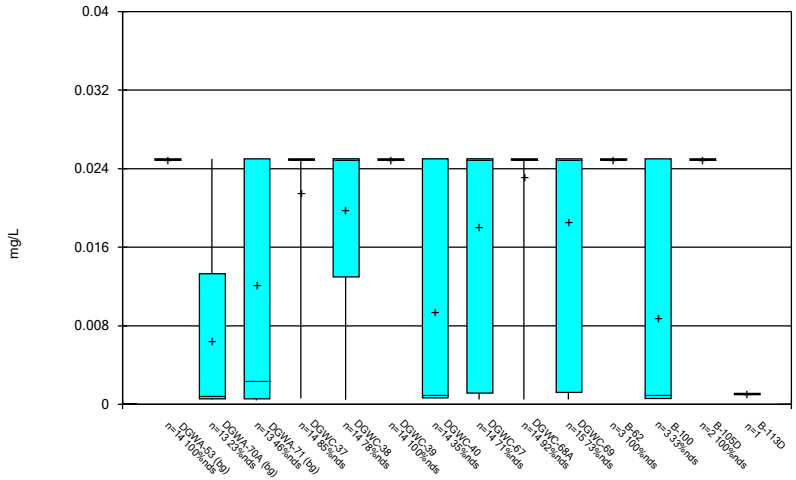


Constituent: Chloride Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

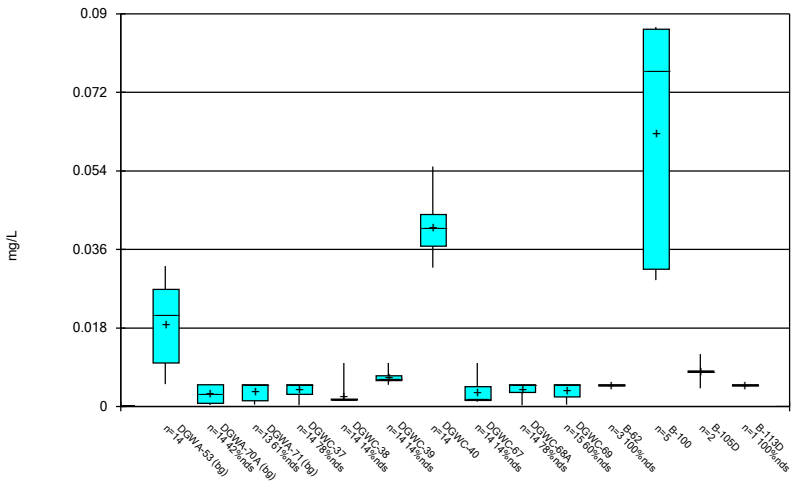
Box & Whiskers Plot



Constituent: Chromium Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

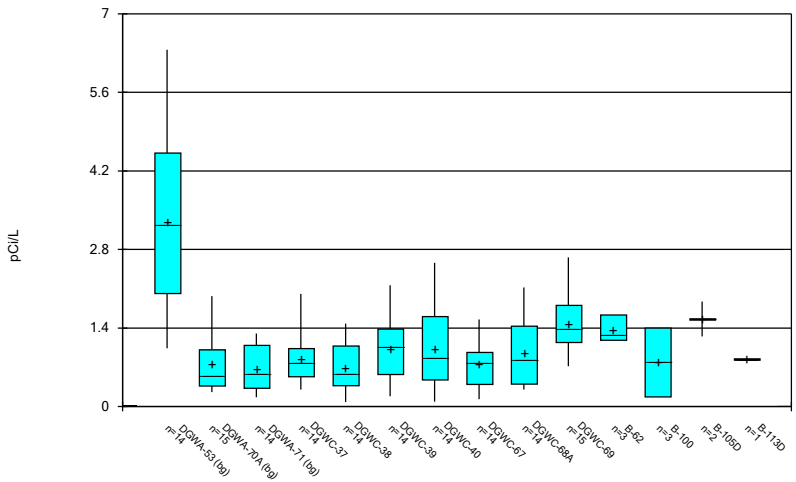
Box & Whiskers Plot



Constituent: Cobalt Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

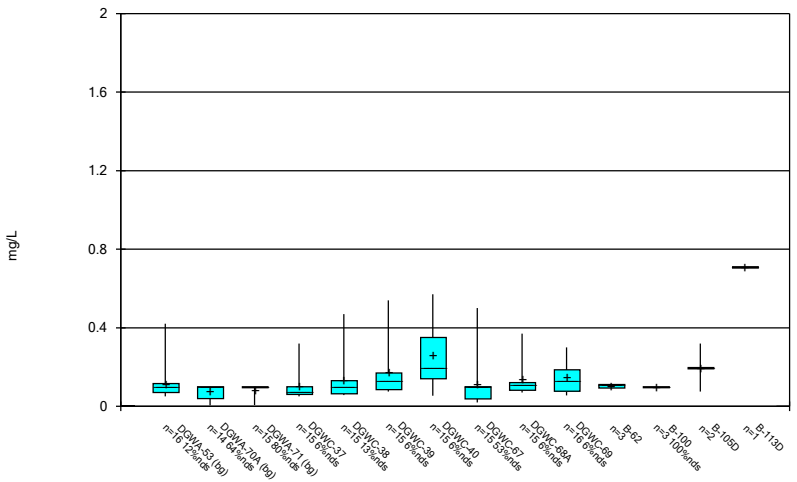
Box & Whiskers Plot



Constituent: Combined Radium 226 + 228 Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

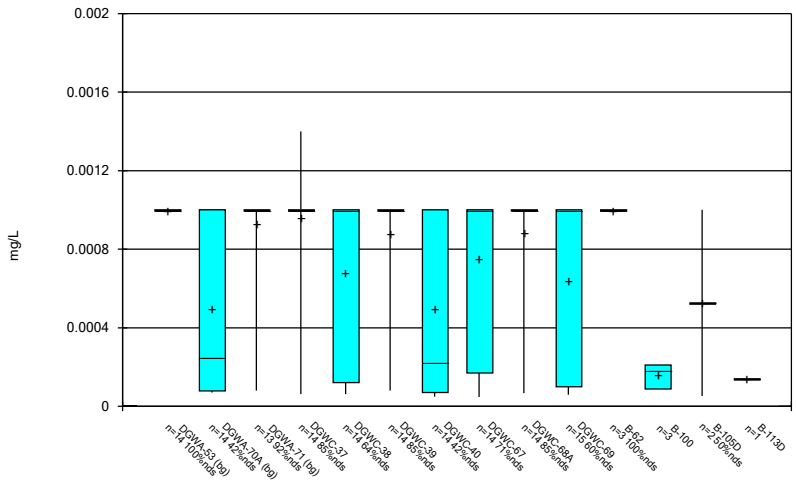
Box & Whiskers Plot



Constituent: Fluoride Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

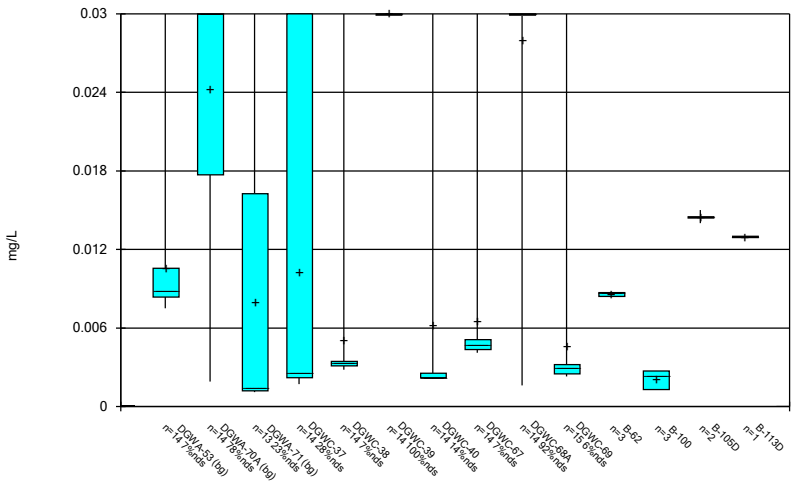
Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Lead Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

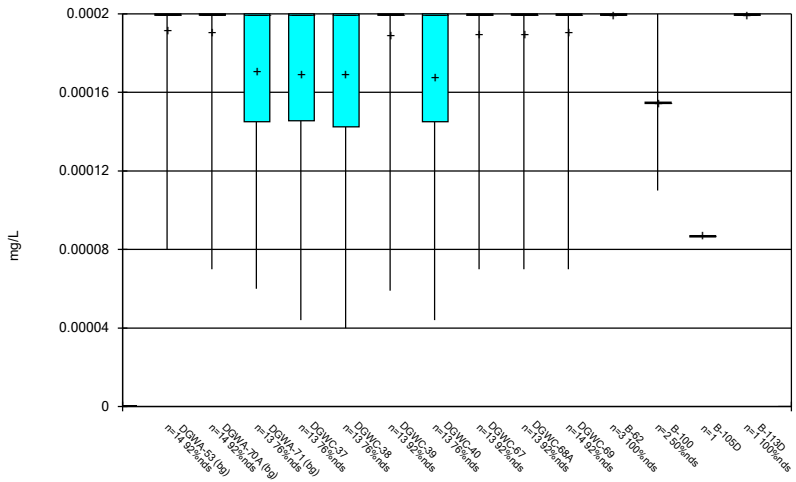
Box & Whiskers Plot



Constituent: Lithium Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

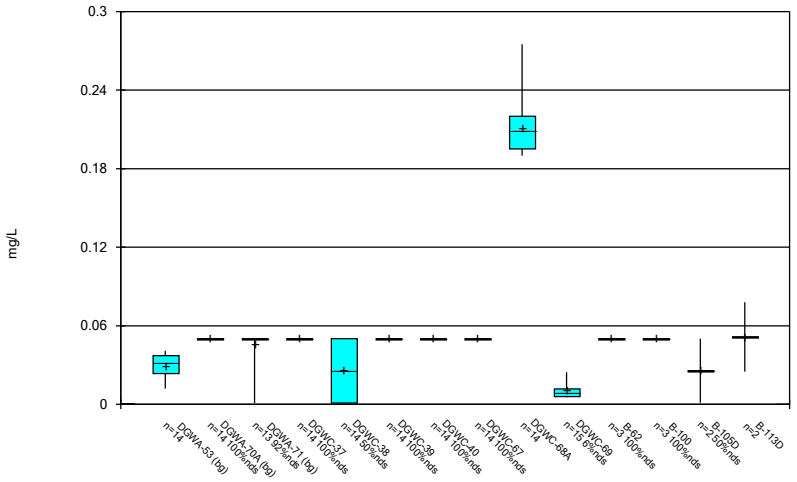
Box & Whiskers Plot



Constituent: Mercury Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

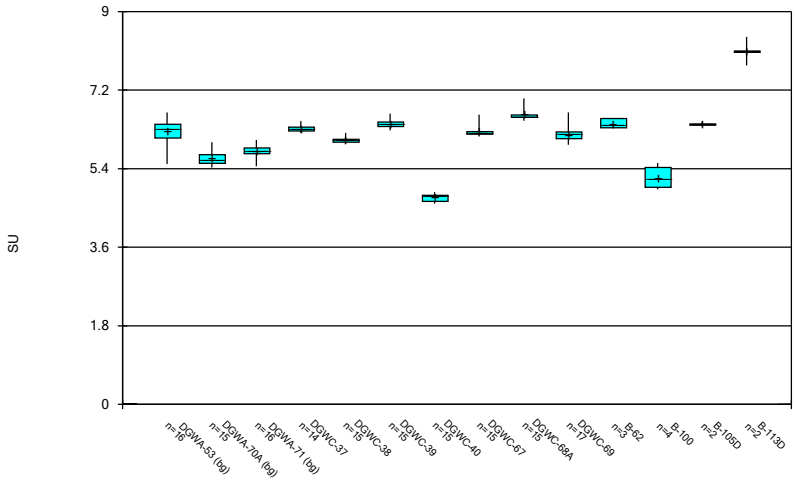
Box & Whiskers Plot



Constituent: Molybdenum Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

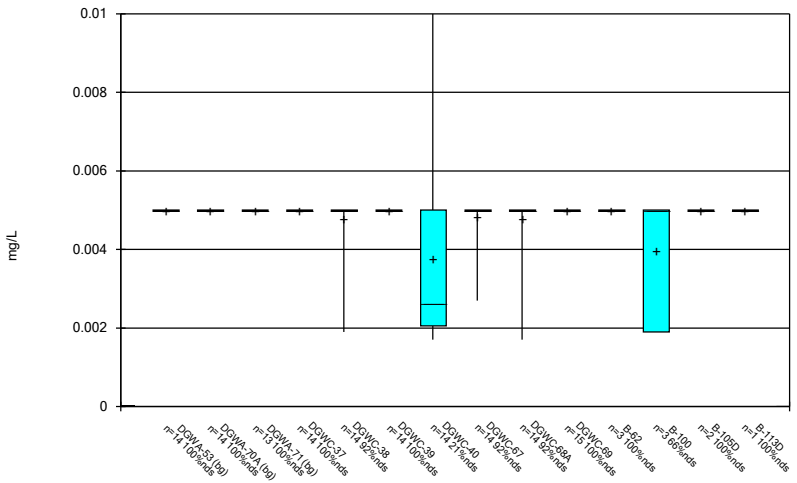
Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: pH Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

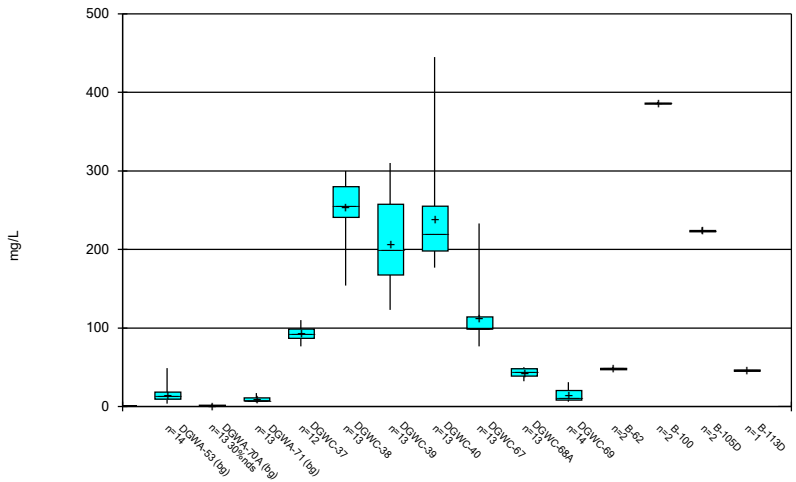
Box & Whiskers Plot



Constituent: Selenium Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

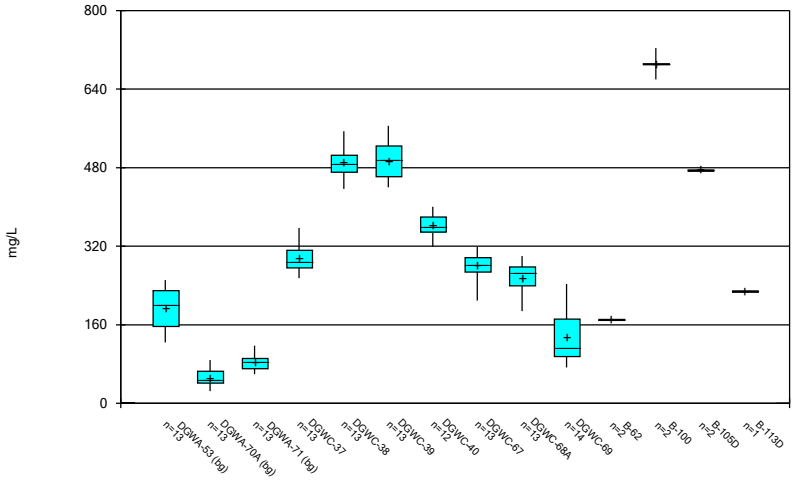
Box & Whiskers Plot



Constituent: Sulfate Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

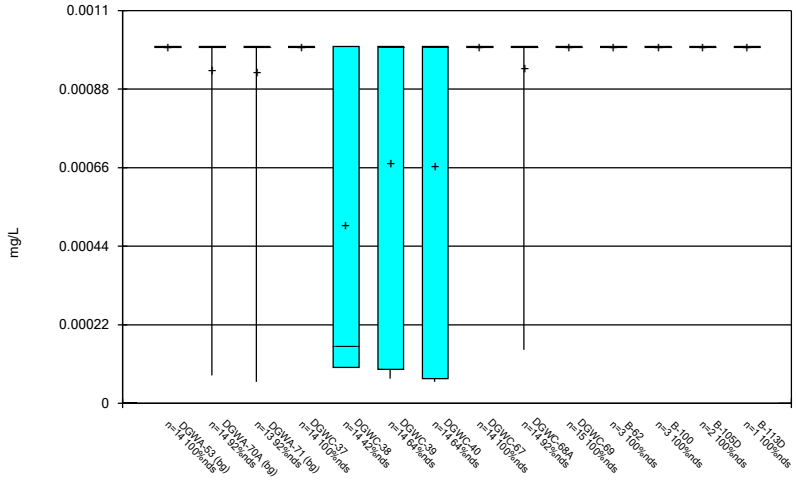
Box & Whiskers Plot



Constituent: TDS Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Thallium Analysis Run 7/27/2021 10:03 AM View: Descriptive AP-1
Plant McDonough Client: Southern Company Data: McDonough AP

FIGURE C.

Outlier Summary

Plant McDonough Client: Southern Company Data: McDonough AP Printed 4/21/2021, 8:23 AM

	DGWA-70A Chromium (mg/L)	DGWA-70A Fluoride (mg/L)	DGWC-37 Sulfate (mg/L)	DGWA-53 TDS (mg/L)	DGWC-40 TDS (mg/L)
9/2/2016					583 (o)
3/28/2017		1.2 (o)			
7/13/2017			200 (o)		
10/24/2017				671 (o)	
10/15/2019	0.034 (O)				

FIGURE D.

Interwell Prediction Limits - Significant Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 4/21/2021, 8:16 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	DGWC-37	0.13	n/a	3/11/2021	1.4	Yes	38	n/a	n/a	23.68	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Boron (mg/L)	DGWC-38	0.13	n/a	3/11/2021	2.7	Yes	38	n/a	n/a	23.68	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Boron (mg/L)	DGWC-39	0.13	n/a	3/11/2021	2.5	Yes	38	n/a	n/a	23.68	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Boron (mg/L)	DGWC-40	0.13	n/a	3/8/2021	0.72	Yes	38	n/a	n/a	23.68	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Boron (mg/L)	DGWC-67	0.13	n/a	3/11/2021	3.4	Yes	38	n/a	n/a	23.68	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Boron (mg/L)	DGWC-68A	0.13	n/a	3/10/2021	1.7	Yes	38	n/a	n/a	23.68	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Calcium (mg/L)	DGWC-37	40	n/a	3/11/2021	56	Yes	38	n/a	n/a	5.263	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Calcium (mg/L)	DGWC-38	40	n/a	3/11/2021	85.8	Yes	38	n/a	n/a	5.263	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Calcium (mg/L)	DGWC-39	40	n/a	3/11/2021	91.9	Yes	38	n/a	n/a	5.263	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Calcium (mg/L)	DGWC-40	40	n/a	3/8/2021	44.9	Yes	38	n/a	n/a	5.263	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Calcium (mg/L)	DGWC-67	40	n/a	3/11/2021	45.4	Yes	38	n/a	n/a	5.263	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Calcium (mg/L)	DGWC-68A	40	n/a	3/10/2021	54.2	Yes	38	n/a	n/a	5.263	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Chloride (mg/L)	DGWC-37	4.3	n/a	3/11/2021	5.6	Yes	40	1.631	0.2231	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	DGWC-38	4.3	n/a	3/11/2021	8	Yes	40	1.631	0.2231	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	DGWC-39	4.3	n/a	3/11/2021	7.7	Yes	40	1.631	0.2231	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	DGWC-40	4.3	n/a	3/8/2021	19.1	Yes	40	1.631	0.2231	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	DGWC-67	4.3	n/a	3/11/2021	7.4	Yes	40	1.631	0.2231	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	DGWC-69	4.3	n/a	3/10/2021	5	Yes	40	1.631	0.2231	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
pH (SU)	DGWC-39	6.6	5.2	3/11/2021	6.66	Yes	47	5.901	0.3346	0	None	No	0.0005373	Param Inter 1 of 2
pH (SU)	DGWC-40	6.6	5.2	3/8/2021	4.79	Yes	47	5.901	0.3346	0	None	No	0.0005373	Param Inter 1 of 2
pH (SU)	DGWC-68A	6.6	5.2	3/10/2021	6.74	Yes	47	5.901	0.3346	0	None	No	0.0005373	Param Inter 1 of 2
Sulfate (mg/L)	DGWC-37	30	n/a	3/11/2021	81.9	Yes	40	2.59	1.452	10	None	sqrt(x)	0.001075	Param Inter 1 of 2
Sulfate (mg/L)	DGWC-38	30	n/a	3/11/2021	154	Yes	40	2.59	1.452	10	None	sqrt(x)	0.001075	Param Inter 1 of 2
Sulfate (mg/L)	DGWC-39	30	n/a	3/11/2021	123	Yes	40	2.59	1.452	10	None	sqrt(x)	0.001075	Param Inter 1 of 2
Sulfate (mg/L)	DGWC-40	30	n/a	3/8/2021	191	Yes	40	2.59	1.452	10	None	sqrt(x)	0.001075	Param Inter 1 of 2
Sulfate (mg/L)	DGWC-67	30	n/a	3/11/2021	76.7	Yes	40	2.59	1.452	10	None	sqrt(x)	0.001075	Param Inter 1 of 2
Sulfate (mg/L)	DGWC-68A	30	n/a	3/10/2021	38.4	Yes	40	2.59	1.452	10	None	sqrt(x)	0.001075	Param Inter 1 of 2
TDS (mg/L)	DGWC-38	270	n/a	3/11/2021	463	Yes	39	4.589	0.9669	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
TDS (mg/L)	DGWC-39	270	n/a	3/11/2021	440	Yes	39	4.589	0.9669	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
TDS (mg/L)	DGWC-40	270	n/a	3/8/2021	346	Yes	39	4.589	0.9669	0	None	x^(1/3)	0.001075	Param Inter 1 of 2

Interwell Prediction Limits - All Results

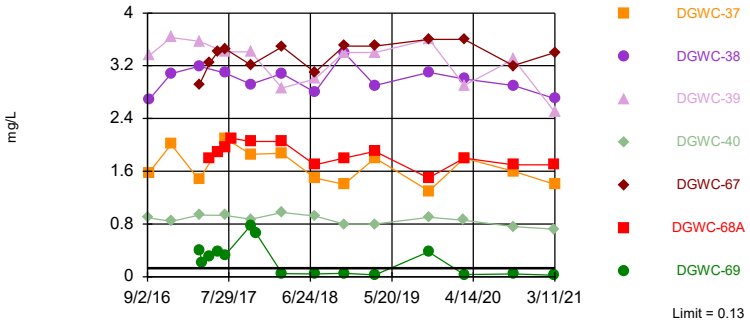
Plant McDonough Client: Southern Company Data: McDonough AP Printed 4/21/2021, 8:16 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	**DGWC-37**	**0.13**	**n/a**	**3/11/2021**	**1.4**	**38**	**n/a**	**n/a**	**23.68**	**n/a**	**n/a**	**0.00125**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**DGWC-38**	**0.13**	**n/a**	**3/11/2021**	**2.7**	**38**	**n/a**	**n/a**	**23.68**	**n/a**	**n/a**	**0.00125**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**DGWC-39**	**0.13**	**n/a**	**3/11/2021**	**2.5**	**38**	**n/a**	**n/a**	**23.68**	**n/a**	**n/a**	**0.00125**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**DGWC-40**	**0.13**	**n/a**	**3/8/2021**	**0.72**	**38**	**n/a**	**n/a**	**23.68**	**n/a**	**n/a**	**0.00125**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**DGWC-67**	**0.13**	**n/a**	**3/11/2021**	**3.4**	**38**	**n/a**	**n/a**	**23.68**	**n/a**	**n/a**	**0.00125**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**DGWC-68A**	**0.13**	**n/a**	**3/10/2021**	**1.7**	**38**	**n/a**	**n/a**	**23.68**	**n/a**	**n/a**	**0.00125**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	DGWC-69	0.13	n/a	3/10/2021	0.024J	38	n/a	n/a	23.68	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Calcium (mg/L)	**DGWC-37**	**40**	**n/a**	**3/11/2021**	**56**	**38**	**n/a**	**n/a**	**5.263**	**n/a**	**n/a**	**0.00125**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**DGWC-38**	**40**	**n/a**	**3/11/2021**	**85.8**	**38**	**n/a**	**n/a**	**5.263**	**n/a**	**n/a**	**0.00125**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**DGWC-39**	**40**	**n/a**	**3/11/2021**	**91.9**	**38**	**n/a**	**n/a**	**5.263**	**n/a**	**n/a**	**0.00125**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**DGWC-40**	**40**	**n/a**	**3/8/2021**	**44.9**	**38**	**n/a**	**n/a**	**5.263**	**n/a**	**n/a**	**0.00125**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**DGWC-67**	**40**	**n/a**	**3/11/2021**	**45.4**	**38**	**n/a**	**n/a**	**5.263**	**n/a**	**n/a**	**0.00125**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**DGWC-68A**	**40**	**n/a**	**3/10/2021**	**54.2**	**38**	**n/a**	**n/a**	**5.263**	**n/a**	**n/a**	**0.00125**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	DGWC-69	40	n/a	3/10/2021	8.5	38	n/a	n/a	5.263	n/a	n/a	0.00125	NP Inter (normality) 1 of 2
Chloride (mg/L)	**DGWC-37**	**4.3**	**n/a**	**3/11/2021**	**5.6**	**40**	**1.631**	**0.2231**	**0**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Chloride (mg/L)	**DGWC-38**	**4.3**	**n/a**	**3/11/2021**	**8**	**40**	**1.631**	**0.2231**	**0**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Chloride (mg/L)	**DGWC-39**	**4.3**	**n/a**	**3/11/2021**	**7.7**	**40**	**1.631**	**0.2231**	**0**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Chloride (mg/L)	**DGWC-40**	**4.3**	**n/a**	**3/8/2021**	**19.1**	**40**	**1.631**	**0.2231**	**0**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Chloride (mg/L)	**DGWC-67**	**4.3**	**n/a**	**3/11/2021**	**7.4**	**40**	**1.631**	**0.2231**	**0**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Chloride (mg/L)	DGWC-68A	4.3	n/a	3/10/2021	3.6	40	1.631	0.2231	0	None	sqrt(x)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	**DGWC-69**	**4.3**	**n/a**	**3/10/2021**	**5**	**40**	**1.631**	**0.2231**	**0**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Fluoride (mg/L)	DGWC-37	0.42	n/a	3/11/2021	0.057J	45	n/a	n/a	51.11	n/a	n/a	0.0009303	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	DGWC-38	0.42	n/a	3/11/2021	0.058J	45	n/a	n/a	51.11	n/a	n/a	0.0009303	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	DGWC-39	0.42	n/a	3/11/2021	0.083J	45	n/a	n/a	51.11	n/a	n/a	0.0009303	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	DGWC-40	0.42	n/a	3/8/2021	0.17	45	n/a	n/a	51.11	n/a	n/a	0.0009303	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	DGWC-67	0.42	n/a	3/11/2021	0.1ND	45	n/a	n/a	51.11	n/a	n/a	0.0009303	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	DGWC-68A	0.42	n/a	3/10/2021	0.07J	45	n/a	n/a	51.11	n/a	n/a	0.0009303	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	DGWC-69	0.42	n/a	3/10/2021	0.055J	45	n/a	n/a	51.11	n/a	n/a	0.0009303	NP Inter (NDs) 1 of 2
pH (SU)	DGWC-37	6.6	5.2	3/11/2021	6.49	47	5.901	0.3346	0	None	No	0.0005373	Param Inter 1 of 2
pH (SU)	DGWC-38	6.6	5.2	3/11/2021	6.22	47	5.901	0.3346	0	None	No	0.0005373	Param Inter 1 of 2
pH (SU)	**DGWC-39**	**6.6**	**5.2**	**3/11/2021**	**6.66**	**47**	**5.901**	**0.3346**	**0**	**None**	**No**	**0.0005373**	**Param Inter 1 of 2**
pH (SU)	**DGWC-40**	**6.6**	**5.2**	**3/8/2021**	**4.79**	**47**	**5.901**	**0.3346**	**0**	**None**	**No**	**0.0005373**	**Param Inter 1 of 2**
pH (SU)	DGWC-67	6.6	5.2	3/11/2021	6.28	47	5.901	0.3346	0	None	No	0.0005373	Param Inter 1 of 2
pH (SU)	**DGWC-68A**	**6.6**	**5.2**	**3/10/2021**	**6.74**	**47**	**5.901**	**0.3346**	**0**	**None**	**No**	**0.0005373**	**Param Inter 1 of 2**
pH (SU)	DGWC-69	6.6	5.2	3/10/2021	6.13	47	5.901	0.3346	0	None	No	0.0005373	Param Inter 1 of 2
Sulfate (mg/L)	**DGWC-37**	**30**	**n/a**	**3/11/2021**	**81.9**	**40**	**2.59**	**1.452**	**10**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Sulfate (mg/L)	**DGWC-38**	**30**	**n/a**	**3/11/2021**	**154**	**40**	**2.59**	**1.452**	**10**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Sulfate (mg/L)	**DGWC-39**	**30**	**n/a**	**3/11/2021**	**123**	**40**	**2.59**	**1.452**	**10**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Sulfate (mg/L)	**DGWC-40**	**30**	**n/a**	**3/8/2021**	**191**	**40**	**2.59**	**1.452**	**10**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Sulfate (mg/L)	**DGWC-67**	**30**	**n/a**	**3/11/2021**	**76.7**	**40**	**2.59**	**1.452**	**10**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Sulfate (mg/L)	**DGWC-68A**	**30**	**n/a**	**3/10/2021**	**38.4**	**40**	**2.59**	**1.452**	**10**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Sulfate (mg/L)	DGWC-69	30	n/a	3/10/2021	6.4	40	2.59	1.452	10	None	sqrt(x)	0.001075	Param Inter 1 of 2
TDS (mg/L)	DGWC-37	270	n/a	3/11/2021	255	39	4.589	0.9669	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
TDS (mg/L)	**DGWC-38**	**270**	**n/a**	**3/11/2021**	**463**	**39**	**4.589**	**0.9669**	**0**	**None**	**x^(1/3)**	**0.001075**	**Param Inter 1 of 2**
TDS (mg/L)	**DGWC-39**	**270**	**n/a**	**3/11/2021**	**440**	**39**	**4.589**	**0.9669**	**0**	**None**	**x^(1/3)**	**0.001075**	**Param Inter 1 of 2**
TDS (mg/L)	**DGWC-40**	**270**	**n/a**	**3/8/2021**	**346**	**39**	**4.589**	**0.9669**	**0**	**None**	**x^(1/3)**	**0.001075**	**Param Inter 1 of 2**
TDS (mg/L)	DGWC-67	270	n/a	3/11/2021	265	39	4.589	0.9669	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
TDS (mg/L)	DGWC-68A	270	n/a	3/10/2021	232	39	4.589	0.9669	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
TDS (mg/L)	DGWC-69	270	n/a	3/10/2021	78	39	4.589	0.9669	0	None	x^(1/3)	0.001075	Param Inter 1 of 2

Exceeds Limit: DGWC-37, DGWC-38, DGWC-39, DGWC-40, DGWC-67, DGWC-68A

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 38 background values. 23.68% NDs. Annual per-constituent alpha = 0.01736. Individual comparison alpha = 0.00125 (1 of 2). Comparing 7 points to limit.

Constituent: Boron Analysis Run 4/21/2021 8:12 AM View: Interwell PLs AP-1

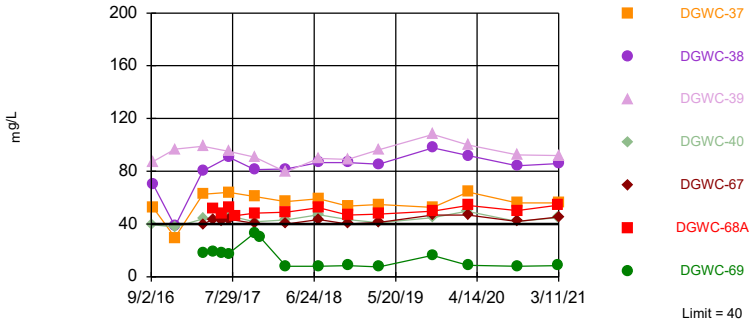
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Exceeds Limit: DGWC-37, DGWC-38, DGWC-39, DGWC-40, DGWC-67, DGWC-68A

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 38 background values. 5.263% NDs. Annual per-constituent alpha = 0.01736. Individual comparison alpha = 0.00125 (1 of 2). Comparing 7 points to limit.

Constituent: Calcium Analysis Run 4/21/2021 8:12 AM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

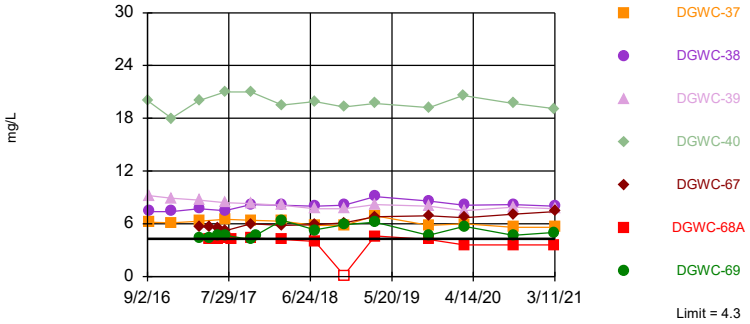
Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Exceeds Limit: DGWC-37, DGWC-38, DGWC-39, DGWC-40, DGWC-67, DGWC-69

Prediction Limit

Interwell Parametric



Background Data Summary (based on square root transformation): Mean=1.631, Std. Dev.=0.2231, n=40. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.938, critical = 0.919. Kappa = 1.972 (c=7, w=7, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001075. Comparing 7 points to limit.

Constituent: Chloride Analysis Run 4/21/2021 8:12 AM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

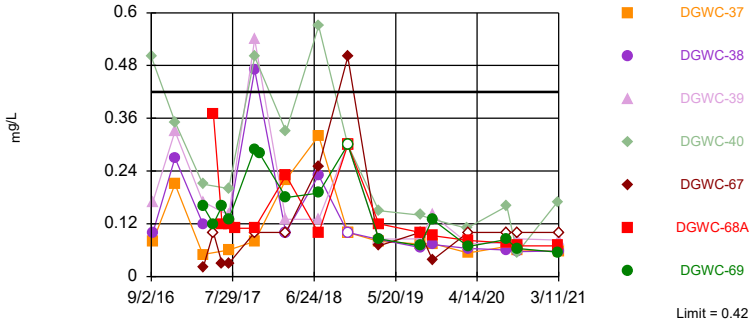
Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Within Limit

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. 51.11% NDs. Annual per-constituent alpha = 0.01295. Individual comparison alpha = 0.0009303 (1 of 2). Comparing 7 points to limit.

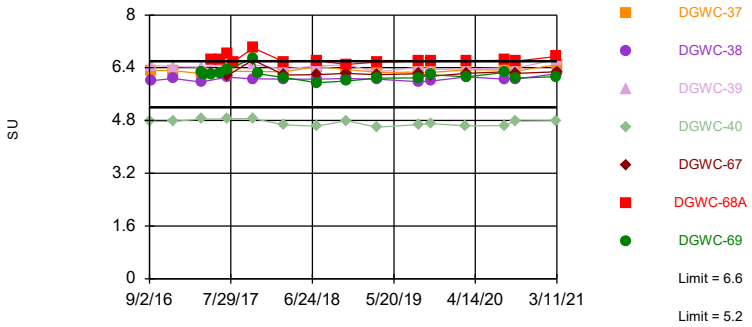
Constituent: Fluoride Analysis Run 4/21/2021 8:12 AM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

Exceeds Limits: DGWC-39, DGWC-40, DGWC-68A

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=5.901, Std. Dev.=0.3346, n=47. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9288, critical = 0.928. Kappa = 1.95 (c=7, w=7, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.0005373. Comparing 7 points to limit.

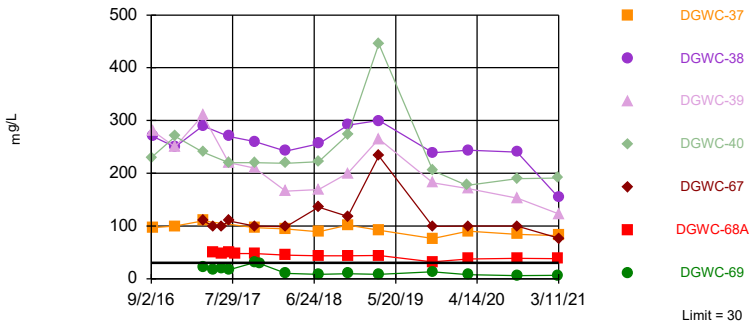
Constituent: pH Analysis Run 4/21/2021 8:12 AM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

Exceeds Limit: DGWC-37, DGWC-38, DGWC-39, DGWC-40, DGWC-67, DGWC-68A

Prediction Limit

Interwell Parametric



Background Data Summary (based on square root transformation): Mean=2.59, Std. Dev.=1.452, n=40, 10% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9354, critical = 0.919. Kappa = 1.972 (c=7, w=7, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001075. Comparing 7 points to limit.

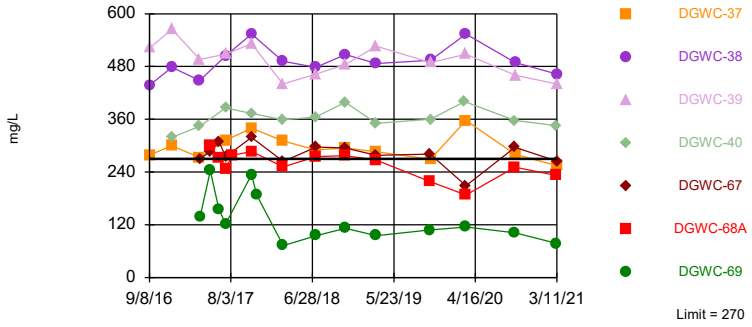
Constituent: Sulfate Analysis Run 4/21/2021 8:12 AM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

Exceeds Limit: DGWC-38, DGWC-39, DGWC-40

Prediction Limit

Interwell Parametric



Background Data Summary (based on cube root transformation): Mean=4.589, Std. Dev.=0.9669, n=39. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9309, critical = 0.917. Kappa = 1.976 (c=7, w=7, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001075. Comparing 7 points to limit.

Constituent: TDS Analysis Run 4/21/2021 8:12 AM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 4/21/2021 8:16 AM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-40	DGWC-39	DGWC-38	DGWC-37	DGWA-71 (bg)	DGWA-70A (bg)	DGWA-53 (bg)	DGWC-67	DGWC-69
9/2/2016	0.895								
9/8/2016		3.35	2.69	1.58					
12/7/2016		3.63	3.08	2.01					
12/8/2016	0.841								
3/28/2017					0.0097 (J)	0.0067 (J)	0.0612		
3/30/2017	0.937	3.57	3.19	1.47					
3/31/2017								2.91	0.407
4/12/2017									0.207
5/11/2017							0.0805		
5/12/2017					0.0082 (J)			3.24	0.311
5/15/2017						0.0073 (J)			
6/15/2017						<0.04	0.0725		
6/16/2017					0.0085 (J)			3.42	0.381
7/11/2017					0.0077 (J)	<0.04			
7/12/2017							0.0735		
7/13/2017	0.933	3.41	3.09	2.1				3.46	0.323
8/8/2017						<0.04			
10/24/2017					0.0083 (J)	0.0082 (J)	0.077		
10/26/2017	0.873	3.41	2.92	1.86				3.21	0.779
11/15/2017									0.667
2/27/2018					0.0069 (J)	0.0062 (J)			
3/1/2018		2.86	3.08	1.87					
3/2/2018	0.974							3.49	0.0478
3/8/2018							0.13 (J)		
7/12/2018	0.92	3	2.8	1.5			0.076		
7/13/2018								3.1	0.043
11/6/2018					<0.04 (J)	<0.04 (J)			
11/7/2018							0.073		
11/8/2018	0.8	3.4	3.4	1.4				3.5	0.054
3/12/2019					0.0068 (J)	0.0073 (J)			
3/13/2019	0.8	3.4	2.9	1.8			0.08	3.5	0.028 (J)
10/15/2019					0.0054 (J)	<0.04			
10/16/2019							0.059		0.38
10/17/2019								3.6	
10/18/2019	0.9	3.6	3.1	1.3					
3/2/2020					0.01 (J)	0.0055 (J)			
3/4/2020	0.86								
3/9/2020		2.9	3	1.8			0.08 (J)	3.6	0.035 (J)
9/22/2020					<0.04	<0.04	0.056 (J)		
9/23/2020	0.76							3.2	0.041 (J)
9/24/2020			2.9	1.6					
9/25/2020		3.3							
3/1/2021					0.0054 (J)	<0.04			
3/8/2021	0.72								
3/10/2021									0.024 (J)
3/11/2021		2.5	2.7	1.4				3.4	
3/12/2021							0.064		

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 4/21/2021 8:16 AM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-68A
9/2/2016	
9/8/2016	
12/7/2016	
12/8/2016	
3/28/2017	
3/30/2017	
3/31/2017	
4/12/2017	
5/11/2017	
5/12/2017	1.8
5/15/2017	
6/15/2017	
6/16/2017	1.88
7/11/2017	
7/12/2017	
7/13/2017	1.97
8/8/2017	2.1
10/24/2017	
10/26/2017	2.05
11/15/2017	
2/27/2018	
3/1/2018	
3/2/2018	2.05
3/8/2018	
7/12/2018	
7/13/2018	1.7
11/6/2018	
11/7/2018	
11/8/2018	1.8
3/12/2019	
3/13/2019	1.9
10/15/2019	
10/16/2019	1.5
10/17/2019	
10/18/2019	
3/2/2020	
3/4/2020	
3/9/2020	1.8
9/22/2020	
9/23/2020	1.7
9/24/2020	
9/25/2020	
3/1/2021	
3/8/2021	
3/10/2021	1.7
3/11/2021	
3/12/2021	

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 4/21/2021 8:16 AM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-40	DGWC-39	DGWC-38	DGWC-37	DGWA-71 (bg)	DGWA-70A (bg)	DGWA-53 (bg)	DGWC-69	DGWC-67
9/2/2016	39.6								
9/8/2016		87.2	70.3	52.5					
12/7/2016		96.7	38.4	29.7					
12/8/2016	37.9								
3/28/2017					8.31	5.14	30.8		
3/30/2017	43.9	98.9	80.3	62.6					
3/31/2017								18.6 (J)	39.9
5/11/2017							35.8		
5/12/2017					8.04			18.9 (J)	43.6
5/15/2017						6.5			
6/15/2017						5.38	36		
6/16/2017					7.66			17.7	42.5
7/11/2017					7.71	5.96			
7/12/2017							40.3		
7/13/2017	46.2	95	90.8	64.1				17.6	43.7
8/8/2017						5.2			
10/24/2017					6.86	4.93	30.3		
10/26/2017	41.8	90.6	81.3	60.8				33.3	40.4
11/15/2017								30.6	
2/27/2018					<25	<25			
3/1/2018		79.6	81.8	57					
3/2/2018	43.2							8.09	40.1
3/8/2018							39.8		
7/12/2018	47.1	89.8	86.7	59.1			34.7		
7/13/2018								7.9	43.3
11/6/2018					5.7	5.5			
11/7/2018							28.6		
11/8/2018	43.5	89	86.6	53.6				8.5	40.1
3/12/2019					5.5	5.1			
3/13/2019	41	96.3	85.3	54.8			26.7	7.6	41.2
10/15/2019					5.1	5.1			
10/16/2019							17.7	16.2	
10/17/2019									46.9
10/18/2019	44.9	108	97.8	52.5					
3/2/2020					5.8	5.3			
3/4/2020	49.6								
3/9/2020		100	91.9	64.2			23.7	8.6	46.9
9/22/2020					5.4	5	15.5		
9/23/2020	41.9							8	42
9/24/2020			84.1	55.9					
9/25/2020		92.5							
3/1/2021					5.9	4.1			
3/8/2021	44.9								
3/10/2021								8.5	
3/11/2021		91.9	85.8	56					45.4
3/12/2021							18.4		

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 4/21/2021 8:16 AM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-68A
9/2/2016	
9/8/2016	
12/7/2016	
12/8/2016	
3/28/2017	
3/30/2017	
3/31/2017	
5/11/2017	
5/12/2017	51.7
5/15/2017	
6/15/2017	
6/16/2017	47.9
7/11/2017	
7/12/2017	
7/13/2017	52.3
8/8/2017	46.3
10/24/2017	
10/26/2017	48.2
11/15/2017	
2/27/2018	
3/1/2018	
3/2/2018	48.9
3/8/2018	
7/12/2018	
7/13/2018	52.4
11/6/2018	
11/7/2018	
11/8/2018	46.8
3/12/2019	
3/13/2019	47.5
10/15/2019	
10/16/2019	49.7
10/17/2019	
10/18/2019	
3/2/2020	
3/4/2020	
3/9/2020	54
9/22/2020	
9/23/2020	50.2
9/24/2020	
9/25/2020	
3/1/2021	
3/8/2021	
3/10/2021	54.2
3/11/2021	
3/12/2021	

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 4/21/2021 8:16 AM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-40	DGWC-39	DGWC-37	DGWC-38	DGWA-53 (bg)	DGWA-71 (bg)	DGWA-70A (bg)	DGWC-69	DGWC-67
9/2/2016	20								
9/8/2016		9.2	6.2	7.4					
12/7/2016		8.9	6.1	7.4					
12/8/2016	18								
3/28/2017					3.7	3.6	3.8		
3/30/2017	20	8.7	6.3	7.7					
3/31/2017								4.4	5.7
5/11/2017					2.3				
5/12/2017						3.8		4.4	5.6
5/15/2017							2.2		
6/15/2017					2.6		2		
6/16/2017						3.4		4.7	5.5
7/11/2017						3.1	2.1		
7/12/2017					2.3				
7/13/2017	21	8.4	6.5	7.5				4.7	5.2
8/8/2017							2.2		
10/24/2017					2.7	3.2	2.4		
10/26/2017	21	8.3	6.4	8.2				4.2	6
11/15/2017					2.2	3.1		4.7	
2/27/2018						3.2	2.5		
3/1/2018		8.1	6.3	8.1					
3/2/2018	19.5							6.4	5.8
3/8/2018					2.4				
7/12/2018	19.9	7.7	5.8	8	2.2				
7/13/2018								5.3	5.9
11/6/2018						2.6	2.3		
11/7/2018					2.3				
11/8/2018	19.3	7.7	5.8	8.1				5.9	6.1
3/12/2019						3.3	2.5		
3/13/2019	19.7	8.2	6.9	9.1	3.6			6.2	6.8
10/15/2019						3.3	2.2		
10/16/2019					2			4.7	
10/17/2019									6.9
10/18/2019	19.2	8	5.8	8.6					
3/2/2020						3	1.9		
3/4/2020	20.6								
3/9/2020		7.5	6	8.1	1.8			5.7	6.7
9/22/2020					1.6	5.2	1.9		
9/23/2020	19.7							4.7	7.1
9/24/2020			5.6	8.2					
9/25/2020		7.9							
3/1/2021						3.9	1.9		
3/8/2021	19.1								
3/10/2021								5	
3/11/2021		7.7	5.6	8					7.4
3/12/2021					2				

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 4/21/2021 8:16 AM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-68A
9/2/2016	
9/8/2016	
12/7/2016	
12/8/2016	
3/28/2017	
3/30/2017	
3/31/2017	
5/11/2017	
5/12/2017	4.2
5/15/2017	
6/15/2017	
6/16/2017	4.2
7/11/2017	
7/12/2017	
7/13/2017	4.4
8/8/2017	4.2
10/24/2017	
10/26/2017	4.4
11/15/2017	
2/27/2018	
3/1/2018	
3/2/2018	4.2
3/8/2018	
7/12/2018	
7/13/2018	4
11/6/2018	
11/7/2018	
11/8/2018	<0.25
3/12/2019	
3/13/2019	4.6
10/15/2019	
10/16/2019	4.2
10/17/2019	
10/18/2019	
3/2/2020	
3/4/2020	
3/9/2020	3.6
9/22/2020	
9/23/2020	3.6
9/24/2020	
9/25/2020	
3/1/2021	
3/8/2021	
3/10/2021	3.6
3/11/2021	
3/12/2021	

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 4/21/2021 8:16 AM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-40	DGWC-39	DGWC-38	DGWC-37	DGWA-71 (bg)	DGWA-53 (bg)	DGWC-69	DGWC-67	DGWC-68A
9/2/2016	0.5								
9/8/2016		0.17 (J)	0.1 (J)	0.08 (J)					
12/7/2016		0.33	0.27 (J)	0.21 (J)					
12/8/2016	0.35								
3/28/2017					0.06 (J)	0.12 (J)			
3/30/2017	0.21 (J)	0.17 (J)	0.12 (J)	0.05 (J)					
3/31/2017							0.16 (J)	0.02 (J)	
5/11/2017						0.07 (J)			
5/12/2017					<0.1		0.12 (J)	<0.1	0.37
5/15/2017									
6/15/2017						0.19 (J)			
6/16/2017					0.008 (J)		0.16 (J)	0.03 (J)	0.12 (J)
7/11/2017					0.007 (J)				
7/12/2017						0.1 (J)			
7/13/2017	0.2 (J)	0.14 (J)	0.13 (J)	0.06 (J)			0.13 (J)	0.03 (J)	0.12 (J)
8/8/2017									0.11 (J)
10/24/2017					<0.1	0.06 (J)			
10/26/2017	0.5	0.54	0.47	0.08 (J)			0.29 (J)	<0.1	0.11 (J)
11/15/2017					<0.1	0.05 (J)	0.28 (J)		
2/27/2018					<0.1				
3/1/2018		0.13	<0.1	0.22					
3/2/2018	0.33						0.18	<0.1	0.23
3/8/2018						<0.1			
7/12/2018	0.57	0.13 (J)	0.23 (J)	0.32		0.071 (J)			
7/13/2018							0.19 (J)	0.25 (J)	0.099 (J)
11/6/2018					<0.1				
11/7/2018						<0.1			
11/8/2018	<0.3 (J)	<0.3 (J)	<0.1	<0.1			<0.3 (J)	0.5	<0.3 (J)
3/12/2019					<0.1				
3/13/2019	0.15 (J)	0.085 (J)	0.084 (J)	0.08 (J)		0.13 (J)	0.086 (J)	0.07 (J)	0.12 (J)
8/27/2019					<0.1				
8/28/2019	0.14	0.086 (J)	0.066 (J)	0.074 (J)		0.42	0.07 (J)	<0.1	0.1
10/15/2019					<0.1				
10/16/2019						0.11 (J)	0.13 (J)		0.093 (J)
10/17/2019								0.038 (J)	
10/18/2019	0.13 (J)	0.14 (J)	0.073 (J)	0.075 (J)					
3/2/2020					<0.1				
3/4/2020	0.11 (J)								
3/9/2020		0.075 (J)	0.064 (J)	0.054 (J)		0.1 (J)	0.068 (J)	<0.1	0.082 (J)
8/11/2020					<0.1				
8/13/2020	0.16	0.076 (J)	0.06 (J)	0.068 (J)		0.062 (J)	0.084 (J)	<0.1	0.076 (J)
9/22/2020					<0.1	0.099 (J)			
9/23/2020	0.054 (J)						0.064 (J)	<0.1	0.07 (J)
9/24/2020			0.057 (J)	0.061 (J)					
9/25/2020		0.086 (J)							
3/1/2021					<0.1				
3/8/2021	0.17								
3/10/2021							0.055 (J)		0.07 (J)
3/11/2021		0.083 (J)	0.058 (J)	0.057 (J)				<0.1	
3/12/2021						0.076 (J)			

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 4/21/2021 8:16 AM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-70A (bg)
9/2/2016	
9/8/2016	
12/7/2016	
12/8/2016	
3/28/2017	1.2 (o)
3/30/2017	
3/31/2017	
5/11/2017	
5/12/2017	
5/15/2017	0.005 (J)
6/15/2017	0.02 (J)
6/16/2017	
7/11/2017	0.06 (J)
7/12/2017	
7/13/2017	
8/8/2017	0.04 (J)
10/24/2017	<0.1
10/26/2017	
11/15/2017	
2/27/2018	<0.1
3/1/2018	
3/2/2018	
3/8/2018	
7/12/2018	
7/13/2018	
11/6/2018	<0.1
11/7/2018	
11/8/2018	
3/12/2019	0.039 (J)
3/13/2019	
8/27/2019	<0.1
8/28/2019	
10/15/2019	<0.1
10/16/2019	
10/17/2019	
10/18/2019	
3/2/2020	<0.1
3/4/2020	
3/9/2020	
8/11/2020	<0.1
8/13/2020	
9/22/2020	<0.1
9/23/2020	
9/24/2020	
9/25/2020	
3/1/2021	<0.1
3/8/2021	
3/10/2021	
3/11/2021	
3/12/2021	

Prediction Limit

Constituent: pH (SU) Analysis Run 4/21/2021 8:16 AM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-40	DGWC-39	DGWC-38	DGWC-37	DGWA-71 (bg)	DGWA-53 (bg)	DGWC-69	DGWC-67	DGWC-68A
9/2/2016	4.77								
9/8/2016		6.47	6.01	6.32					
12/7/2016		6.43	6.07	6.32					
12/8/2016	4.77								
3/28/2017					5.94	6.29			
3/30/2017	4.84	6.42	5.97	6.22					
3/31/2017							6.26	6.25	
4/12/2017							6.19		
5/11/2017						6.6			
5/12/2017					5.46		6.2	6.23	6.63
5/15/2017									
6/15/2017						6.41			
6/16/2017					5.81		6.22	6.22	6.63
7/11/2017					5.74				
7/12/2017						5.91			
7/13/2017	4.85	6.47	6.11	6.3			6.35	6.15	6.84
8/8/2017									6.57
10/24/2017					5.86	5.51			
10/26/2017	4.86	6.49	6.06				6.69	6.64	7.01
11/15/2017					5.77	6.5	6.22		
2/27/2018					5.66				
3/1/2018		6.37	6.05	6.28					
3/2/2018	4.67						6.1	6.18	6.58
3/8/2018						6.18			
7/10/2018					5.63				
7/12/2018	4.63	6.45	6.05	6.43		6.33			
7/13/2018							5.95	6.19	6.62
11/6/2018					5.79				
11/7/2018						6.22			
11/8/2018	4.79	6.49	6.07	6.36			6	6.23	6.5
3/12/2019					5.74				
3/13/2019	4.6	6.28	6.05	6.26		6	6.08	6.19	6.57
8/27/2019					5.87				
8/28/2019	4.68	6.41	5.98	6.27		6.04	6.09	6.22	6.6
10/15/2019					5.88				
10/16/2019						6.69	6.19		6.6
10/17/2019								6.14	
10/18/2019	4.71	6.35	6	6.26					
3/2/2020					5.77				
3/4/2020	4.64								
3/9/2020		6.37	6.12	6.34		6.41 (D)	6.12	6.23	6.6
8/11/2020					5.96				
8/13/2020	4.65	6.39	6.05	6.34		6.17	6.26	6.28	6.63
9/22/2020					6.06	6.43			
9/23/2020	4.78						6.08	6.23	6.6
9/24/2020			6.05	6.3					
9/25/2020		6.38							
3/1/2021					5.8				
3/8/2021	4.79 (D)								
3/10/2021							6.13 (D)		6.74 (D)
3/11/2021		6.66 (D)	6.22 (D)	6.49 (D)				6.28 (D)	
3/12/2021						6.38			

Prediction Limit

Constituent: pH (SU) Analysis Run 4/21/2021 8:17 AM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWA-70A (bg)
9/2/2016	
9/8/2016	
12/7/2016	
12/8/2016	
3/28/2017	
3/30/2017	
3/31/2017	
4/12/2017	
5/11/2017	
5/12/2017	
5/15/2017	5.72
6/15/2017	5.74
6/16/2017	
7/11/2017	5.62
7/12/2017	
7/13/2017	
8/8/2017	5.6
10/24/2017	5.71
10/26/2017	
11/15/2017	
2/27/2018	5.5
3/1/2018	
3/2/2018	
3/8/2018	
7/10/2018	5.44
7/12/2018	
7/13/2018	
11/6/2018	5.71
11/7/2018	
11/8/2018	
3/12/2019	5.52
3/13/2019	
8/27/2019	5.53
8/28/2019	
10/15/2019	5.61
10/16/2019	
10/17/2019	
10/18/2019	
3/2/2020	5.54
3/4/2020	
3/9/2020	
8/11/2020	5.86
8/13/2020	
9/22/2020	6.01
9/23/2020	
9/24/2020	
9/25/2020	
3/1/2021	5.43
3/8/2021	
3/10/2021	
3/11/2021	
3/12/2021	

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 4/21/2021 8:17 AM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-40	DGWC-39	DGWC-38	DGWC-37	DGWA-71 (bg)	DGWA-70A (bg)	DGWA-53 (bg)	DGWC-69	DGWC-67
9/2/2016	230								
9/8/2016		280	270	97					
12/7/2016		250	250	100					
12/8/2016	270								
3/28/2017					17	2.7	49		
3/30/2017	240	310	290	110					
3/31/2017								21	110
5/11/2017							21		
5/12/2017					17			17	100
5/15/2017						1			
6/15/2017						0.86 (J)	16		
6/16/2017					11			20	100
7/11/2017					11	1.4			
7/12/2017							10		
7/13/2017	220	220	270	200 (o)				17	110
8/8/2017						1.5			
10/24/2017					9.6	1.4	15		
10/26/2017	220	210	260	97				31	100
11/15/2017					7.8		3.8	29	
2/27/2018					7.4	0.54 (J)			
3/1/2018		166	242	94.6					
3/2/2018	219							10.1	98.5
3/8/2018							9.7		
7/12/2018	222	169	256	89.2			8		
7/13/2018								8.6	136
11/6/2018					7.3	<1 (J)			
11/7/2018							12.8		
11/8/2018	273	200	291	102				9.7	118
3/12/2019					7	0.35 (J)			
3/13/2019	445	265	300	92.2			23.7	8.4	233
10/15/2019					7.4	0.16 (J)			
10/16/2019							15.1	13.3	
10/17/2019									99.4
10/18/2019	205	182	239	76.4					
3/2/2020					8.5	<1			
3/4/2020	177								
3/9/2020		171	244	90.3			9.5	7.6	100
9/22/2020					6.5	<1	13.5		
9/23/2020	190							5.9	99.8
9/24/2020			240	84.1					
9/25/2020		153							
3/1/2021					5.2	<1			
3/8/2021	191								
3/10/2021								6.4	
3/11/2021		123	154	81.9					76.7
3/12/2021							8.8		

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 4/21/2021 8:17 AM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-68A
9/2/2016	
9/8/2016	
12/7/2016	
12/8/2016	
3/28/2017	
3/30/2017	
3/31/2017	
5/11/2017	
5/12/2017	50
5/15/2017	
6/15/2017	
6/16/2017	47
7/11/2017	
7/12/2017	
7/13/2017	49
8/8/2017	48
10/24/2017	
10/26/2017	48
11/15/2017	
2/27/2018	
3/1/2018	
3/2/2018	44.7
3/8/2018	
7/12/2018	
7/13/2018	43.3
11/6/2018	
11/7/2018	
11/8/2018	43.5
3/12/2019	
3/13/2019	44.1
10/15/2019	
10/16/2019	32.1
10/17/2019	
10/18/2019	
3/2/2020	
3/4/2020	
3/9/2020	37.4
9/22/2020	
9/23/2020	38.7
9/24/2020	
9/25/2020	
3/1/2021	
3/8/2021	
3/10/2021	38.4
3/11/2021	
3/12/2021	

Prediction Limit

Constituent: TDS (mg/L) Analysis Run 4/21/2021 8:17 AM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-39	DGWC-37	DGWC-38	DGWC-40	DGWA-53 (bg)	DGWA-71 (bg)	DGWA-70A (bg)	DGWC-67	DGWC-69
9/2/2016				583 (o)					
9/8/2016	522	279	437						
12/7/2016	565	300	478						
12/8/2016				319					
3/28/2017					202	90	39		
3/30/2017	496	273	448	344					
3/31/2017								270	138
5/11/2017					241				
5/12/2017						92		287	243
5/15/2017							88		
6/15/2017					251		65		
6/16/2017						100		309	155
7/11/2017						59	25		
7/12/2017					218				
7/13/2017	508	312	504	386				275	122
8/8/2017							53		
10/24/2017					671 (o)	117	49		
10/26/2017	532	340	554	373				319	234
11/15/2017					241	90			188
2/27/2018						79	43		
3/1/2018	440	311	492						
3/2/2018				359				264	73
3/8/2018					213				
7/12/2018	463	290	478	365	198				
7/13/2018								297	95
11/6/2018						85	65		
11/7/2018					200				
11/8/2018	485	295	507	399				295	112
3/12/2019						74	43		
3/13/2019	526	286	487	351	201			278	95
10/15/2019						89	70		
10/16/2019					126				108
10/17/2019								281	
10/18/2019	489	269	494	360					
3/2/2020						67	52		
3/4/2020				400					
3/9/2020	508	357	554		171			209	115
9/22/2020					142	74	46		
9/23/2020				357				296	102
9/24/2020		280	489						
9/25/2020	460								
3/1/2021						62	25		
3/8/2021				346					
3/10/2021									78
3/11/2021	440	255	463					265	
3/12/2021					124				

Prediction Limit

Constituent: TDS (mg/L) Analysis Run 4/21/2021 8:17 AM View: Interwell PLs AP-1

Plant McDonough Client: Southern Company Data: McDonough AP

	DGWC-68A
9/2/2016	
9/8/2016	
12/7/2016	
12/8/2016	
3/28/2017	
3/30/2017	
3/31/2017	
5/11/2017	
5/12/2017	300
5/15/2017	
6/15/2017	
6/16/2017	271
7/11/2017	
7/12/2017	
7/13/2017	246
8/8/2017	278
10/24/2017	
10/26/2017	287
11/15/2017	
2/27/2018	
3/1/2018	
3/2/2018	252
3/8/2018	
7/12/2018	
7/13/2018	275
11/6/2018	
11/7/2018	
11/8/2018	277
3/12/2019	
3/13/2019	267
10/15/2019	
10/16/2019	218
10/17/2019	
10/18/2019	
3/2/2020	
3/4/2020	
3/9/2020	188
9/22/2020	
9/23/2020	251
9/24/2020	
9/25/2020	
3/1/2021	
3/8/2021	
3/10/2021	232
3/11/2021	
3/12/2021	

FIGURE E.

Trend Test Summary - Significant Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 4/21/2021, 8:57 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Calcium (mg/L)	**DGWA-53 (bg)**	**-5.014**	**-48**	**-43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	**DGWC-39**	**-0.3269**	**-57**	**-43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	**DGWC-67**	**0.4626**	**58**	**43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**DGWA-70A (bg)**	**-0.3043**	**-45**	**-43**	**Yes**	**13**	**30.77**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**DGWA-71 (bg)**	**-1.74**	**-61**	**-43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**DGWC-37**	**-4.243**	**-39**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**DGWC-39**	**-28.94**	**-48**	**-43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**DGWC-68A**	**-3.399**	**-55**	**-43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
TDS (mg/L)	**DGWA-53 (bg)**	**-28.3**	**-53**	**-43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**

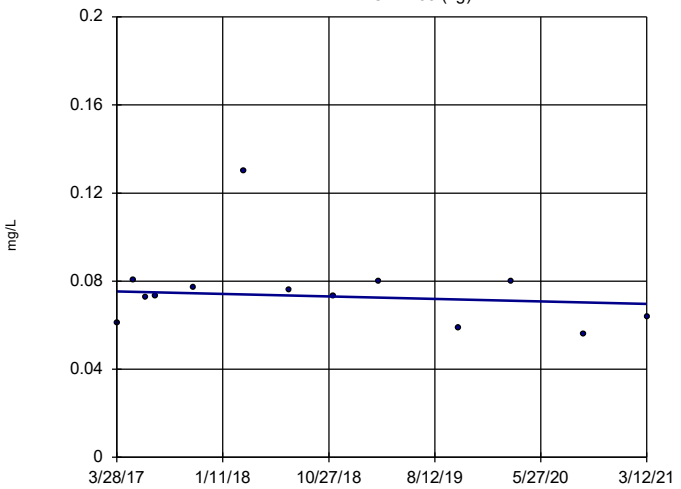
Trend Test Summary - All Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 4/21/2021, 8:57 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	DGWA-53 (bg)	-0.001444	-11	-43	No	13	0	n/a	n/a	0.01	NP
Boron (mg/L)	DGWA-70A (bg)	0	8	43	No	13	53.85	n/a	n/a	0.01	NP
Boron (mg/L)	DGWA-71 (bg)	-0.0006707	-11	-38	No	12	16.67	n/a	n/a	0.01	NP
Boron (mg/L)	DGWC-37	-0.08613	-26	-43	No	13	0	n/a	n/a	0.01	NP
Boron (mg/L)	DGWC-38	-0.03456	-12	-43	No	13	0	n/a	n/a	0.01	NP
Boron (mg/L)	DGWC-39	-0.09433	-30	-43	No	13	0	n/a	n/a	0.01	NP
Boron (mg/L)	DGWC-40	-0.03086	-35	-43	No	13	0	n/a	n/a	0.01	NP
Boron (mg/L)	DGWC-67	0.06388	28	43	No	13	0	n/a	n/a	0.01	NP
Boron (mg/L)	DGWC-68A	-0.07907	-29	-43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	**DGWA-53 (bg)**	**-5.014**	**-48**	**-43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	DGWA-70A (bg)	-0.2572	-31	-43	No	13	7.692	n/a	n/a	0.01	NP
Calcium (mg/L)	DGWA-71 (bg)	-0.7909	-36	-38	No	12	8.333	n/a	n/a	0.01	NP
Calcium (mg/L)	DGWC-37	0.01881	1	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	DGWC-38	3.566	36	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	DGWC-39	0.7841	8	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	DGWC-40	1.049	25	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	DGWC-67	0.7037	22	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	DGWC-68A	0.6946	24	43	No	13	0	n/a	n/a	0.01	NP
Chloride (mg/L)	DGWA-53 (bg)	-0.2102	-48	-48	No	14	0	n/a	n/a	0.01	NP
Chloride (mg/L)	DGWA-70A (bg)	-0.08674	-23	-43	No	13	0	n/a	n/a	0.01	NP
Chloride (mg/L)	DGWA-71 (bg)	0	-1	-43	No	13	0	n/a	n/a	0.01	NP
Chloride (mg/L)	DGWC-37	-0.1457	-31	-43	No	13	0	n/a	n/a	0.01	NP
Chloride (mg/L)	DGWC-38	0.2011	36	43	No	13	0	n/a	n/a	0.01	NP
Chloride (mg/L)	**DGWC-39**	**-0.3269**	**-57**	**-43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	DGWC-40	-0.1124	-19	-43	No	13	0	n/a	n/a	0.01	NP
Chloride (mg/L)	**DGWC-67**	**0.4626**	**58**	**43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	DGWC-69	0.2143	32	48	No	14	0	n/a	n/a	0.01	NP
pH (SU)	DGWA-53 (bg)	0.02687	7	58	No	16	0	n/a	n/a	0.01	NP
pH (SU)	DGWA-70A (bg)	-0.02327	-12	-53	No	15	0	n/a	n/a	0.01	NP
pH (SU)	DGWA-71 (bg)	0.04216	34	58	No	16	0	n/a	n/a	0.01	NP
pH (SU)	DGWC-39	-0.01315	-18	-53	No	15	0	n/a	n/a	0.01	NP
pH (SU)	DGWC-40	-0.01919	-15	-53	No	15	0	n/a	n/a	0.01	NP
pH (SU)	DGWC-68A	0	-3	-53	No	15	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	DGWA-53 (bg)	-2.119	-29	-48	No	14	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	**DGWA-70A (bg)**	**-0.3043**	**-45**	**-43**	**Yes**	**13**	**30.77**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**DGWA-71 (bg)**	**-1.74**	**-61**	**-43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**DGWC-37**	**-4.243**	**-39**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	DGWC-38	-7.515	-29	-43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	**DGWC-39**	**-28.94**	**-48**	**-43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	DGWC-40	-9.965	-31	-43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	DGWC-67	-0.2802	-17	-43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	**DGWC-68A**	**-3.399**	**-55**	**-43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
TDS (mg/L)	**DGWA-53 (bg)**	**-28.3**	**-53**	**-43**	**Yes**	**13**	**0**	**n/a**	**n/a**	**0.01**	**NP**
TDS (mg/L)	DGWA-70A (bg)	-3.954	-11	-43	No	13	0	n/a	n/a	0.01	NP
TDS (mg/L)	DGWA-71 (bg)	-6.025	-36	-43	No	13	0	n/a	n/a	0.01	NP
TDS (mg/L)	DGWC-38	5.288	16	43	No	13	0	n/a	n/a	0.01	NP
TDS (mg/L)	DGWC-39	-15.95	-30	-43	No	13	0	n/a	n/a	0.01	NP
TDS (mg/L)	DGWC-40	2.17	6	38	No	12	0	n/a	n/a	0.01	NP

Sen's Slope Estimator

DGWA-53 (bg)



n = 13

Slope = -0.001444 units per year.

Mann-Kendall statistic = -11 critical = -43

Trend not significant at 99% confidence level (α = 0.005 per tail).

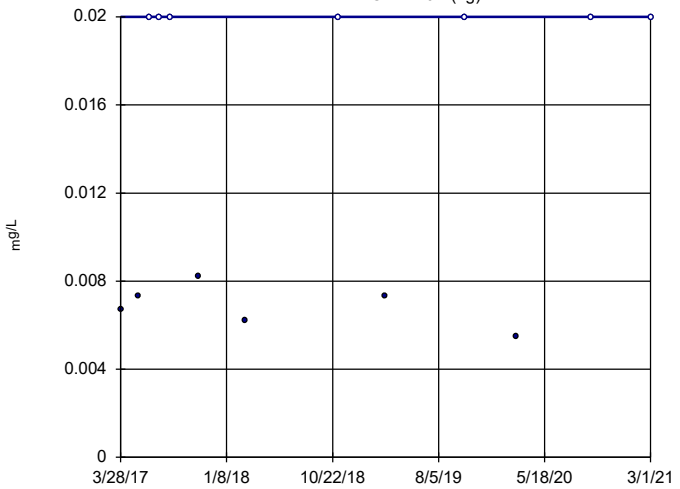
Constituent: Boron Analysis Run 4/21/2021 8:54 AM View: Trend Tests

Plant McDonough Client: Southern Company Data: McDonough AP

Hollow symbols indicate censored values.

Sen's Slope Estimator

DGWA-70A (bg)



n = 13

Slope = 0 units per year.

Mann-Kendall statistic = 8 critical = 43

Trend not significant at 99% confidence level (α = 0.005 per tail).

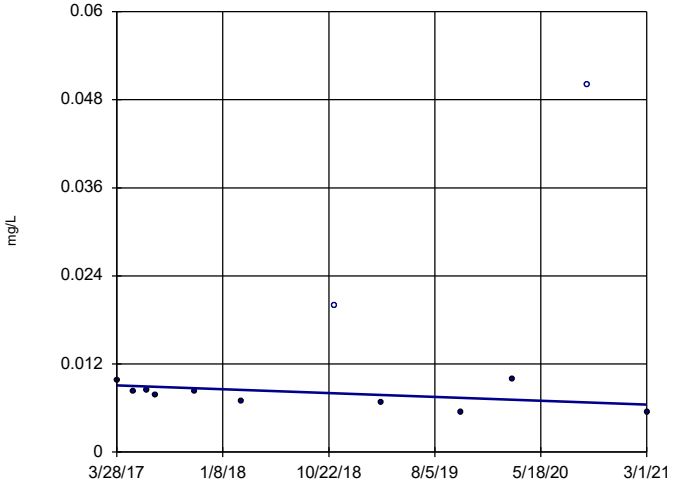
Constituent: Boron Analysis Run 4/21/2021 8:54 AM View: Trend Tests

Plant McDonough Client: Southern Company Data: McDonough AP

Hollow symbols indicate censored values.

Sen's Slope Estimator

DGWA-71 (bg)



n = 12

Slope = -0.0006707 units per year.

Mann-Kendall statistic = -11 critical = -38

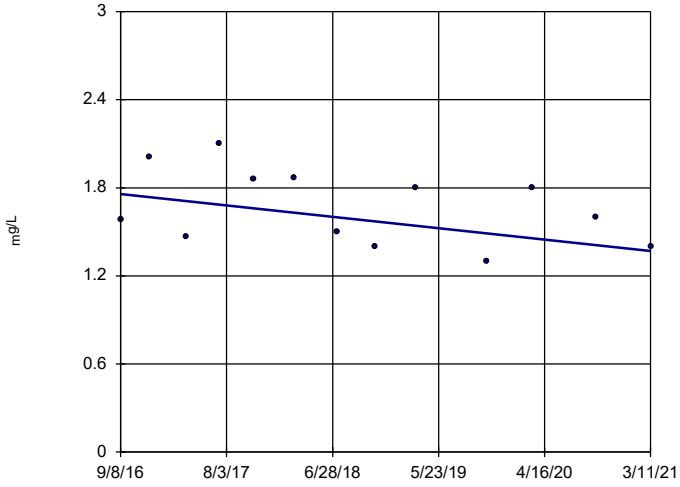
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 4/21/2021 8:54 AM View: Trend Tests

Plant McDonough Client: Southern Company Data: McDonough AP

Sen's Slope Estimator

DGWC-37



n = 13

Slope = -0.08613 units per year.

Mann-Kendall statistic = -26 critical = -43

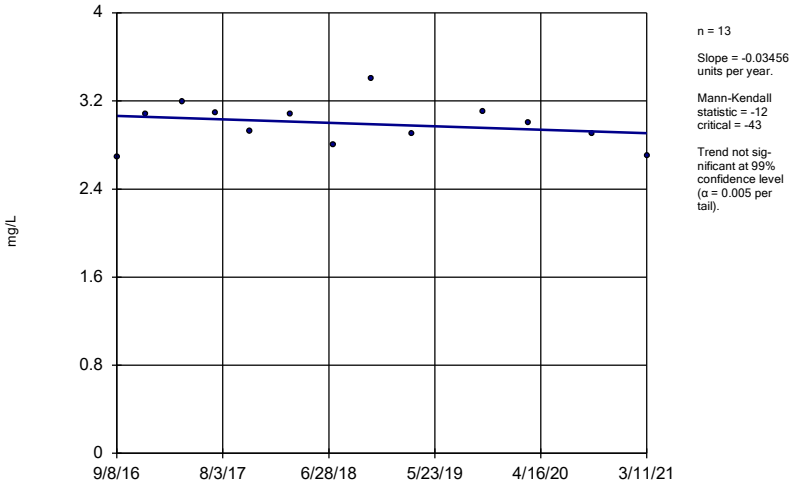
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 4/21/2021 8:55 AM View: Trend Tests

Plant McDonough Client: Southern Company Data: McDonough AP

Sen's Slope Estimator

DGWC-38



n = 13

Slope = -0.03456 units per year.

Mann-Kendall statistic = -12
critical = -43

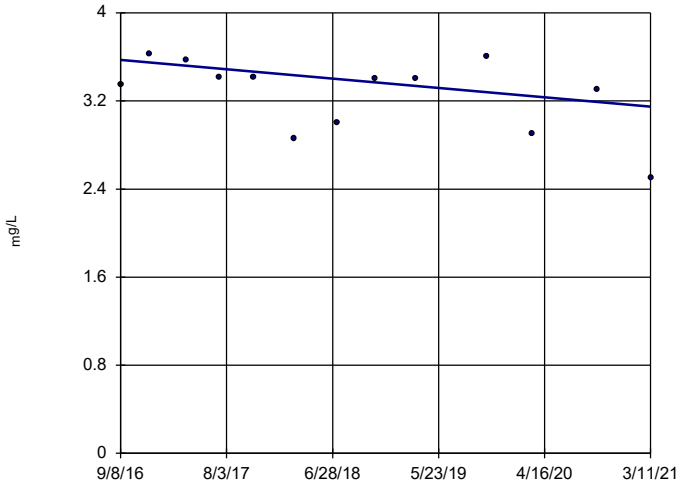
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 4/21/2021 8:55 AM View: Trend Tests
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-39



n = 13

Slope = -0.09433 units per year.

Mann-Kendall statistic = -30
critical = -43

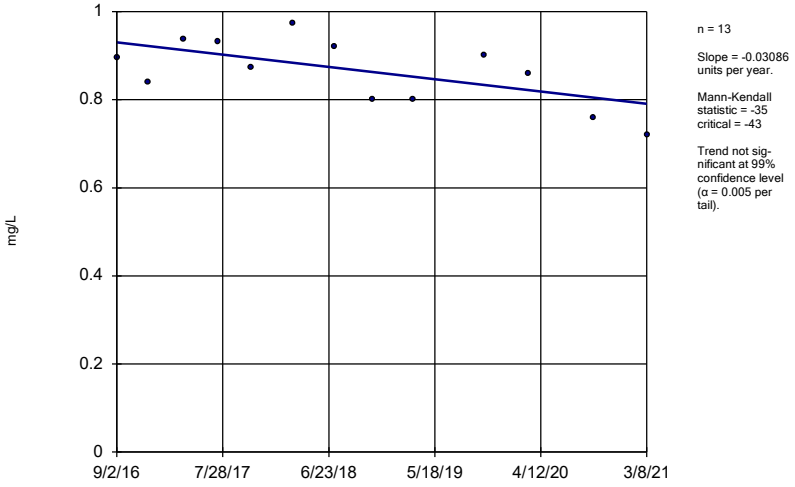
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 4/21/2021 8:55 AM View: Trend Tests
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-40



n = 13

Slope = -0.03086 units per year.

Mann-Kendall statistic = -35
critical = -43

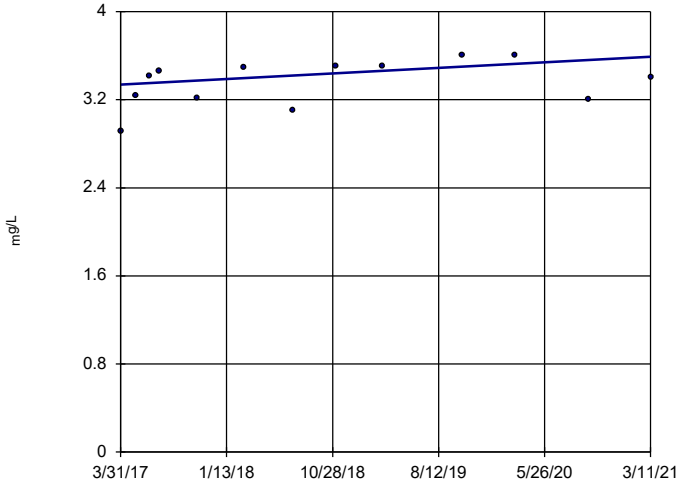
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 4/21/2021 8:55 AM View: Trend Tests
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-67



n = 13

Slope = 0.06388 units per year.

Mann-Kendall statistic = 28
critical = 43

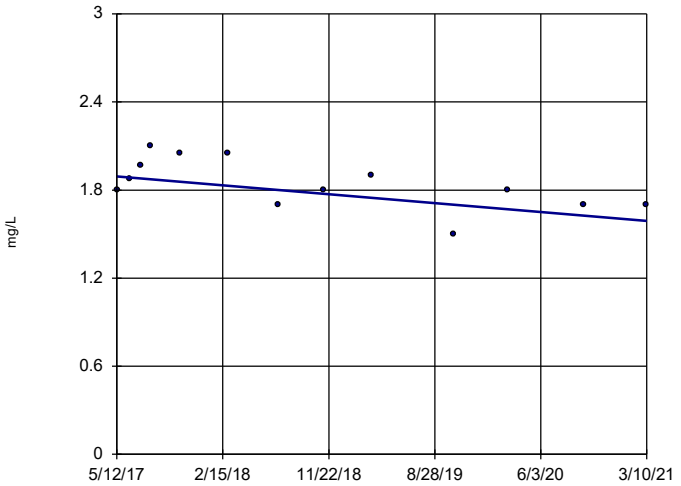
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 4/21/2021 8:55 AM View: Trend Tests
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-68A



n = 13

Slope = -0.07907 units per year.

Mann-Kendall statistic = -29
critical = -43

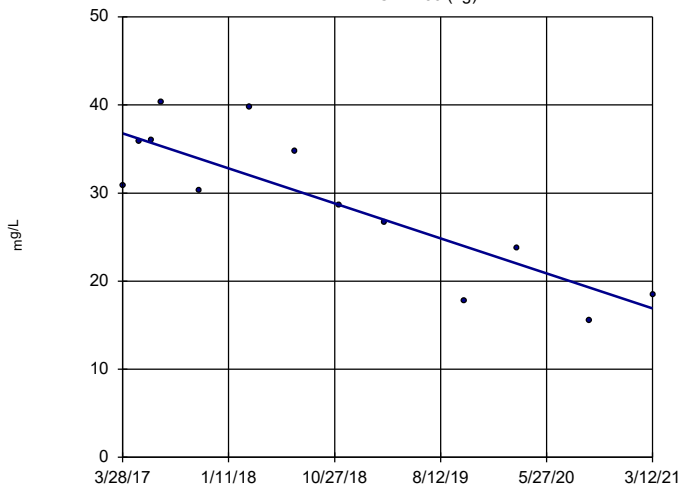
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 4/21/2021 8:55 AM View: Trend Tests
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWA-53 (bg)



n = 13

Slope = -5.014 units per year.

Mann-Kendall statistic = -48
critical = -43

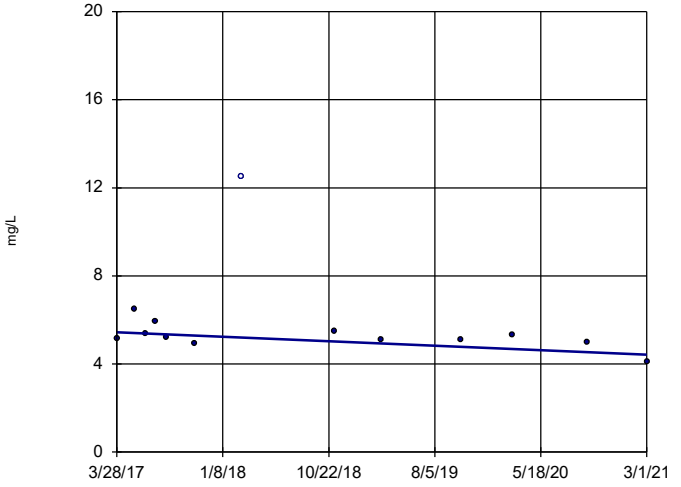
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 4/21/2021 8:55 AM View: Trend Tests
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

DGWA-70A (bg)



n = 13

Slope = -0.2572 units per year.

Mann-Kendall statistic = -31
critical = -43

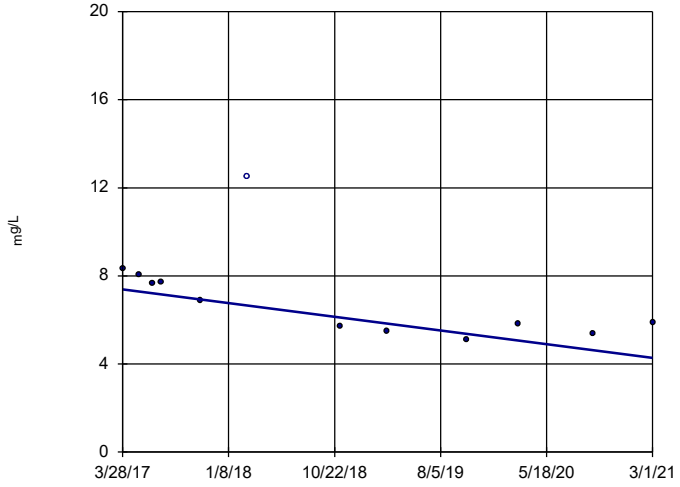
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 4/21/2021 8:55 AM View: Trend Tests
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

DGWA-71 (bg)



n = 12

Slope = -0.7909 units per year.

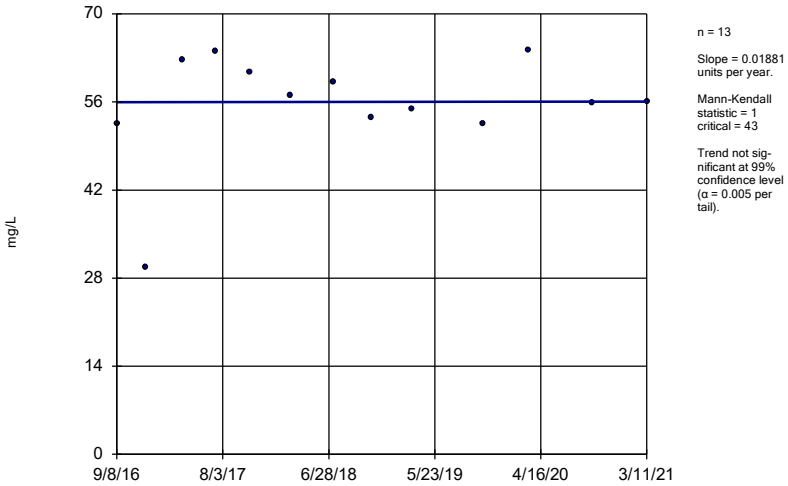
Mann-Kendall statistic = -36
critical = -38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 4/21/2021 8:55 AM View: Trend Tests
Plant McDonough Client: Southern Company Data: McDonough AP

Sen's Slope Estimator

DGWC-37



n = 13

Slope = 0.01881 units per year.

Mann-Kendall statistic = 1 critical = 43

Trend not significant at 99% confidence level (α = 0.005 per tail).

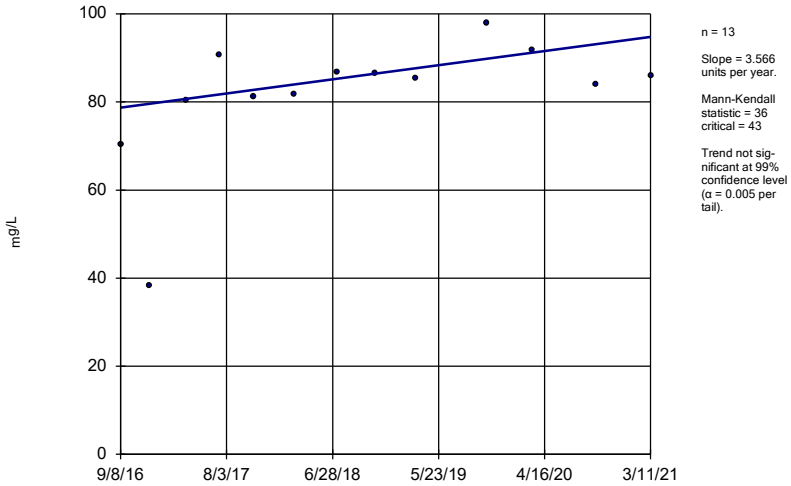
Constituent: Calcium Analysis Run 4/21/2021 8:55 AM View: Trend Tests

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-38



n = 13

Slope = 3.566 units per year.

Mann-Kendall statistic = 36 critical = 43

Trend not significant at 99% confidence level (α = 0.005 per tail).

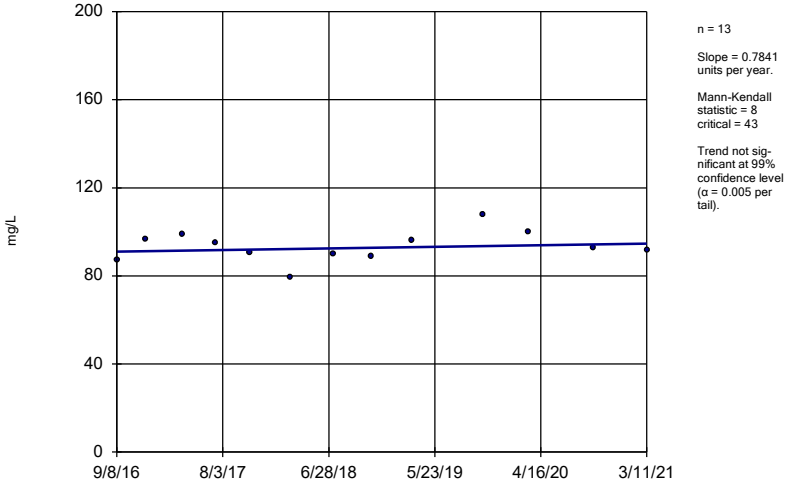
Constituent: Calcium Analysis Run 4/21/2021 8:55 AM View: Trend Tests

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-39



n = 13

Slope = 0.7841 units per year.

Mann-Kendall statistic = 8 critical = 43

Trend not significant at 99% confidence level (α = 0.005 per tail).

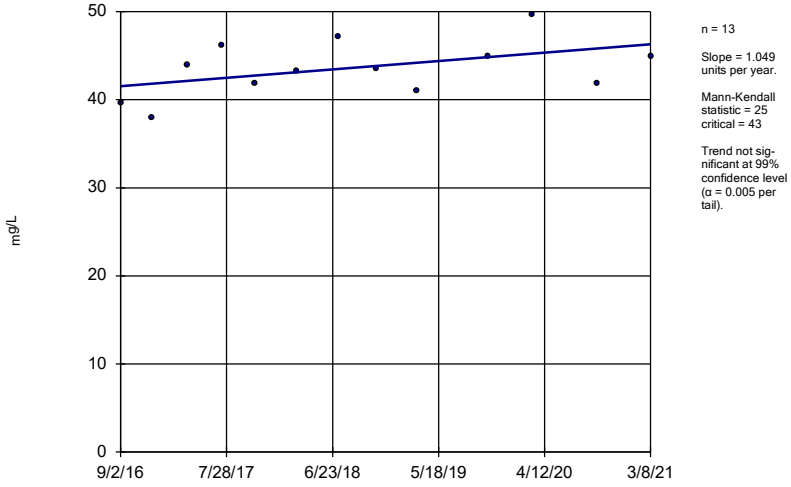
Constituent: Calcium Analysis Run 4/21/2021 8:55 AM View: Trend Tests

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-40



n = 13

Slope = 1.049 units per year.

Mann-Kendall statistic = 25 critical = 43

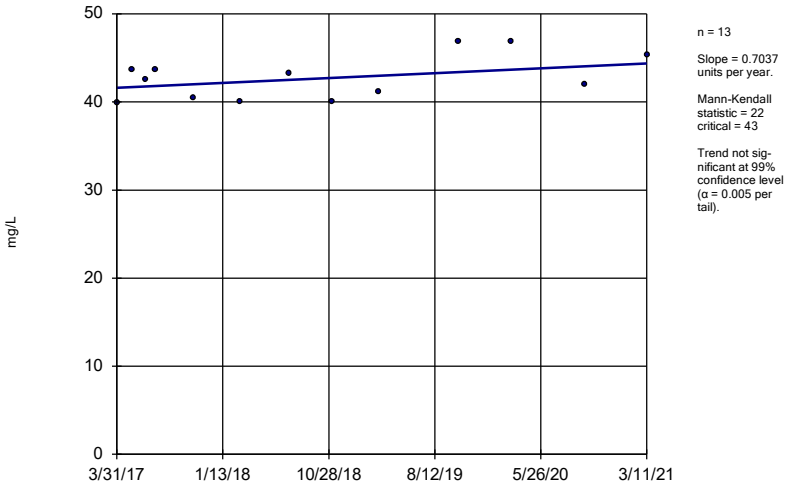
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 4/21/2021 8:55 AM View: Trend Tests

Plant McDonough Client: Southern Company Data: McDonough AP

Sen's Slope Estimator

DGWC-67



n = 13

Slope = 0.7037 units per year.

Mann-Kendall statistic = 22
critical = 43

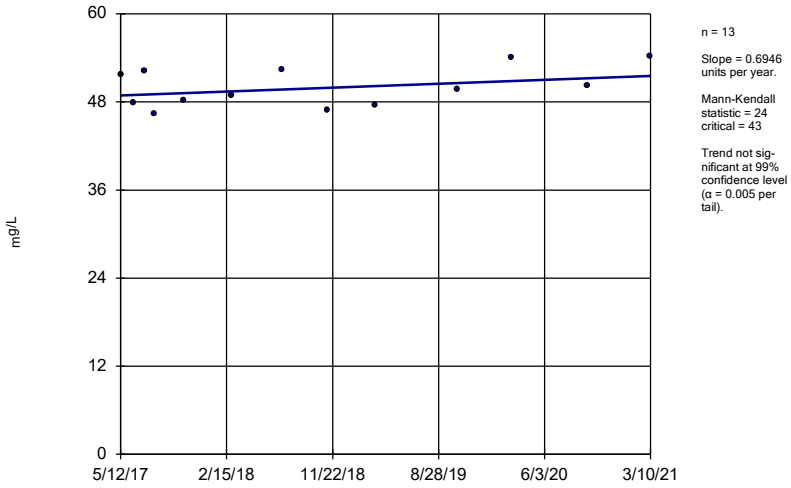
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 4/21/2021 8:55 AM View: Trend Tests
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-68A



n = 13

Slope = 0.6946 units per year.

Mann-Kendall statistic = 24
critical = 43

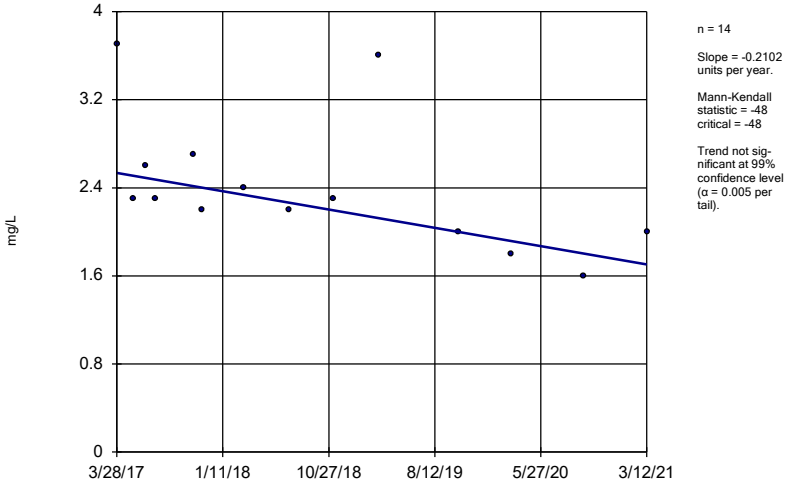
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 4/21/2021 8:55 AM View: Trend Tests
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWA-53 (bg)



n = 14

Slope = -0.2102 units per year.

Mann-Kendall statistic = -48
critical = -48

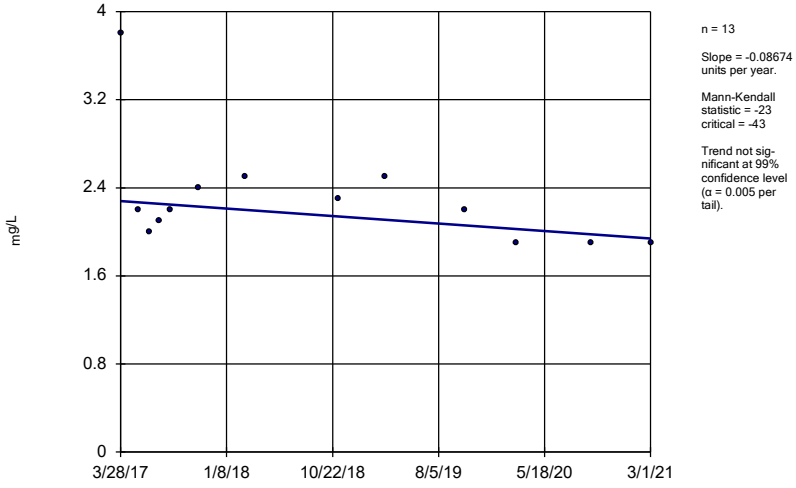
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 4/21/2021 8:55 AM View: Trend Tests
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWA-70A (bg)



n = 13

Slope = -0.08674 units per year.

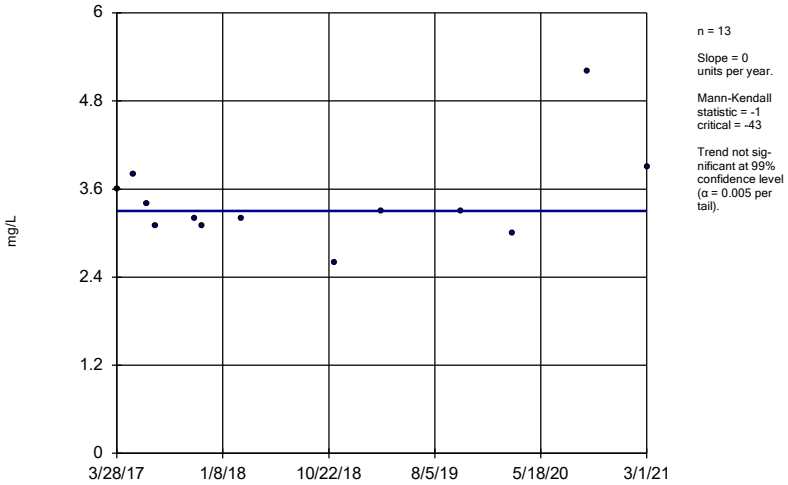
Mann-Kendall statistic = -23
critical = -43

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 4/21/2021 8:55 AM View: Trend Tests
Plant McDonough Client: Southern Company Data: McDonough AP

Sen's Slope Estimator

DGWA-71 (bg)



n = 13

Slope = 0 units per year.

Mann-Kendall statistic = -1 critical = -43

Trend not significant at 99% confidence level (α = 0.005 per tail).

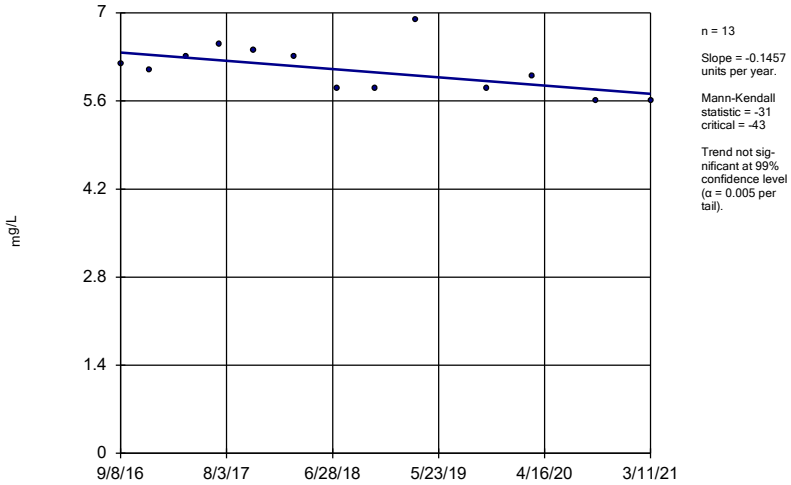
Constituent: Chloride Analysis Run 4/21/2021 8:55 AM View: Trend Tests

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-37



n = 13

Slope = -0.1457 units per year.

Mann-Kendall statistic = -31 critical = -43

Trend not significant at 99% confidence level (α = 0.005 per tail).

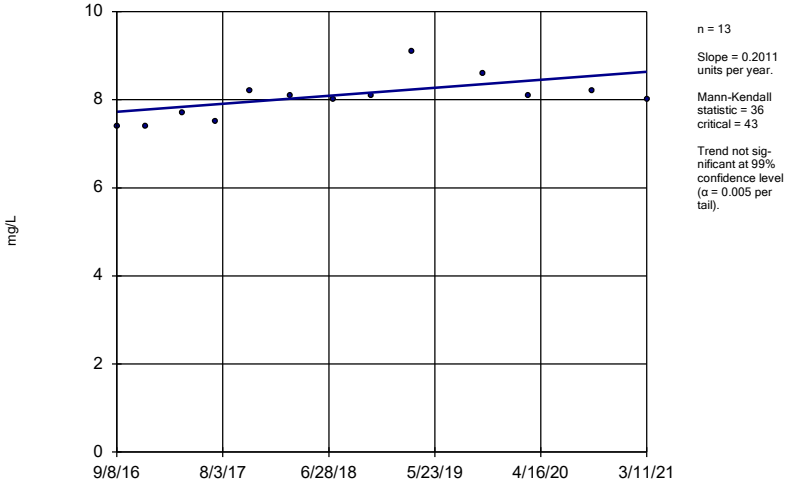
Constituent: Chloride Analysis Run 4/21/2021 8:55 AM View: Trend Tests

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-38



n = 13

Slope = 0.2011 units per year.

Mann-Kendall statistic = 36 critical = 43

Trend not significant at 99% confidence level (α = 0.005 per tail).

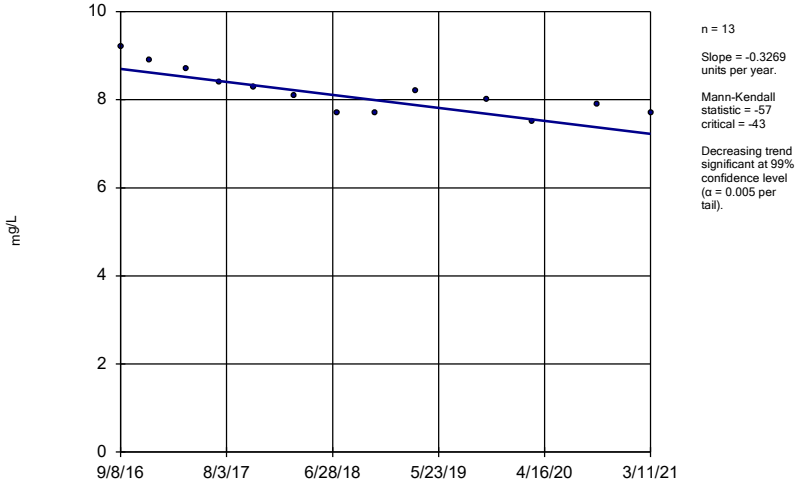
Constituent: Chloride Analysis Run 4/21/2021 8:55 AM View: Trend Tests

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-39



n = 13

Slope = -0.3269 units per year.

Mann-Kendall statistic = -57 critical = -43

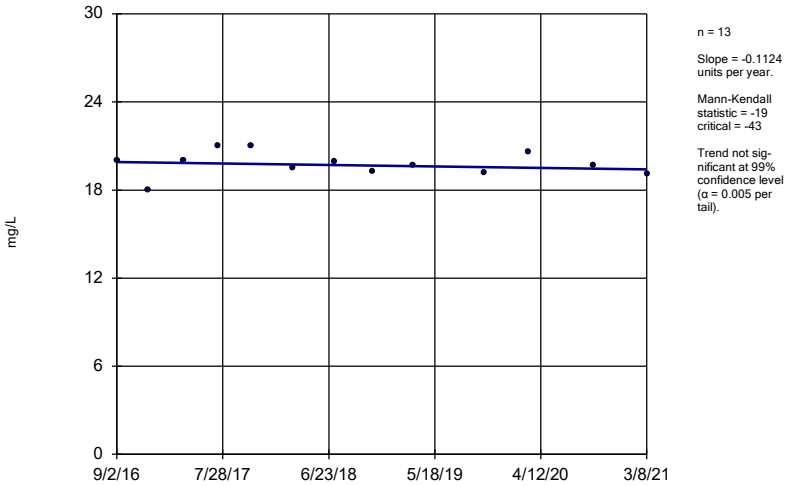
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 4/21/2021 8:55 AM View: Trend Tests

Plant McDonough Client: Southern Company Data: McDonough AP

Sen's Slope Estimator

DGWC-40



n = 13

Slope = -0.1124 units per year.

Mann-Kendall statistic = -19 critical = -43

Trend not significant at 99% confidence level (α = 0.005 per tail).

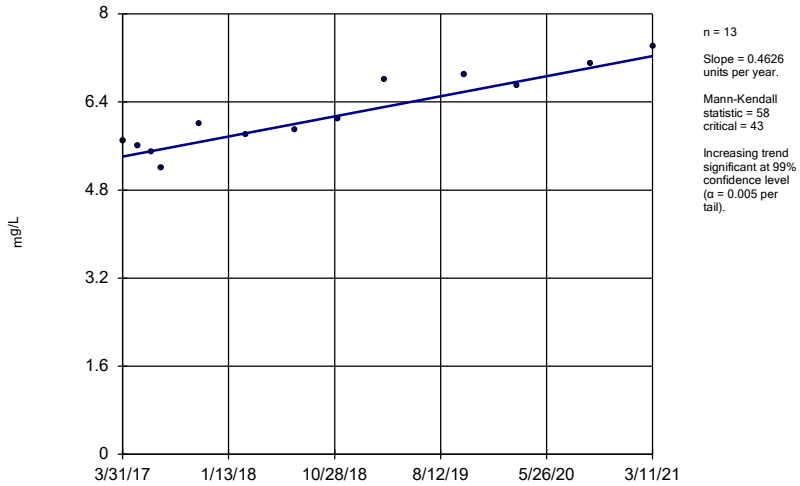
Constituent: Chloride Analysis Run 4/21/2021 8:55 AM View: Trend Tests

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-67



n = 13

Slope = 0.4626 units per year.

Mann-Kendall statistic = 58 critical = 43

Increasing trend significant at 99% confidence level (α = 0.005 per tail).

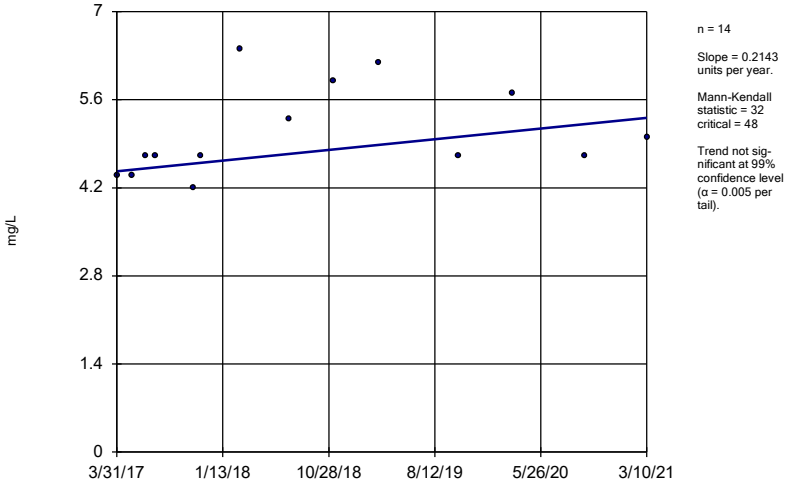
Constituent: Chloride Analysis Run 4/21/2021 8:55 AM View: Trend Tests

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-69



n = 14

Slope = 0.2143 units per year.

Mann-Kendall statistic = 32 critical = 48

Trend not significant at 99% confidence level (α = 0.005 per tail).

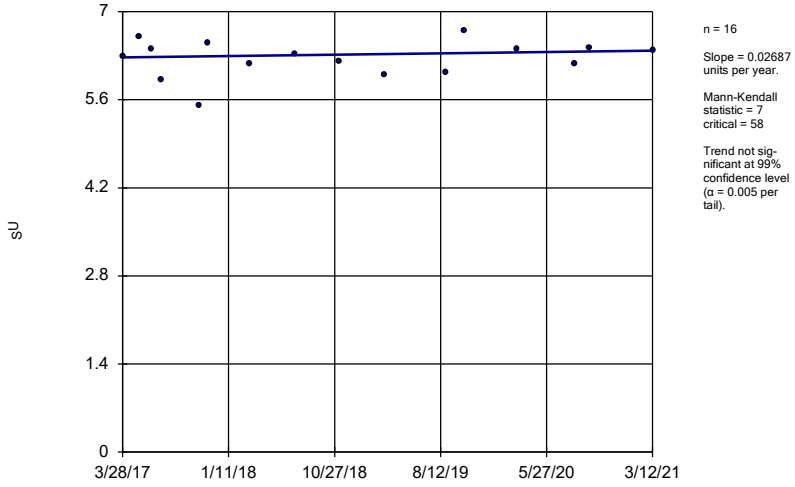
Constituent: Chloride Analysis Run 4/21/2021 8:55 AM View: Trend Tests

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWA-53 (bg)



n = 16

Slope = 0.02687 units per year.

Mann-Kendall statistic = 7 critical = 58

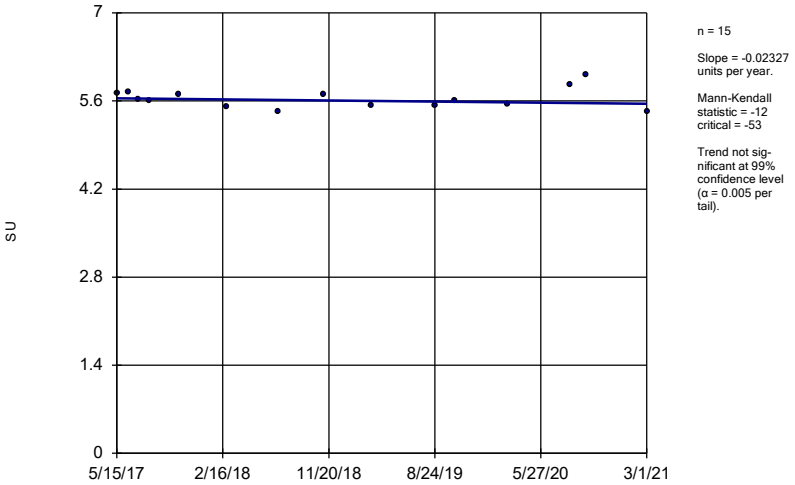
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH Analysis Run 4/21/2021 8:55 AM View: Trend Tests

Plant McDonough Client: Southern Company Data: McDonough AP

Sen's Slope Estimator

DGWA-70A (bg)



n = 15

Slope = -0.02327 units per year.

Mann-Kendall statistic = -12
critical = -53

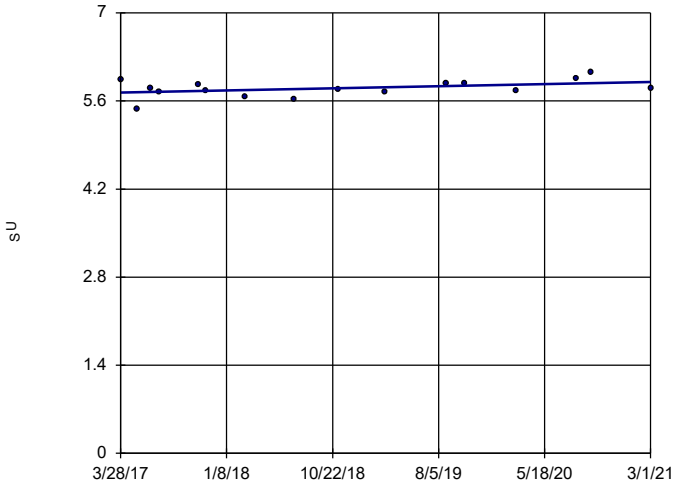
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH Analysis Run 4/21/2021 8:55 AM View: Trend Tests
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWA-71 (bg)



n = 16

Slope = 0.04216 units per year.

Mann-Kendall statistic = 34
critical = 58

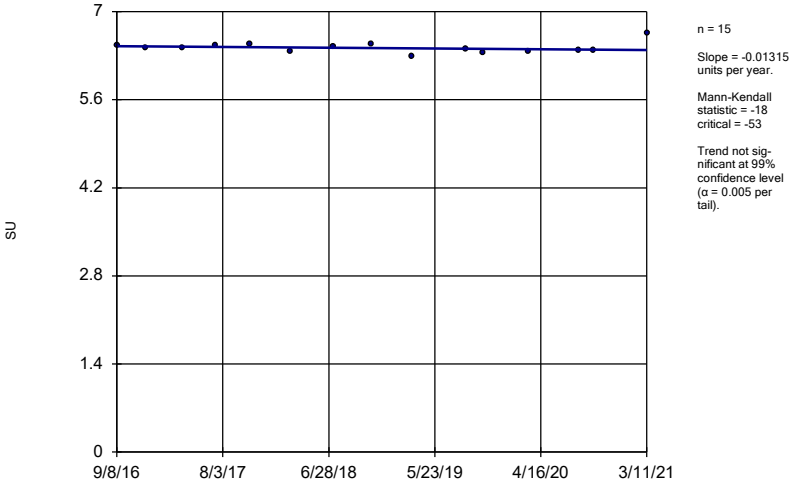
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH Analysis Run 4/21/2021 8:55 AM View: Trend Tests
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-39



n = 15

Slope = -0.01315 units per year.

Mann-Kendall statistic = -18
critical = -53

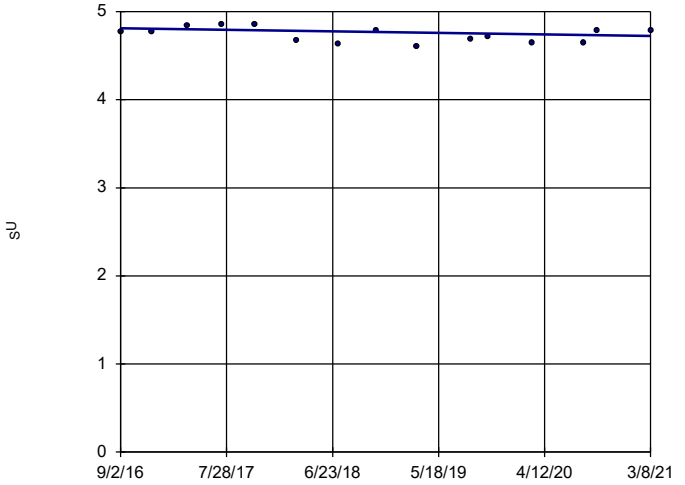
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH Analysis Run 4/21/2021 8:55 AM View: Trend Tests
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-40



n = 15

Slope = -0.01919 units per year.

Mann-Kendall statistic = -15
critical = -53

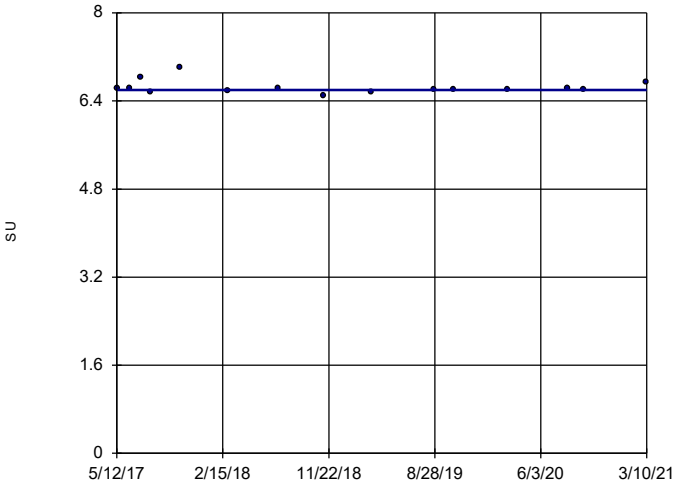
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH Analysis Run 4/21/2021 8:55 AM View: Trend Tests
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-68A



n = 15

Slope = 0 units per year.

Mann-Kendall statistic = -3 critical = -53

Trend not significant at 99% confidence level (α = 0.005 per tail).

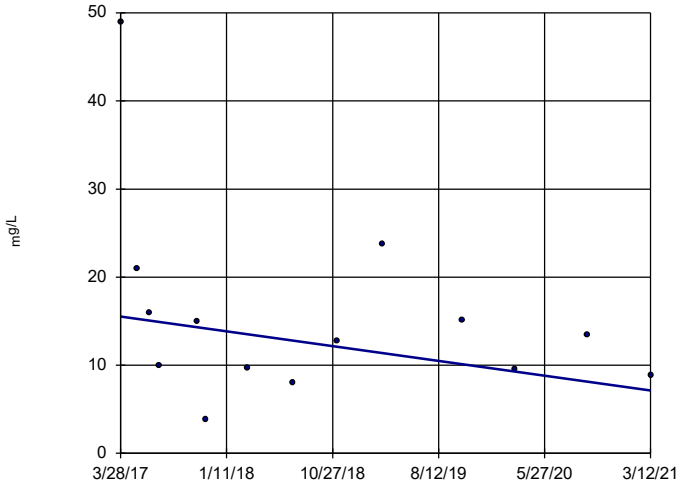
Constituent: pH Analysis Run 4/21/2021 8:55 AM View: Trend Tests

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWA-53 (bg)



n = 14

Slope = -2.119 units per year.

Mann-Kendall statistic = -29 critical = -48

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 4/21/2021 8:55 AM View: Trend Tests

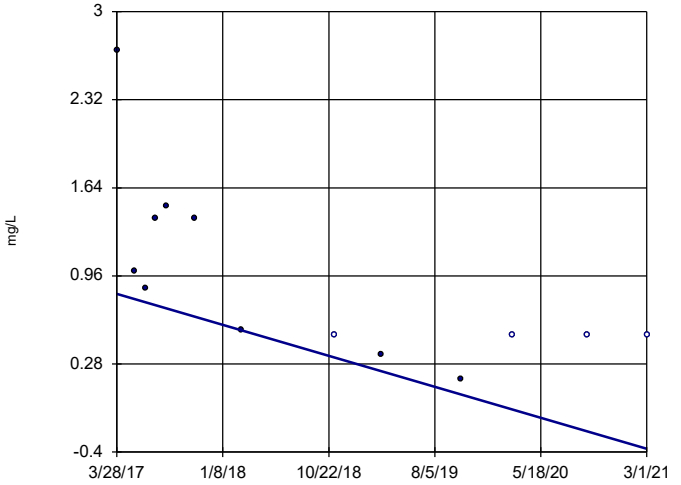
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator

DGWA-70A (bg)



n = 13

Slope = -0.3043 units per year.

Mann-Kendall statistic = -45 critical = -43

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

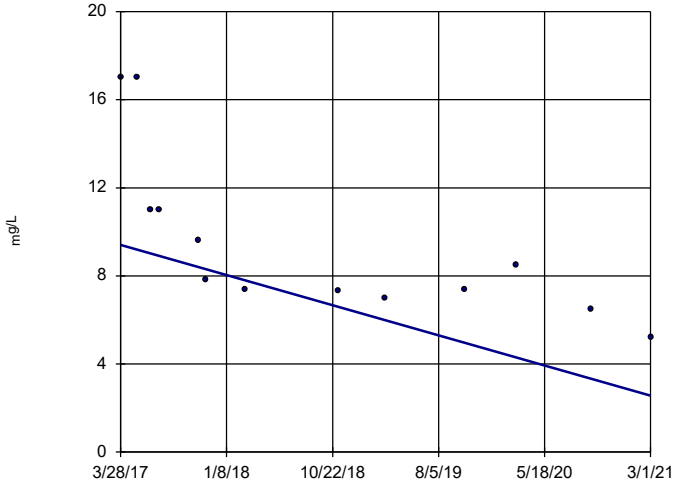
Constituent: Sulfate Analysis Run 4/21/2021 8:55 AM View: Trend Tests

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWA-71 (bg)



n = 13

Slope = -1.74 units per year.

Mann-Kendall statistic = -61 critical = -43

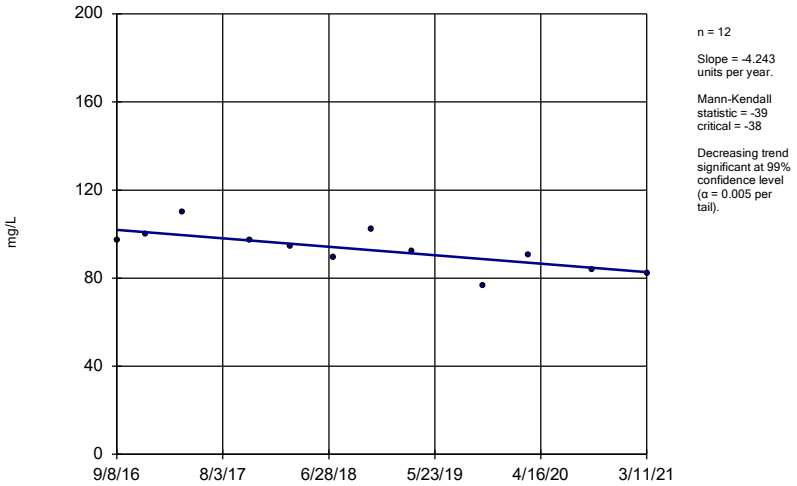
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 4/21/2021 8:55 AM View: Trend Tests

Plant McDonough Client: Southern Company Data: McDonough AP

Sen's Slope Estimator

DGWC-37



n = 12

Slope = -4.243 units per year.

Mann-Kendall statistic = -39 critical = -38

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

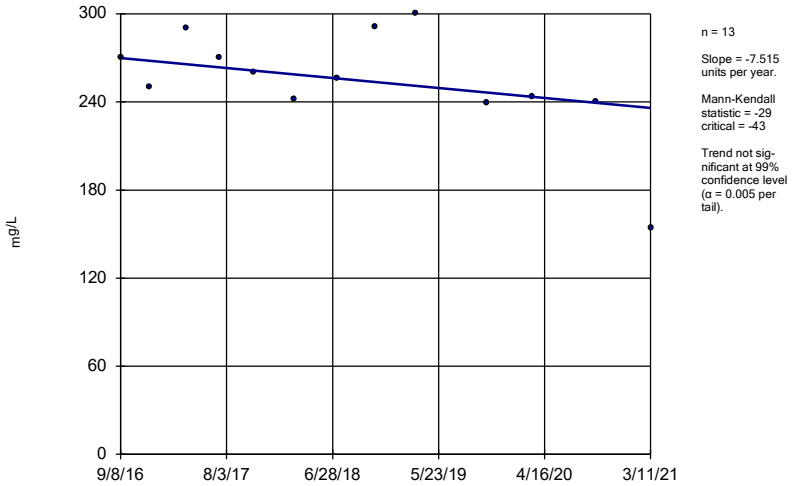
Constituent: Sulfate Analysis Run 4/21/2021 8:55 AM View: Trend Tests

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-38



n = 13

Slope = -7.515 units per year.

Mann-Kendall statistic = -29 critical = -43

Trend not significant at 99% confidence level (α = 0.005 per tail).

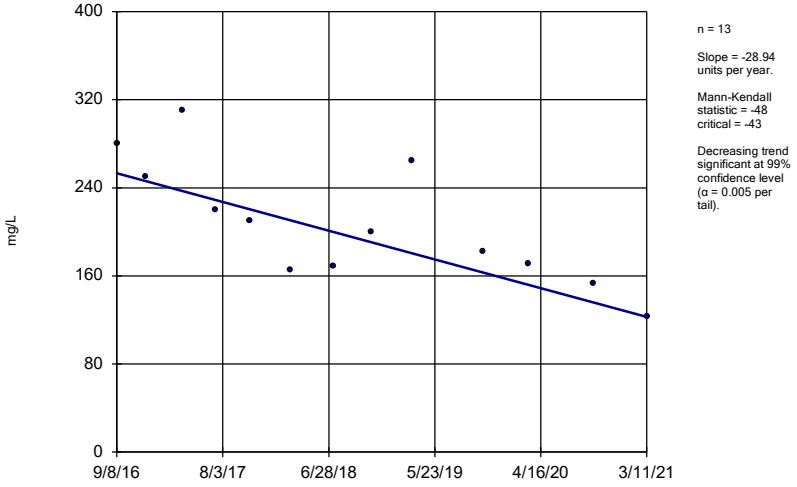
Constituent: Sulfate Analysis Run 4/21/2021 8:55 AM View: Trend Tests

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-39



n = 13

Slope = -28.94 units per year.

Mann-Kendall statistic = -48 critical = -43

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

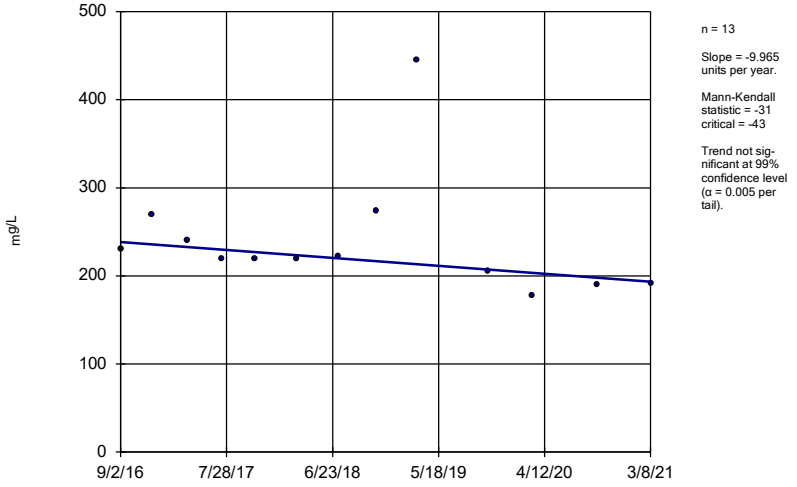
Constituent: Sulfate Analysis Run 4/21/2021 8:55 AM View: Trend Tests

Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-40



n = 13

Slope = -9.965 units per year.

Mann-Kendall statistic = -31 critical = -43

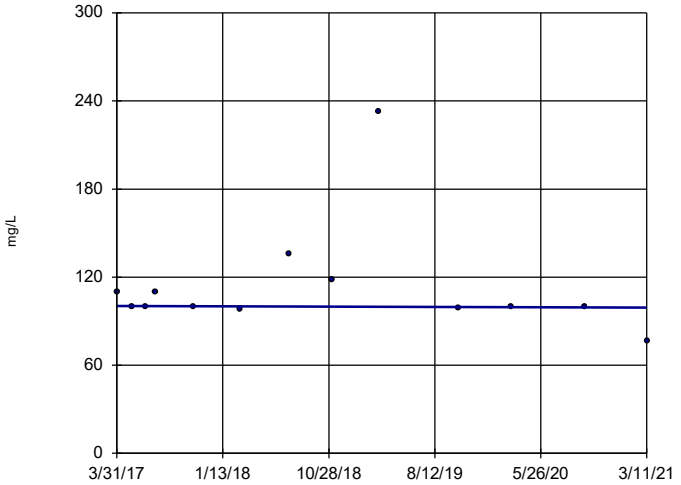
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 4/21/2021 8:55 AM View: Trend Tests

Plant McDonough Client: Southern Company Data: McDonough AP

Sen's Slope Estimator

DGWC-67



n = 13

Slope = -0.2802 units per year.

Mann-Kendall statistic = -17
critical = -43

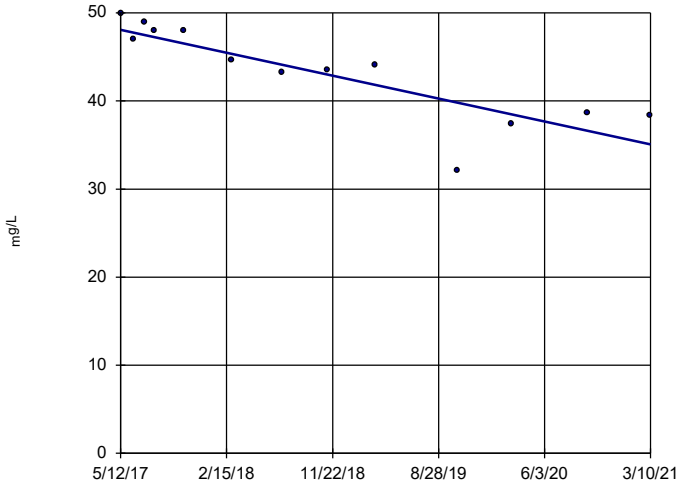
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 4/21/2021 8:55 AM View: Trend Tests
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-68A



n = 13

Slope = -3.399 units per year.

Mann-Kendall statistic = -55
critical = -43

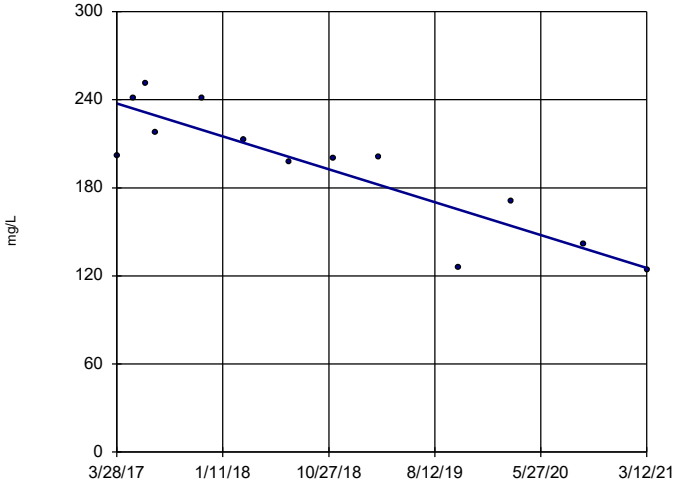
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 4/21/2021 8:55 AM View: Trend Tests
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWA-53 (bg)



n = 13

Slope = -28.3 units per year.

Mann-Kendall statistic = -53
critical = -43

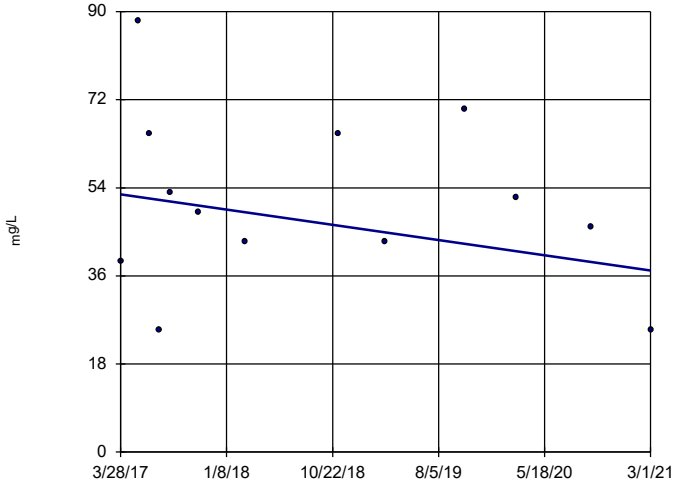
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: TDS Analysis Run 4/21/2021 8:55 AM View: Trend Tests
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWA-70A (bg)



n = 13

Slope = -3.954 units per year.

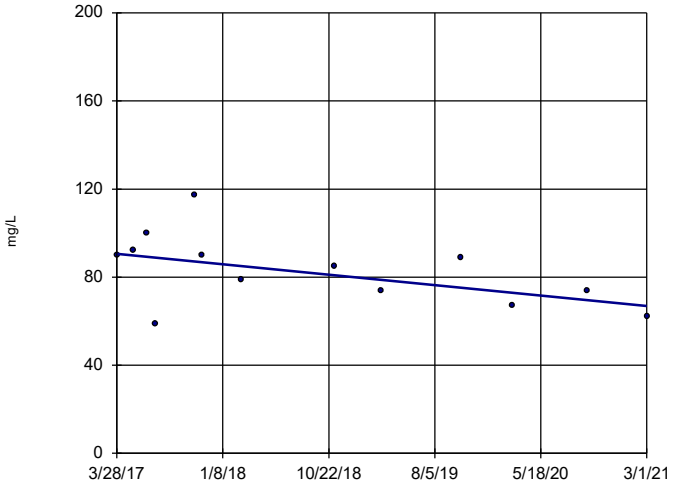
Mann-Kendall statistic = -11
critical = -43

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: TDS Analysis Run 4/21/2021 8:55 AM View: Trend Tests
Plant McDonough Client: Southern Company Data: McDonough AP

Sen's Slope Estimator

DGWA-71 (bg)



n = 13

Slope = -6.025 units per year.

Mann-Kendall statistic = -36
critical = -43

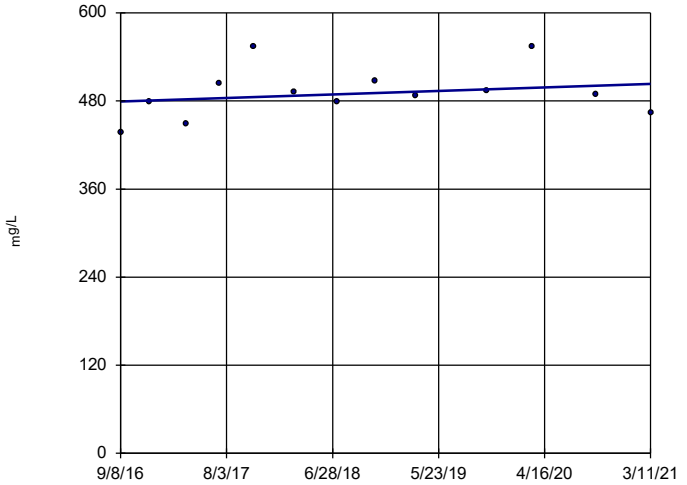
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: TDS Analysis Run 4/21/2021 8:55 AM View: Trend Tests
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-38



n = 13

Slope = 5.288 units per year.

Mann-Kendall statistic = 16
critical = 43

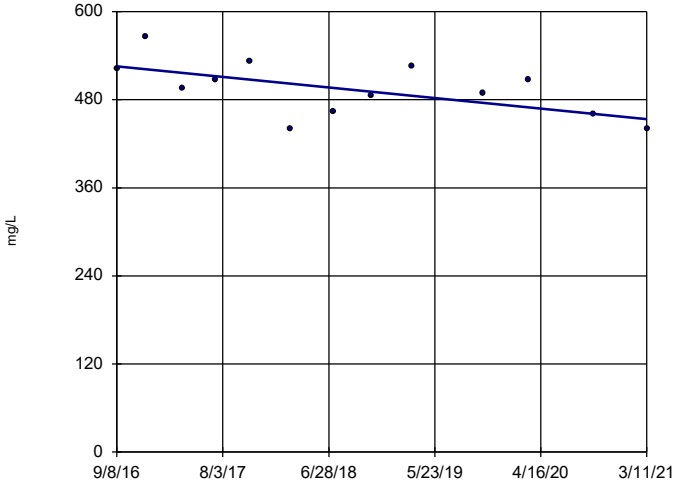
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: TDS Analysis Run 4/21/2021 8:55 AM View: Trend Tests
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-39



n = 13

Slope = -15.95 units per year.

Mann-Kendall statistic = -30
critical = -43

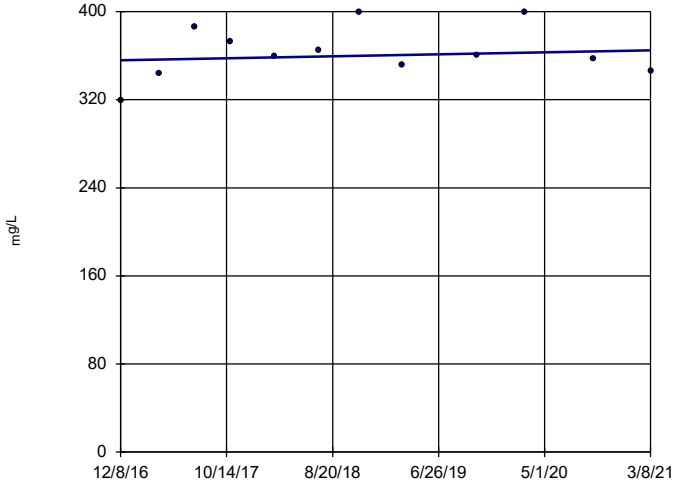
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: TDS Analysis Run 4/21/2021 8:55 AM View: Trend Tests
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

DGWC-40



n = 12

Slope = 2.17 units per year.

Mann-Kendall statistic = 6
critical = 38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: TDS Analysis Run 4/21/2021 8:55 AM View: Trend Tests
Plant McDonough Client: Southern Company Data: McDonough AP

FIGURE F.

Tolerance Limits Summary

Plant McDonough Client: Southern Company Data: McDonough AP Printed 5/21/2021, 11:25 AM

Constituent	Upper Lim.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	0.0030	41	n/a	n/a	80.49	n/a	n/a	0.1221	NP Inter
Arsenic (mg/L)	0.0050	41	n/a	n/a	80.49	n/a	n/a	0.1221	NP Inter
Barium (mg/L)	0.19	41	n/a	n/a	0	n/a	n/a	0.1221	NP Inter
Beryllium (mg/L)	0.00050	41	n/a	n/a	65.85	n/a	n/a	0.1221	NP Inter
Cadmium (mg/L)	0.00050	41	n/a	n/a	92.68	n/a	n/a	0.1221	NP Inter
Chromium (mg/L)	0.0050	40	n/a	n/a	57.5	n/a	n/a	0.1285	NP Inter
Cobalt (mg/L)	0.032	41	n/a	n/a	34.15	n/a	n/a	0.1221	NP Inter
Combined Radium 226 + 228 (pCi/L)	6.4	43	n/a	n/a	0	n/a	n/a	0.1102	NP Inter
Fluoride (mg/L)	0.42	45	n/a	n/a	51.11	n/a	n/a	0.09944	NP Inter
Lead (mg/L)	0.0010	41	n/a	n/a	78.05	n/a	n/a	0.1221	NP Inter
Lithium (mg/L)	0.030	41	n/a	n/a	36.59	n/a	n/a	0.1221	NP Inter
Mercury (mg/L)	0.00020	41	n/a	n/a	87.8	n/a	n/a	0.1221	NP Inter
Molybdenum (mg/L)	0.041	41	n/a	n/a	63.41	n/a	n/a	0.1221	NP Inter
Selenium (mg/L)	0.0050	41	n/a	n/a	100	n/a	n/a	0.1221	NP Inter
Thallium (mg/L)	0.0010	41	n/a	n/a	95.12	n/a	n/a	0.1221	NP Inter

FIGURE G.

MCDONOUGH AP-1 GWPS TABLE					
Constituent Name	**MCL**	**CCR-Rule Specified**	**Background Limit**	**Federal GWPS**	**State GWPS**
Antimony, Total (mg/L)	0.006		0.003	0.006	0.006
Arsenic, Total (mg/L)	0.01		0.005	0.01	0.01
Barium, Total (mg/L)	2		0.19	2	2
Beryllium, Total (mg/L)	0.004		0.0005	0.004	0.004
Cadmium, Total (mg/L)	0.005		0.0005	0.005	0.005
Chromium, Total (mg/L)	0.1		0.005	0.1	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.032	0.032	0.032
Combined Radium, Total (pCi/L)	5		6.4	6.4	6.4
Fluoride, Total (mg/L)	4		0.42	4	4
Lead, Total (mg/L)	n/a	0.015	0.001	0.015	0.001
Lithium, Total (mg/L)	n/a	0.04	0.03	0.04	0.03
Mercury, Total (mg/L)	0.002		0.0002	0.002	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.041	0.1	0.041
Selenium, Total (mg/L)	0.05		0.005	0.05	0.05
Thallium, Total (mg/L)	0.002		0.001	0.002	0.002

**Highlighted cells indicated Background is higher than MCLs or CCR-Rule Specified levels.*

**MCL = Maximum Contaminant Level*

**GWPS = Groundwater Protection Standard*

FIGURE H.

Federal Confidence Intervals - Significant Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 7/7/2021, 10:53 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	**DGWC-69**	**0.04009**	**0.0115**	**0.01**	**Yes**	**16**	**0.03433**	**0.04274**	**0**	**None**	**ln(x)**	**0.01**	**Param.**
Cobalt (mg/L)	**DGWC-40**	**0.04517**	**0.03717**	**0.032**	**Yes**	**14**	**0.04117**	**0.005645**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**DGWC-68A**	**0.226**	**0.19**	**0.1**	**Yes**	**14**	**0.211**	**0.02184**	**0**	**None**	**No**	**0.01**	**NP (normality)**

Federal Confidence Intervals - All Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 7/7/2021, 10:53 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	B-62	0.015	0.00046	0.006	No	6	0.01258	0.005936	83.33	None	No	0.0155	NP (NDs)
Antimony (mg/L)	DGWC-40	0.015	0.00033	0.006	No	13	0.01387	0.004069	92.31	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-67	0.015	0.0008	0.006	No	13	0.01181	0.00608	76.92	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-68A	0.015	0.0008	0.006	No	13	0.01278	0.005424	84.62	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-69	0.015	0.0019	0.006	No	14	0.0121	0.005769	78.57	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-37	0.005	0.0019	0.01	No	14	0.004779	0.0008285	92.86	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-38	0.005	0.0005	0.01	No	14	0.004679	0.001203	92.86	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-39	0.005	0.0007	0.01	No	14	0.002877	0.002209	50	None	No	0.01	NP (normality)
Arsenic (mg/L)	DGWC-40	0.005	0.0011	0.01	No	14	0.004096	0.001799	78.57	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-67	0.005	0.0008	0.01	No	14	0.004373	0.001596	85.71	None	No	0.01	NP (NDs)
Arsenic (mg/L)	**DGWC-69**	**0.04009**	**0.0115**	**0.01**	**Yes**	**16**	**0.03433**	**0.04274**	**0**	**None**	**ln(x)**	**0.01**	**Param.**
Barium (mg/L)	B-62	0.02823	0.01974	2	No	6	0.02417	0.003312	0	None	x^2	0.01	Param.
Barium (mg/L)	DGWC-37	0.1122	0.09005	2	No	14	0.1011	0.01566	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-38	0.03359	0.0323	2	No	14	0.03294	0.0009146	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-39	0.09652	0.08348	2	No	14	0.09	0.009203	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-40	0.01806	0.01677	2	No	14	0.01741	0.0009046	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-67	0.1127	0.1021	2	No	14	0.1074	0.007583	0	None	sqrt(x)	0.01	Param.
Barium (mg/L)	DGWC-68A	0.09048	0.08698	2	No	14	0.08873	0.002467	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-69	0.1039	0.06757	2	No	15	0.08571	0.02678	0	None	No	0.01	Param.
Beryllium (mg/L)	B-62	0.0025	0.000078	0.004	No	7	0.0007897	0.001168	28.57	None	No	0.008	NP (normality)
Beryllium (mg/L)	DGWC-37	0.0025	0.000088	0.004	No	14	0.00181	0.001132	71.43	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-38	0.0025	0.000058	0.004	No	14	0.002326	0.0006527	92.86	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-40	0.003326	0.002874	0.004	No	14	0.0031	0.0003187	7.143	None	No	0.01	Param.
Beryllium (mg/L)	DGWC-68A	0.0025	0.000084	0.004	No	14	0.002153	0.0008815	85.71	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-69	0.0025	0.000061	0.004	No	15	0.001525	0.001236	60	None	No	0.01	NP (NDs)
Cadmium (mg/L)	DGWC-37	0.0005	0.0002	0.005	No	14	0.000405	0.0001609	71.43	None	No	0.01	NP (NDs)
Cadmium (mg/L)	DGWC-38	0.00081	0.00017	0.005	No	14	0.0003493	0.0002623	21.43	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-40	0.0008866	0.0007148	0.005	No	14	0.0008007	0.0001212	14.29	None	No	0.01	Param.
Cadmium (mg/L)	DGWC-67	0.00053	0.00018	0.005	No	14	0.00041	0.0001533	64.29	None	No	0.01	NP (NDs)
Cadmium (mg/L)	DGWC-68A	0.000222	0.0001221	0.005	No	14	0.00038	0.0002399	50	Kaplan-Meier	sqrt(x)	0.01	Param.
Cadmium (mg/L)	DGWC-69	0.0005	0.0002	0.005	No	15	0.0004113	0.0001538	73.33	Kaplan-Meier	No	0.01	NP (NDs)
Chromium (mg/L)	B-62	0.025	0.00098	0.1	No	6	0.021	0.009806	83.33	None	No	0.0155	NP (NDs)
Chromium (mg/L)	DGWC-37	0.025	0.0007	0.1	No	14	0.02152	0.008846	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-38	0.025	0.00092	0.1	No	14	0.01978	0.01038	78.57	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-40	0.025	0.00061	0.1	No	14	0.009422	0.01205	35.71	None	No	0.01	NP (normality)
Chromium (mg/L)	DGWC-67	0.025	0.00088	0.1	No	14	0.01811	0.01131	71.43	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-68A	0.025	0.0005	0.1	No	14	0.02325	0.006548	92.86	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-69	0.025	0.0011	0.1	No	15	0.01858	0.01102	73.33	None	No	0.01	NP (NDs)
Cobalt (mg/L)	B-100	0.087	0.029	0.032	No	5	0.0626	0.02871	0	None	No	0.031	NP (selected)
Cobalt (mg/L)	B-62	0.025	0.0003	0.032	No	6	0.01677	0.01275	66.67	None	No	0.0155	NP (NDs)
Cobalt (mg/L)	DGWC-37	0.025	0.0005	0.032	No	14	0.01972	0.01049	78.57	None	No	0.01	NP (NDs)
Cobalt (mg/L)	DGWC-38	0.01	0.0014	0.032	No	14	0.003836	0.006494	14.29	None	No	0.01	NP (normality)
Cobalt (mg/L)	DGWC-39	0.0071	0.0059	0.032	No	14	0.007993	0.005007	14.29	None	No	0.01	NP (normality)
Cobalt (mg/L)	**DGWC-40**	**0.04517**	**0.03717**	**0.032**	**Yes**	**14**	**0.04117**	**0.005645**	**0**	**None**	**No**	**0.01**	**Param.**
Cobalt (mg/L)	DGWC-67	0.0064	0.0013	0.032	No	14	0.00465	0.006366	14.29	None	No	0.01	NP (normality)
Cobalt (mg/L)	DGWC-68A	0.025	0.0015	0.032	No	14	0.01981	0.01032	78.57	None	No	0.01	NP (NDs)
Cobalt (mg/L)	DGWC-69	0.025	0.0016	0.032	No	15	0.01573	0.01176	60	None	No	0.01	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	B-62	2.146	1.006	6.4	No	5	1.576	0.3399	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-37	1.148	0.5261	6.4	No	14	0.837	0.439	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-38	0.9733	0.3876	6.4	No	14	0.6805	0.4134	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-39	1.388	0.6498	6.4	No	14	1.019	0.5213	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-40	1.512	0.5424	6.4	No	14	1.027	0.6847	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-67	1.037	0.4744	6.4	No	14	0.7559	0.3974	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-68A	1.383	0.5357	6.4	No	14	0.9596	0.5985	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-69	1.819	1.13	6.4	No	15	1.474	0.5081	0	None	No	0.01	Param.

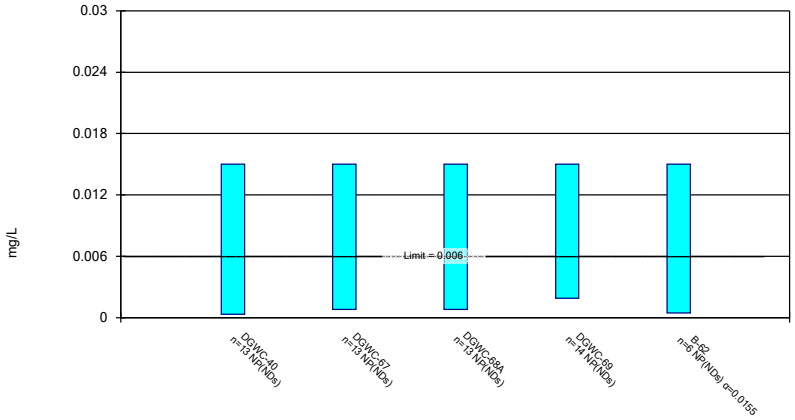
Federal Confidence Intervals - All Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 7/7/2021, 10:53 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Fluoride, total (mg/L)	B-62	0.4478	0.02966	4	No	5	0.1946	0.1426	0	None	sqrt(x)	0.01	Param.
Fluoride, total (mg/L)	DGWC-37	0.21	0.054	4	No	15	0.1026	0.08036	6.667	None	No	0.01	NP (normality)
Fluoride, total (mg/L)	DGWC-38	0.23	0.057	4	No	15	0.1255	0.1159	13.33	None	No	0.01	NP (normality)
Fluoride, total (mg/L)	DGWC-39	0.17	0.083	4	No	15	0.1594	0.1233	6.667	None	No	0.01	NP (normality)
Fluoride, total (mg/L)	DGWC-40	0.3369	0.1367	4	No	15	0.2483	0.1619	6.667	None	sqrt(x)	0.01	Param.
Fluoride, total (mg/L)	DGWC-67	0.07	0.03	4	No	15	0.0892	0.1258	53.33	None	No	0.01	NP (NDs)
Fluoride, total (mg/L)	DGWC-68A	0.15	0.076	4	No	15	0.128	0.07778	6.667	None	No	0.01	NP (normality)
Fluoride, total (mg/L)	DGWC-69	0.1851	0.09201	4	No	16	0.1386	0.07156	6.25	None	No	0.01	Param.
Lead (mg/L)	DGWC-37	0.0014	0.000061	0.015	No	14	0.0009615	0.0002802	85.71	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-38	0.001	0.0001	0.015	No	14	0.0006796	0.0004465	64.29	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-39	0.001	0.00022	0.015	No	14	0.0008786	0.0003099	85.71	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-40	0.001	0.000054	0.015	No	14	0.0004946	0.000458	42.86	None	No	0.01	NP (normality)
Lead (mg/L)	DGWC-67	0.001	0.00009	0.015	No	14	0.0007459	0.0004194	71.43	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-68A	0.001	0.00035	0.015	No	14	0.0008869	0.0002927	85.71	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-69	0.001	0.00009	0.015	No	15	0.0006406	0.0004562	60	None	No	0.01	NP (NDs)
Lithium (mg/L)	B-62	0.03	0.0078	0.04	No	6	0.0119	0.008876	16.67	None	No	0.0155	NP (normality)
Lithium (mg/L)	DGWC-37	0.03	0.0021	0.04	No	14	0.01025	0.01297	28.57	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-38	0.0035	0.003	0.04	No	14	0.00515	0.007155	7.143	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-40	0.0027	0.0021	0.04	No	14	0.006236	0.01007	14.29	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-67	0.0052	0.0043	0.04	No	14	0.006479	0.00678	7.143	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-68A	0.03	0.0016	0.04	No	14	0.02797	0.00759	92.86	None	No	0.01	NP (NDs)
Lithium (mg/L)	DGWC-69	0.0034	0.0024	0.04	No	15	0.004673	0.007016	6.667	None	No	0.01	NP (normality)
Mercury (mg/L)	DGWC-37	0.0002	0.00006	0.002	No	13	0.0001688	0.00006	76.92	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-38	0.0002	0.00007	0.002	No	13	0.0001688	0.00005994	76.92	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-39	0.0002	0.000059	0.002	No	13	0.0001892	0.00003911	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-40	0.0002	0.000045	0.002	No	13	0.0001676	0.00006247	76.92	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-67	0.0002	0.00007	0.002	No	13	0.00019	0.00003606	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-68A	0.0002	0.00007	0.002	No	13	0.00019	0.00003606	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-69	0.0002	0.00007	0.002	No	14	0.0001907	0.00003474	92.86	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	DGWC-38	0.01	0.00098	0.1	No	14	0.005521	0.004648	50	None	No	0.01	NP (normality)
Molybdenum (mg/L)	**DGWC-68A**	**0.226**	**0.19**	**0.1**	**Yes**	**14**	**0.211**	**0.02184**	**0**	**None**	**No**	**0.01**	**NP (normality)**
Molybdenum (mg/L)	DGWC-69	0.01267	0.006546	0.1	No	15	0.01031	0.006058	6.667	None	ln(x)	0.01	Param.
Selenium (mg/L)	DGWC-38	0.01	0.0019	0.05	No	14	0.009421	0.002165	92.86	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-40	0.01	0.0019	0.05	No	14	0.004471	0.003289	21.43	None	No	0.01	NP (normality)
Selenium (mg/L)	DGWC-67	0.01	0.0027	0.05	No	14	0.009479	0.001951	92.86	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-68A	0.01	0.0017	0.05	No	14	0.009407	0.002218	92.86	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-38	0.001	0.0001	0.002	No	14	0.0005007	0.0004492	42.86	None	No	0.01	NP (normality)
Thallium (mg/L)	DGWC-39	0.001	0.00009	0.002	No	14	0.0006736	0.0004546	64.29	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-40	0.001	0.000068	0.002	No	14	0.0006663	0.0004646	64.29	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-68A	0.001	0.00015	0.002	No	14	0.0009393	0.0002272	92.86	None	No	0.01	NP (NDs)

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.

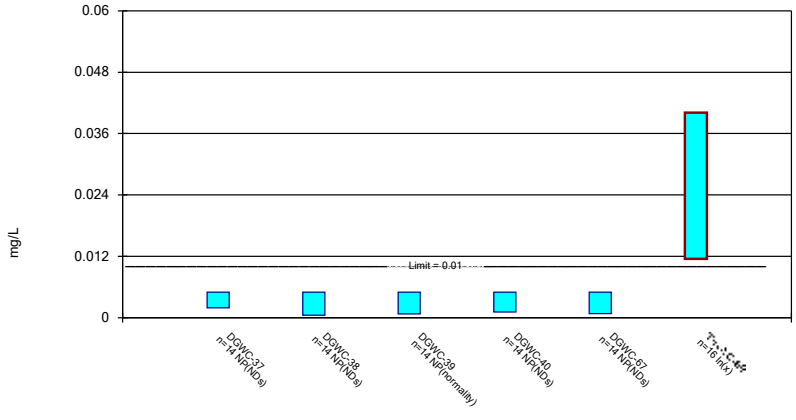


Constituent: Antimony Analysis Run 7/7/2021 10:49 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

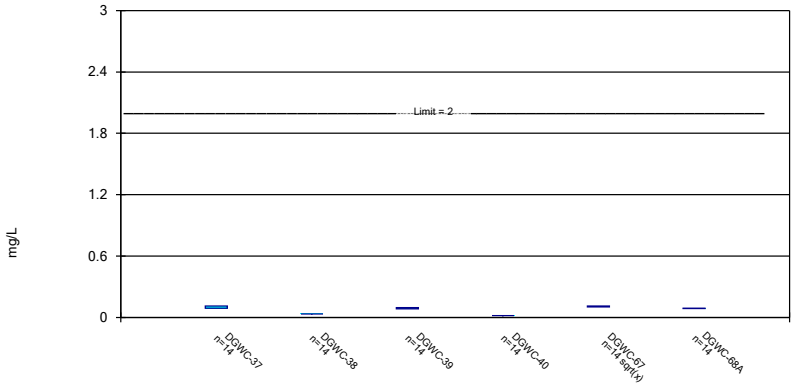


Constituent: Arsenic Analysis Run 7/7/2021 10:49 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Groundwater Stats Consulting. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

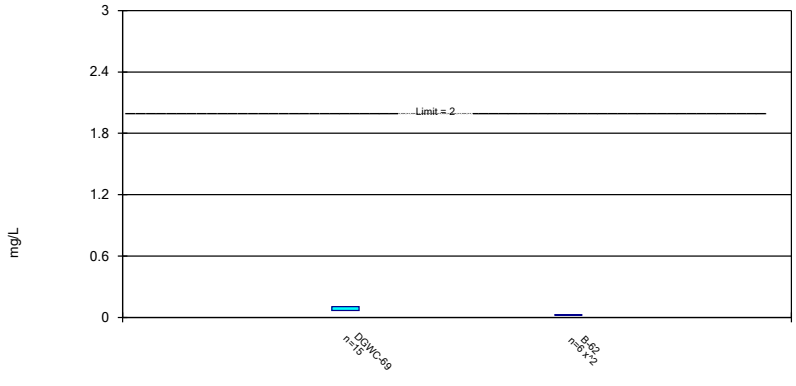


Constituent: Barium Analysis Run 7/7/2021 10:49 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Groundwater Stats Consulting. UG

Parametric Confidence Interval

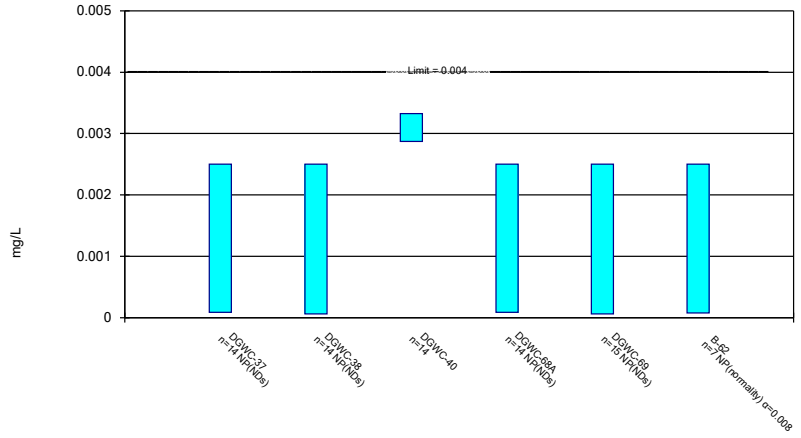
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 7/7/2021 10:49 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Parametric and Non-Parametric (NP) Confidence Interval

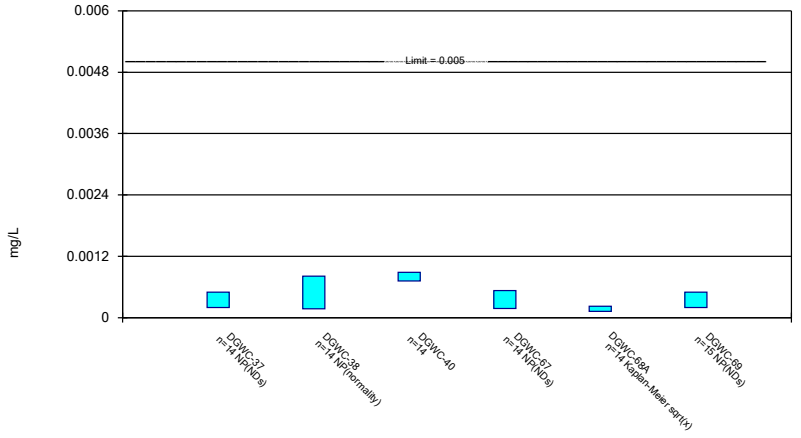
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Beryllium Analysis Run 7/7/2021 10:49 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Parametric and Non-Parametric (NP) Confidence Interval

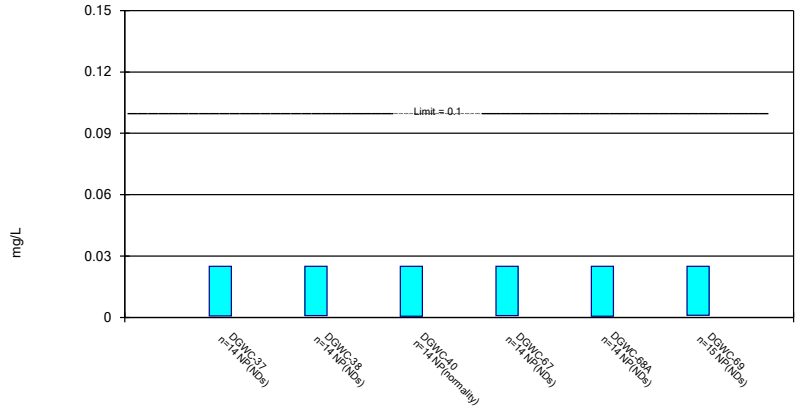
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cadmium Analysis Run 7/7/2021 10:49 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Non-Parametric Confidence Interval

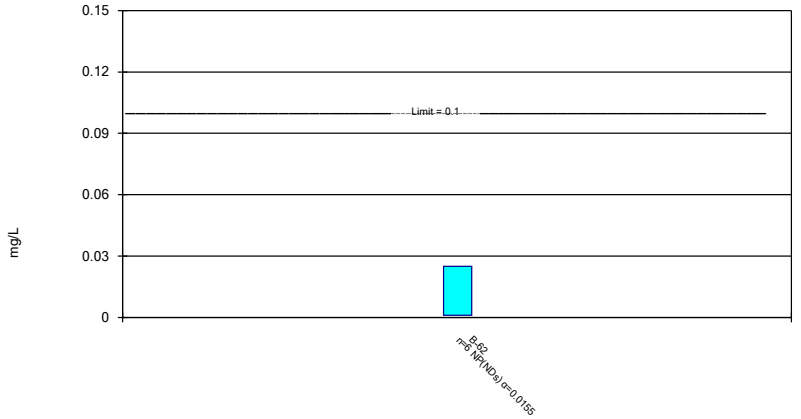
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Chromium Analysis Run 7/7/2021 10:49 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Non-Parametric Confidence Interval

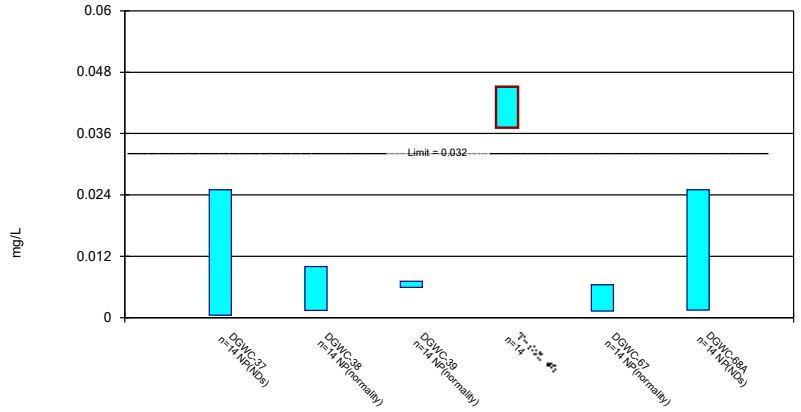
Compliance Limit is not exceeded.



Constituent: Chromium Analysis Run 7/7/2021 10:49 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

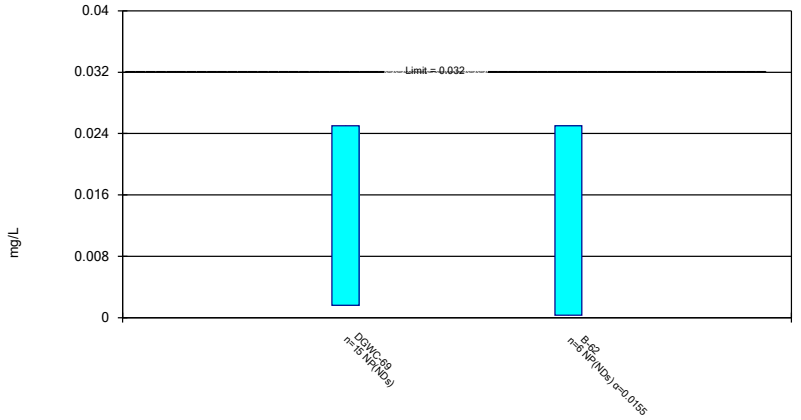


Constituent: Cobalt Analysis Run 7/7/2021 10:49 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.

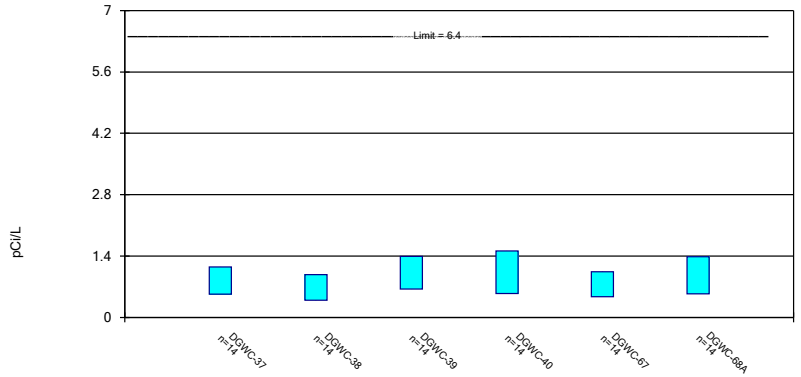


Constituent: Cobalt Analysis Run 7/7/2021 10:49 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Groundwater Stats Consulting. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

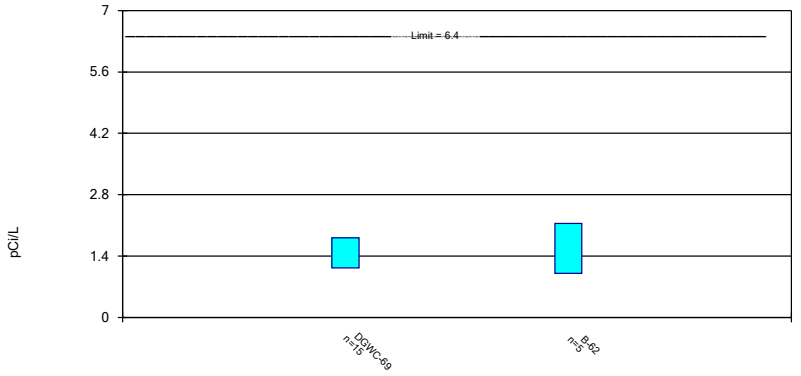


Constituent: Combined Radium 226 + 228 Analysis Run 7/7/2021 10:49 AM View: AP 1 Confidence Interv
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Groundwater Stats Consulting. UG

Parametric Confidence Interval

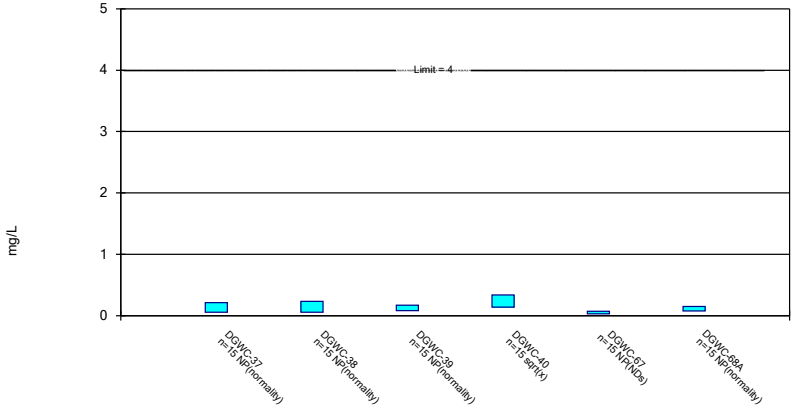
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 7/7/2021 10:50 AM View: AP 1 Confidence Interv
Plant McDonough Client: Southern Company Data: McDonough AP

Parametric and Non-Parametric (NP) Confidence Interval

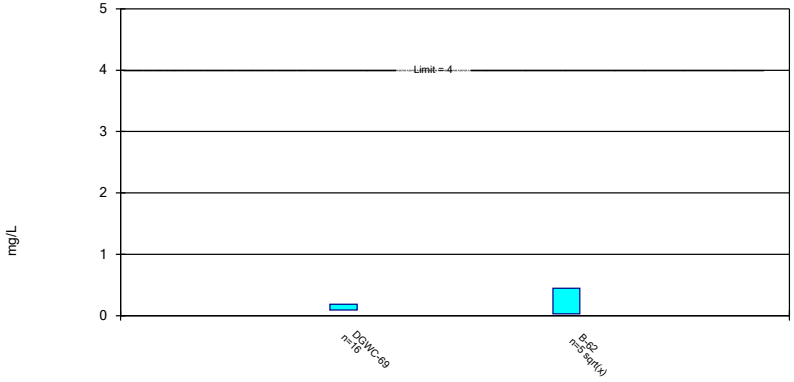
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride, total Analysis Run 7/7/2021 10:50 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Parametric Confidence Interval

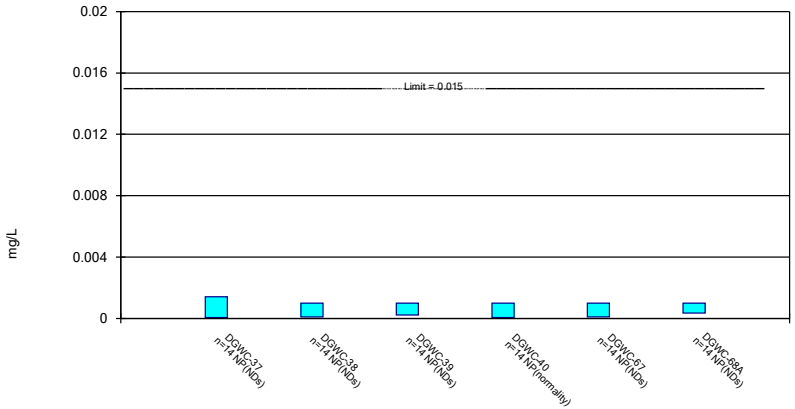
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride, total Analysis Run 7/7/2021 10:50 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Non-Parametric Confidence Interval

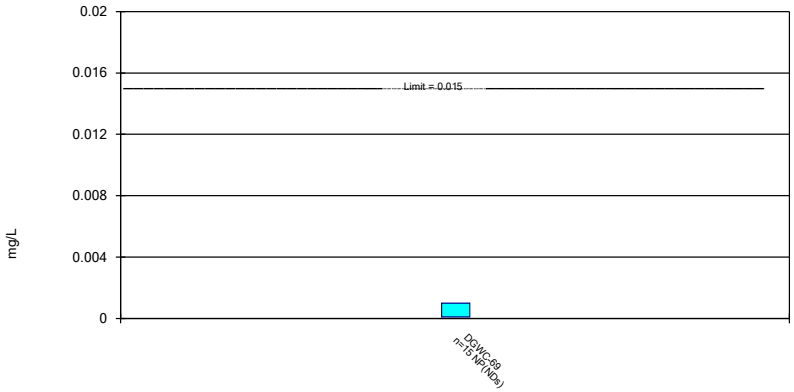
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Lead Analysis Run 7/7/2021 10:50 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

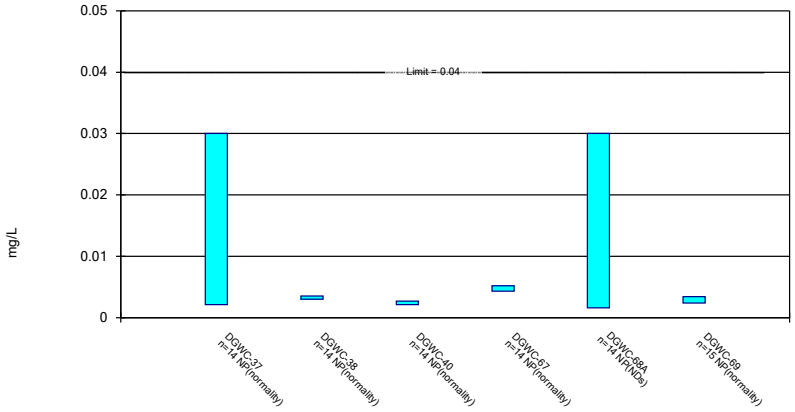


Constituent: Lead Analysis Run 7/7/2021 10:50 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

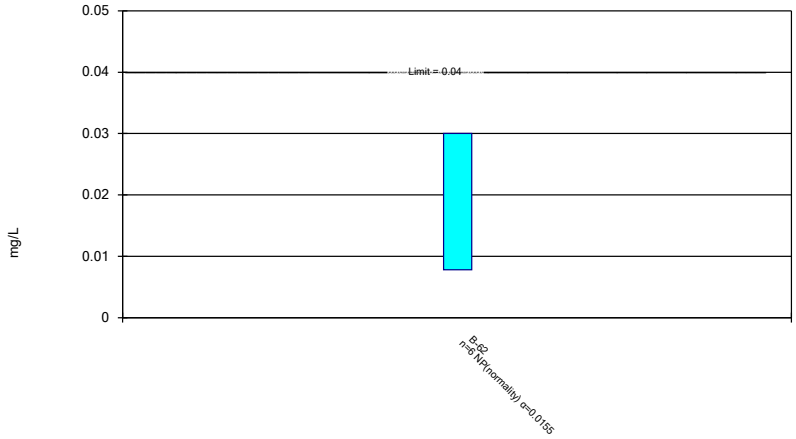


Constituent: Lithium Analysis Run 7/7/2021 10:50 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

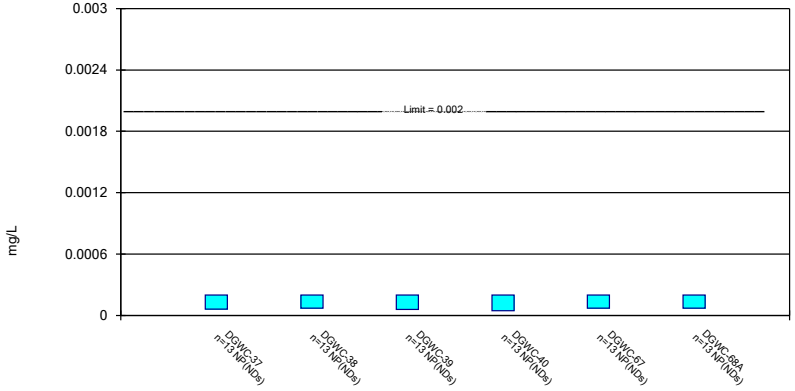


Constituent: Lithium Analysis Run 7/7/2021 10:50 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

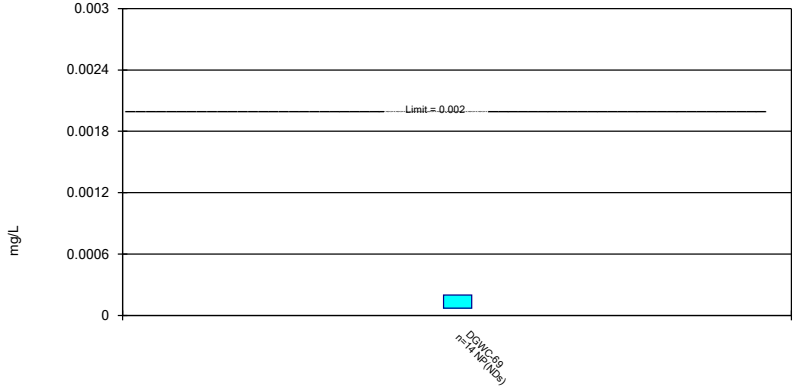


Constituent: Mercury Analysis Run 7/7/2021 10:50 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

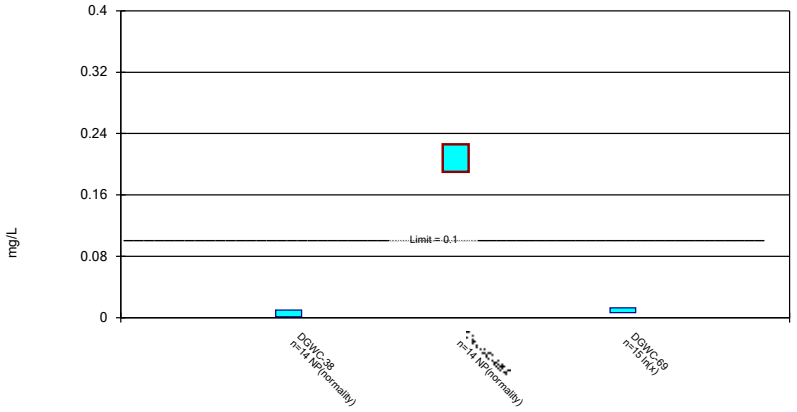
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Mercury Analysis Run 7/7/2021 10:50 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Parametric and Non-Parametric (NP) Confidence Interval

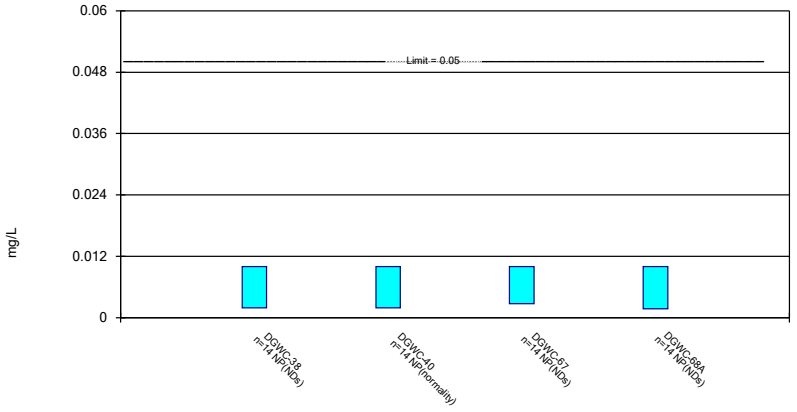
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum Analysis Run 7/7/2021 10:50 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Non-Parametric Confidence Interval

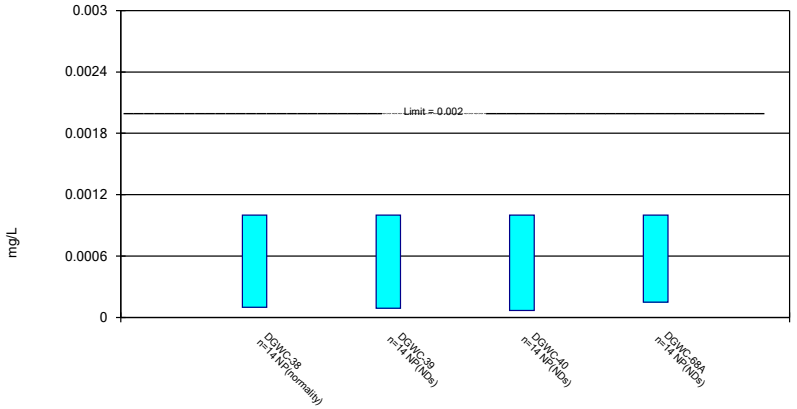
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Selenium Analysis Run 7/7/2021 10:50 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

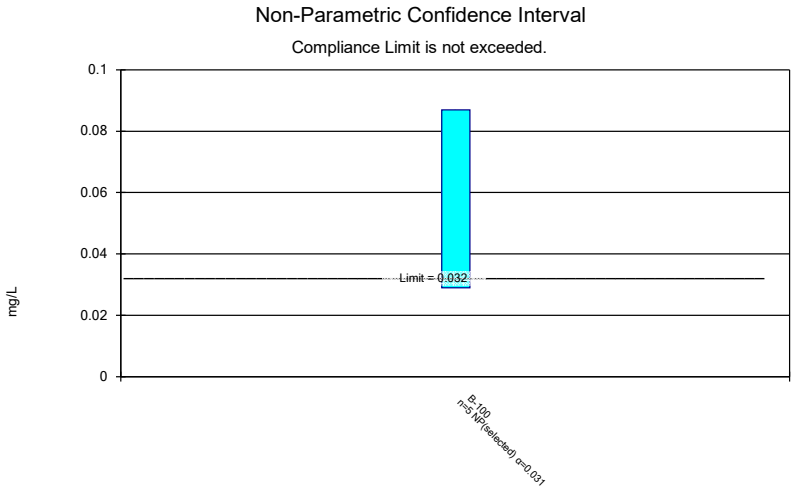
Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Thallium Analysis Run 7/7/2021 10:50 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Non-parametric Confidence Intervals



Normality testing disabled.

Constituent: Cobalt Analysis Run 7/7/2021 10:52 AM View: AP 1 Confidence Intervals

Plant McDonough Client: Southern Company Data: McDonough AP

FIGURE I.

State Confidence Intervals - Significant Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 7/7/2021, 11:00 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	**DGWC-69**	**0.04009**	**0.0115**	**0.01**	**Yes**	**16**	**0.03433**	**0.04274**	**0**	**None**	**ln(x)**	**0.01**	**Param.**
Cobalt (mg/L)	**DGWC-40**	**0.04517**	**0.03717**	**0.032**	**Yes**	**14**	**0.04117**	**0.005645**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**DGWC-68A**	**0.226**	**0.19**	**0.041**	**Yes**	**14**	**0.211**	**0.02184**	**0**	**None**	**No**	**0.01**	**NP (normality)**

State Confidence Intervals - All Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 7/7/2021, 11:00 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	B-62	0.015	0.00046	0.006	No	6	0.01258	0.005936	83.33	None	No	0.0155	NP (NDs)
Antimony (mg/L)	DGWC-40	0.015	0.00033	0.006	No	13	0.01387	0.004069	92.31	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-67	0.015	0.0008	0.006	No	13	0.01181	0.00608	76.92	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-68A	0.015	0.0008	0.006	No	13	0.01278	0.005424	84.62	None	No	0.01	NP (NDs)
Antimony (mg/L)	DGWC-69	0.015	0.0019	0.006	No	14	0.0121	0.005769	78.57	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-37	0.005	0.0019	0.01	No	14	0.004779	0.0008285	92.86	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-38	0.005	0.0005	0.01	No	14	0.004679	0.001203	92.86	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-39	0.005	0.0007	0.01	No	14	0.002877	0.002209	50	None	No	0.01	NP (normality)
Arsenic (mg/L)	DGWC-40	0.005	0.0011	0.01	No	14	0.004096	0.001799	78.57	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DGWC-67	0.005	0.0008	0.01	No	14	0.004373	0.001596	85.71	None	No	0.01	NP (NDs)
Arsenic (mg/L)	**DGWC-69**	**0.04009**	**0.0115**	**0.01**	**Yes**	**16**	**0.03433**	**0.04274**	**0**	**None**	**ln(x)**	**0.01**	**Param.**
Barium (mg/L)	B-62	0.02823	0.01974	2	No	6	0.02417	0.003312	0	None	x^2	0.01	Param.
Barium (mg/L)	DGWC-37	0.1122	0.09005	2	No	14	0.1011	0.01566	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-38	0.03359	0.0323	2	No	14	0.03294	0.0009146	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-39	0.09652	0.08348	2	No	14	0.09	0.009203	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-40	0.01806	0.01677	2	No	14	0.01741	0.0009046	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-67	0.1127	0.1021	2	No	14	0.1074	0.007583	0	None	sqrt(x)	0.01	Param.
Barium (mg/L)	DGWC-68A	0.09048	0.08698	2	No	14	0.08873	0.002467	0	None	No	0.01	Param.
Barium (mg/L)	DGWC-69	0.1039	0.06757	2	No	15	0.08571	0.02678	0	None	No	0.01	Param.
Beryllium (mg/L)	B-62	0.0025	0.000078	0.004	No	7	0.0007897	0.001168	28.57	None	No	0.008	NP (normality)
Beryllium (mg/L)	DGWC-37	0.0025	0.000088	0.004	No	14	0.00181	0.001132	71.43	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-38	0.0025	0.000058	0.004	No	14	0.002326	0.0006527	92.86	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-40	0.003326	0.002874	0.004	No	14	0.0031	0.0003187	7.143	None	No	0.01	Param.
Beryllium (mg/L)	DGWC-68A	0.0025	0.000084	0.004	No	14	0.002153	0.0008815	85.71	None	No	0.01	NP (NDs)
Beryllium (mg/L)	DGWC-69	0.0025	0.000061	0.004	No	15	0.001525	0.001236	60	None	No	0.01	NP (NDs)
Cadmium (mg/L)	DGWC-37	0.0005	0.0002	0.005	No	14	0.000405	0.0001609	71.43	None	No	0.01	NP (NDs)
Cadmium (mg/L)	DGWC-38	0.00081	0.00017	0.005	No	14	0.0003493	0.0002623	21.43	None	No	0.01	NP (normality)
Cadmium (mg/L)	DGWC-40	0.0008866	0.0007148	0.005	No	14	0.0008007	0.0001212	14.29	None	No	0.01	Param.
Cadmium (mg/L)	DGWC-67	0.00053	0.00018	0.005	No	14	0.00041	0.0001533	64.29	None	No	0.01	NP (NDs)
Cadmium (mg/L)	DGWC-68A	0.000222	0.0001221	0.005	No	14	0.00038	0.0002399	50	Kaplan-Meier	sqrt(x)	0.01	Param.
Cadmium (mg/L)	DGWC-69	0.0005	0.0002	0.005	No	15	0.0004113	0.0001538	73.33	Kaplan-Meier	No	0.01	NP (NDs)
Chromium (mg/L)	B-62	0.025	0.00098	0.1	No	6	0.021	0.009806	83.33	None	No	0.0155	NP (NDs)
Chromium (mg/L)	DGWC-37	0.025	0.0007	0.1	No	14	0.02152	0.008846	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-38	0.025	0.00092	0.1	No	14	0.01978	0.01038	78.57	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-40	0.025	0.00061	0.1	No	14	0.009422	0.01205	35.71	None	No	0.01	NP (normality)
Chromium (mg/L)	DGWC-67	0.025	0.00088	0.1	No	14	0.01811	0.01131	71.43	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-68A	0.025	0.0005	0.1	No	14	0.02325	0.006548	92.86	None	No	0.01	NP (NDs)
Chromium (mg/L)	DGWC-69	0.025	0.0011	0.1	No	15	0.01858	0.01102	73.33	None	No	0.01	NP (NDs)
Cobalt (mg/L)	B-100	0.087	0.029	0.032	No	5	0.0626	0.02871	0	None	No	0.031	NP (selected)
Cobalt (mg/L)	B-62	0.025	0.0003	0.032	No	6	0.01677	0.01275	66.67	None	No	0.0155	NP (NDs)
Cobalt (mg/L)	DGWC-37	0.025	0.0005	0.032	No	14	0.01972	0.01049	78.57	None	No	0.01	NP (NDs)
Cobalt (mg/L)	DGWC-38	0.01	0.0014	0.032	No	14	0.003836	0.006494	14.29	None	No	0.01	NP (normality)
Cobalt (mg/L)	DGWC-39	0.0071	0.0059	0.032	No	14	0.007993	0.005007	14.29	None	No	0.01	NP (normality)
Cobalt (mg/L)	**DGWC-40**	**0.04517**	**0.03717**	**0.032**	**Yes**	**14**	**0.04117**	**0.005645**	**0**	**None**	**No**	**0.01**	**Param.**
Cobalt (mg/L)	DGWC-67	0.0064	0.0013	0.032	No	14	0.00465	0.006366	14.29	None	No	0.01	NP (normality)
Cobalt (mg/L)	DGWC-68A	0.025	0.0015	0.032	No	14	0.01981	0.01032	78.57	None	No	0.01	NP (NDs)
Cobalt (mg/L)	DGWC-69	0.025	0.0016	0.032	No	15	0.01573	0.01176	60	None	No	0.01	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	B-62	2.146	1.006	6.4	No	5	1.576	0.3399	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-37	1.148	0.5261	6.4	No	14	0.837	0.439	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-38	0.9733	0.3876	6.4	No	14	0.6805	0.4134	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-39	1.388	0.6498	6.4	No	14	1.019	0.5213	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-40	1.512	0.5424	6.4	No	14	1.027	0.6847	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-67	1.037	0.4744	6.4	No	14	0.7559	0.3974	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-68A	1.383	0.5357	6.4	No	14	0.9596	0.5985	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	DGWC-69	1.819	1.13	6.4	No	15	1.474	0.5081	0	None	No	0.01	Param.

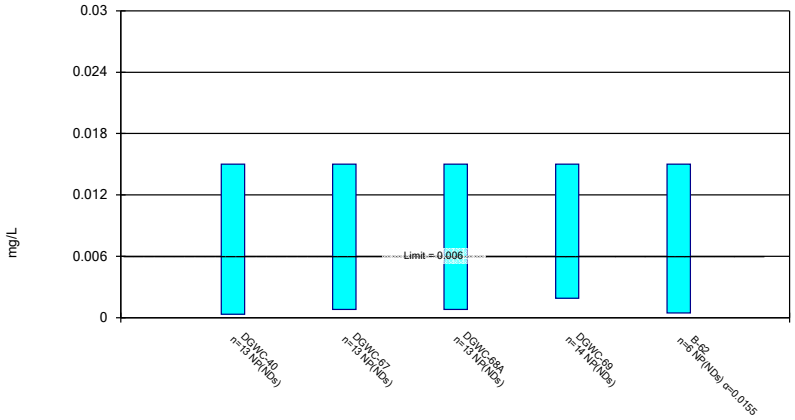
State Confidence Intervals - All Results

Plant McDonough Client: Southern Company Data: McDonough AP Printed 7/7/2021, 11:00 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Fluoride, total (mg/L)	B-62	0.4478	0.02966	4	No	5	0.1946	0.1426	0	None	sqrt(x)	0.01	Param.
Fluoride, total (mg/L)	DGWC-37	0.21	0.054	4	No	15	0.1026	0.08036	6.667	None	No	0.01	NP (normality)
Fluoride, total (mg/L)	DGWC-38	0.23	0.057	4	No	15	0.1255	0.1159	13.33	None	No	0.01	NP (normality)
Fluoride, total (mg/L)	DGWC-39	0.17	0.083	4	No	15	0.1594	0.1233	6.667	None	No	0.01	NP (normality)
Fluoride, total (mg/L)	DGWC-40	0.3369	0.1367	4	No	15	0.2483	0.1619	6.667	None	sqrt(x)	0.01	Param.
Fluoride, total (mg/L)	DGWC-67	0.07	0.03	4	No	15	0.0892	0.1258	53.33	None	No	0.01	NP (NDs)
Fluoride, total (mg/L)	DGWC-68A	0.15	0.076	4	No	15	0.128	0.07778	6.667	None	No	0.01	NP (normality)
Fluoride, total (mg/L)	DGWC-69	0.1851	0.09201	4	No	16	0.1386	0.07156	6.25	None	No	0.01	Param.
Lead (mg/L)	DGWC-37	0.0014	0.000061	0.001	No	14	0.0009615	0.0002802	85.71	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-38	0.001	0.0001	0.001	No	14	0.0006796	0.0004465	64.29	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-39	0.001	0.00022	0.001	No	14	0.0008786	0.0003099	85.71	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-40	0.001	0.000054	0.001	No	14	0.0004946	0.000458	42.86	None	No	0.01	NP (normality)
Lead (mg/L)	DGWC-67	0.001	0.00009	0.001	No	14	0.0007459	0.0004194	71.43	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-68A	0.001	0.00035	0.001	No	14	0.0008869	0.0002927	85.71	None	No	0.01	NP (NDs)
Lead (mg/L)	DGWC-69	0.001	0.00009	0.001	No	15	0.0006406	0.0004562	60	None	No	0.01	NP (NDs)
Lithium (mg/L)	B-62	0.03	0.0078	0.03	No	6	0.0119	0.008876	16.67	None	No	0.0155	NP (normality)
Lithium (mg/L)	DGWC-37	0.03	0.0021	0.03	No	14	0.01025	0.01297	28.57	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-38	0.0035	0.003	0.03	No	14	0.00515	0.007155	7.143	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-40	0.0027	0.0021	0.03	No	14	0.006236	0.01007	14.29	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-67	0.0052	0.0043	0.03	No	14	0.006479	0.00678	7.143	None	No	0.01	NP (normality)
Lithium (mg/L)	DGWC-68A	0.03	0.0016	0.03	No	14	0.02797	0.00759	92.86	None	No	0.01	NP (NDs)
Lithium (mg/L)	DGWC-69	0.0034	0.0024	0.03	No	15	0.004673	0.007016	6.667	None	No	0.01	NP (normality)
Mercury (mg/L)	DGWC-37	0.0005	0.00006	0.002	No	13	0.0003996	0.000191	76.92	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-38	0.0005	0.00007	0.002	No	13	0.0003996	0.000191	76.92	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-39	0.0005	0.000059	0.002	No	13	0.0004661	0.0001223	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-40	0.0005	0.000045	0.002	No	13	0.0003984	0.0001934	76.92	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-67	0.0005	0.00007	0.002	No	13	0.0004669	0.0001193	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-68A	0.0005	0.00007	0.002	No	13	0.0004669	0.0001193	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	DGWC-69	0.0005	0.00007	0.002	No	14	0.0004693	0.0001149	92.86	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	DGWC-38	0.01	0.00098	0.041	No	14	0.005521	0.004648	50	None	No	0.01	NP (normality)
Molybdenum (mg/L)	**DGWC-68A**	**0.226**	**0.19**	**0.041**	**Yes**	**14**	**0.211**	**0.02184**	**0**	**None**	**No**	**0.01**	**NP (normality)**
Molybdenum (mg/L)	DGWC-69	0.01267	0.006546	0.041	No	15	0.01031	0.006058	6.667	None	ln(x)	0.01	Param.
Selenium (mg/L)	DGWC-38	0.01	0.0019	0.05	No	14	0.009421	0.002165	92.86	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-40	0.01	0.0019	0.05	No	14	0.004471	0.003289	21.43	None	No	0.01	NP (normality)
Selenium (mg/L)	DGWC-67	0.01	0.0027	0.05	No	14	0.009479	0.001951	92.86	None	No	0.01	NP (NDs)
Selenium (mg/L)	DGWC-68A	0.01	0.0017	0.05	No	14	0.009407	0.002218	92.86	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-38	0.001	0.0001	0.002	No	14	0.0005007	0.0004492	42.86	None	No	0.01	NP (normality)
Thallium (mg/L)	DGWC-39	0.001	0.00009	0.002	No	14	0.0006736	0.0004546	64.29	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-40	0.001	0.000068	0.002	No	14	0.0006663	0.0004646	64.29	None	No	0.01	NP (NDs)
Thallium (mg/L)	DGWC-68A	0.001	0.00015	0.002	No	14	0.0009393	0.0002272	92.86	None	No	0.01	NP (NDs)

Non-Parametric Confidence Interval

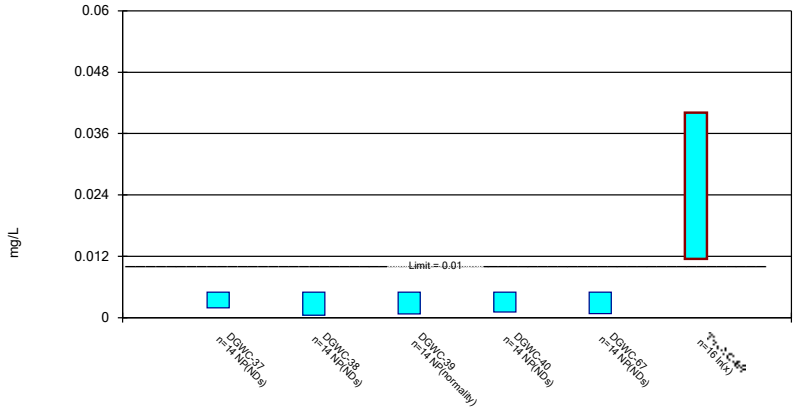
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



Constituent: Antimony Analysis Run 7/7/2021 10:57 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Parametric and Non-Parametric (NP) Confidence Interval

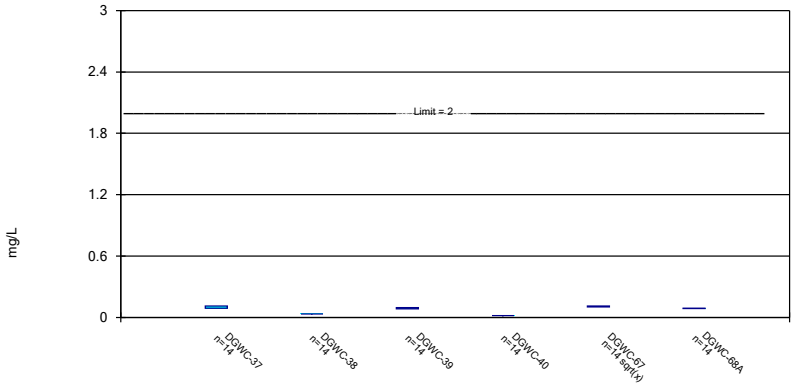
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 7/7/2021 10:57 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Parametric Confidence Interval

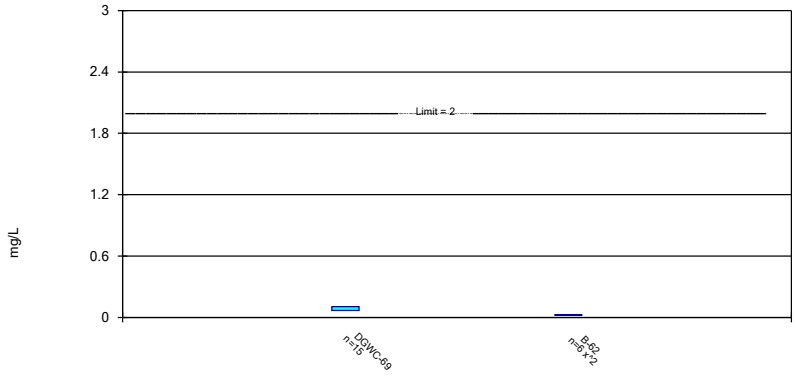
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 7/7/2021 10:57 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Parametric Confidence Interval

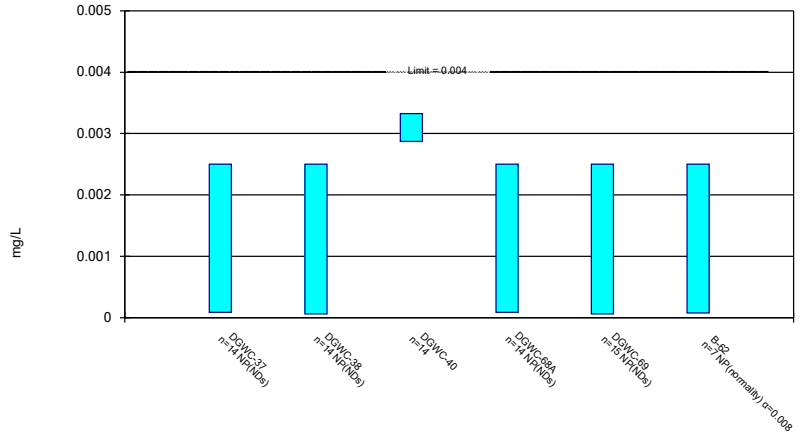
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 7/7/2021 10:57 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Parametric and Non-Parametric (NP) Confidence Interval

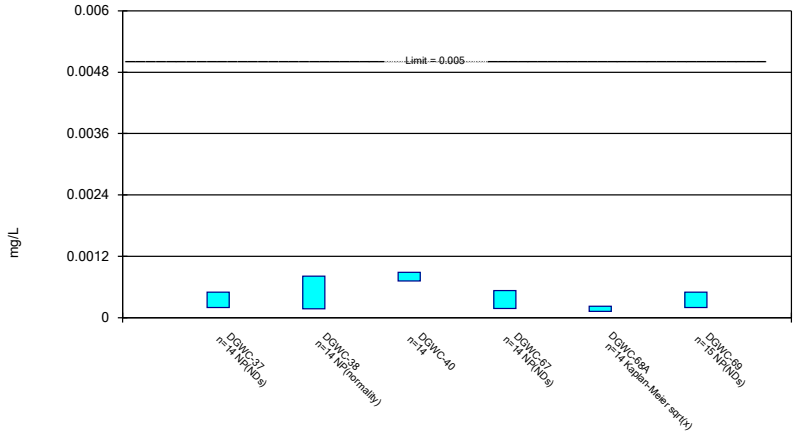
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Beryllium Analysis Run 7/7/2021 10:57 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Parametric and Non-Parametric (NP) Confidence Interval

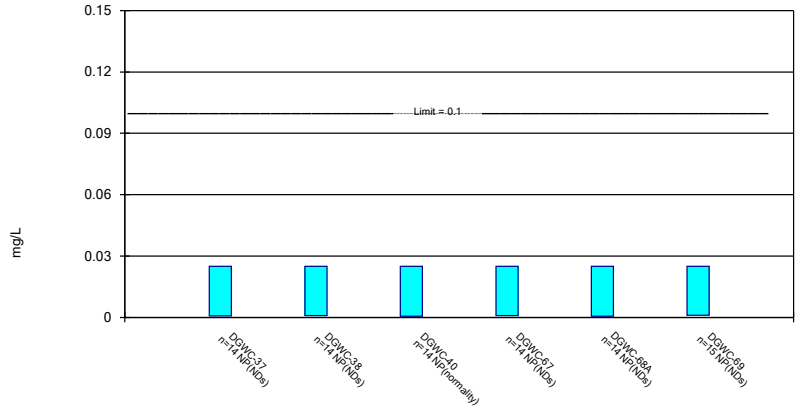
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cadmium Analysis Run 7/7/2021 10:57 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Non-Parametric Confidence Interval

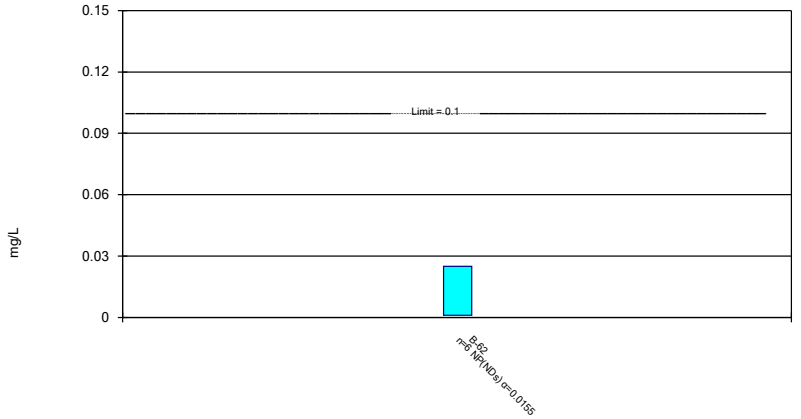
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Chromium Analysis Run 7/7/2021 10:57 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Non-Parametric Confidence Interval

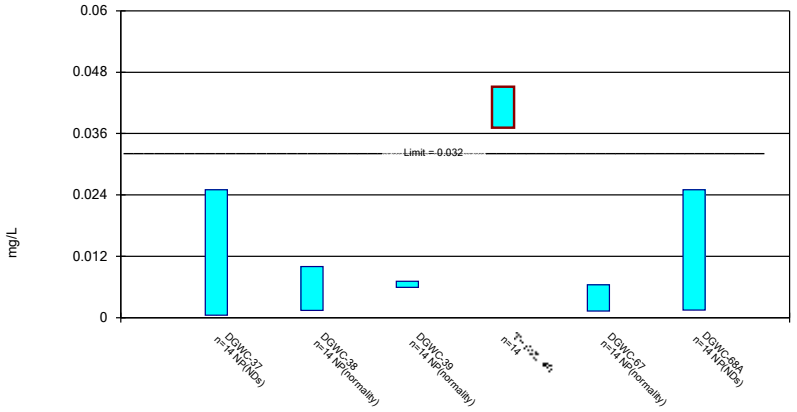
Compliance Limit is not exceeded.



Constituent: Chromium Analysis Run 7/7/2021 10:57 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

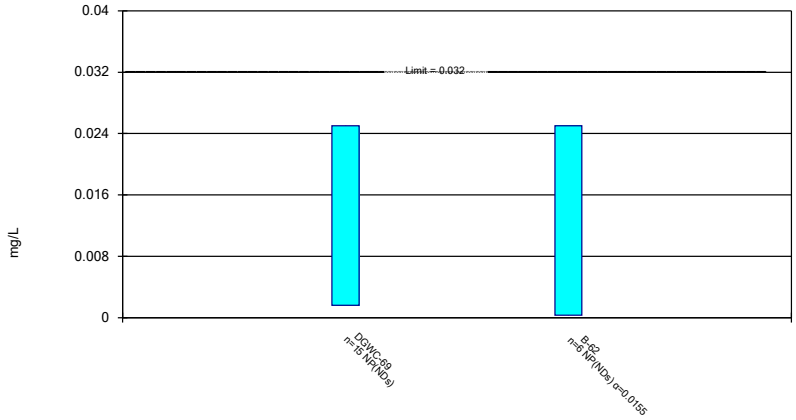


Constituent: Cobalt Analysis Run 7/7/2021 10:58 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.

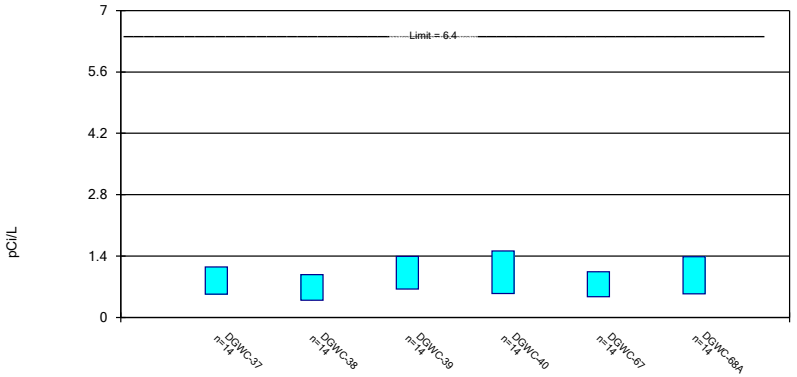


Constituent: Cobalt Analysis Run 7/7/2021 10:58 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Groundwater Stats Consulting. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

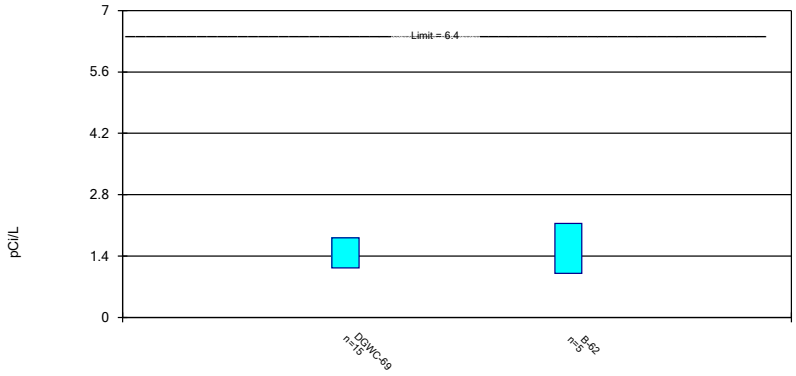


Constituent: Combined Radium 226 + 228 Analysis Run 7/7/2021 10:58 AM View: AP 1 Confidence Interv
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Groundwater Stats Consulting. UG

Parametric Confidence Interval

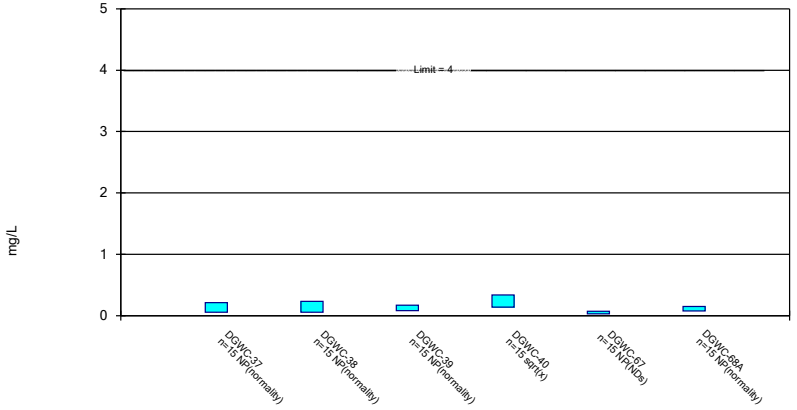
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 7/7/2021 10:58 AM View: AP 1 Confidence Interv
Plant McDonough Client: Southern Company Data: McDonough AP

Parametric and Non-Parametric (NP) Confidence Interval

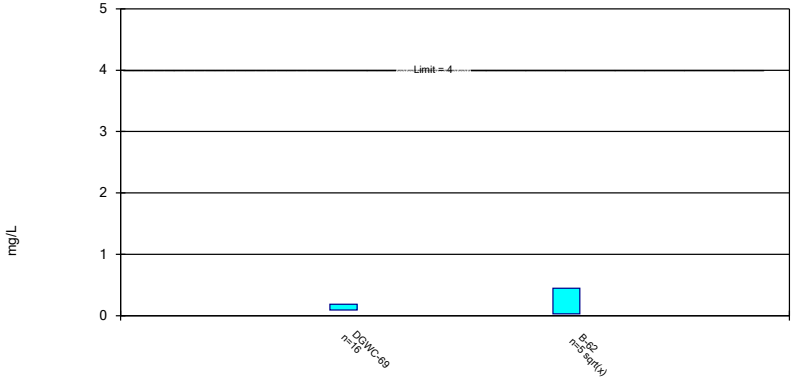
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride, total Analysis Run 7/7/2021 10:58 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Parametric Confidence Interval

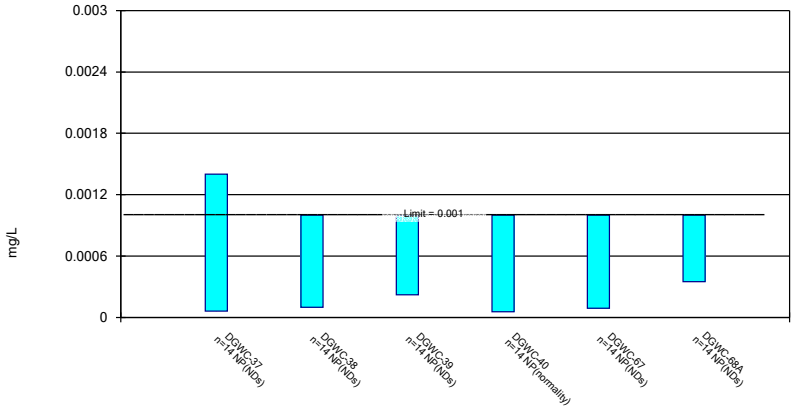
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride, total Analysis Run 7/7/2021 10:58 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Non-Parametric Confidence Interval

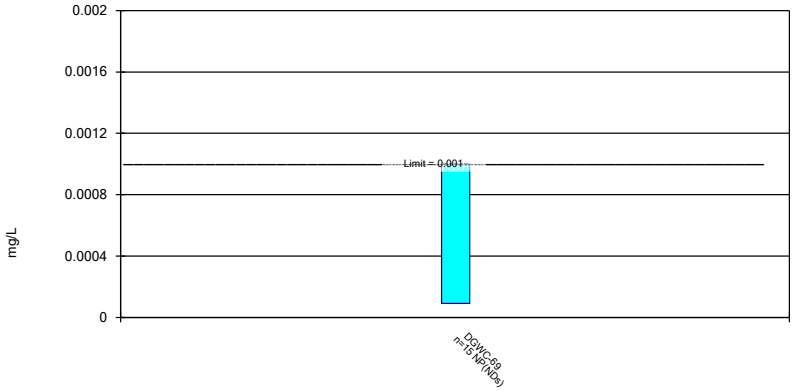
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Lead Analysis Run 7/7/2021 10:58 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



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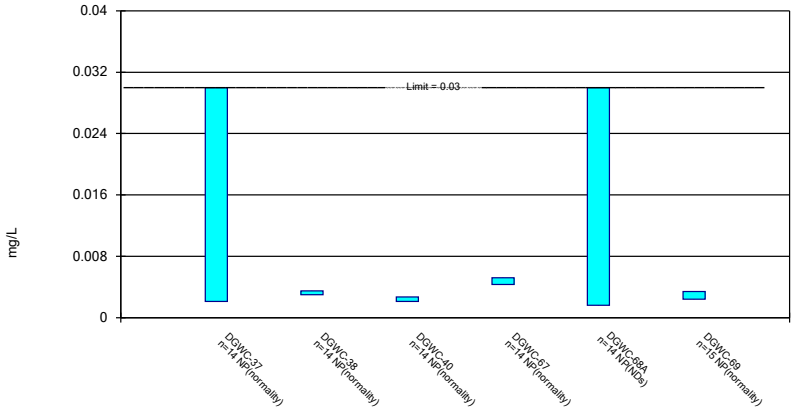
Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



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Sanitas™ v.9.6.29 Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

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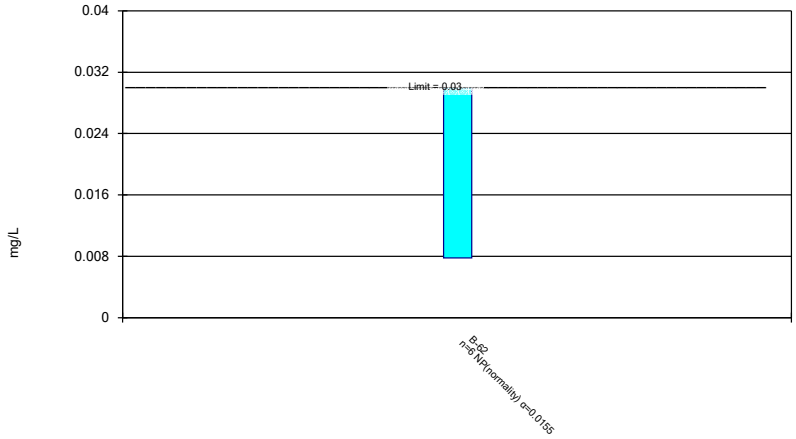

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Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Groundwater Stats Consulting. UG

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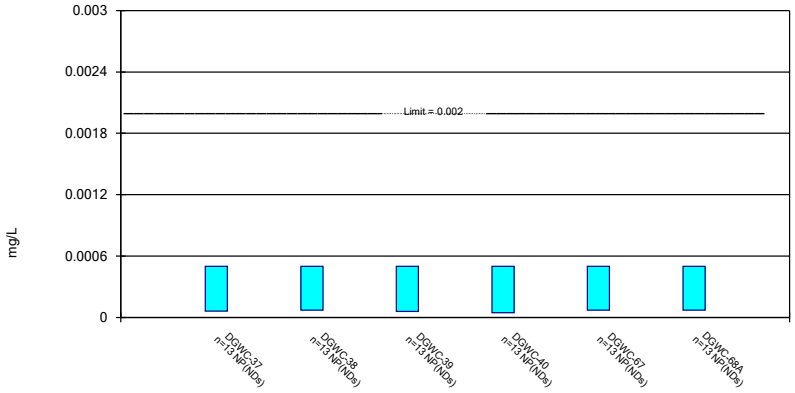

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Plant McDonough Client: Southern Company Data: McDonough AP

Sanitas™ v.9.6.29 Groundwater Stats Consulting. UG

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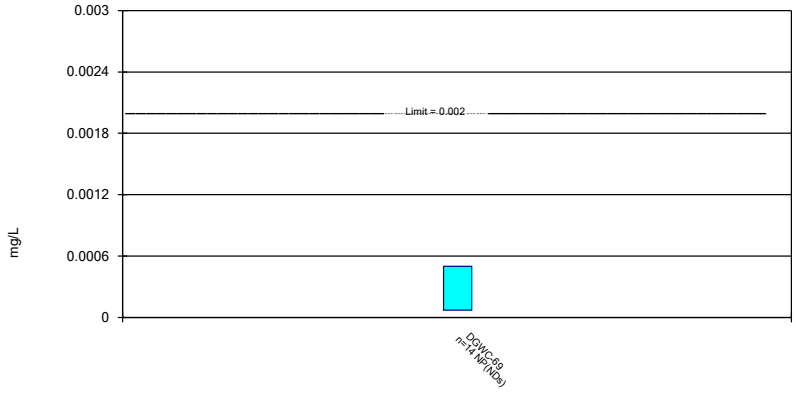

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Parametric and Non-Parametric (NP) Confidence Interval

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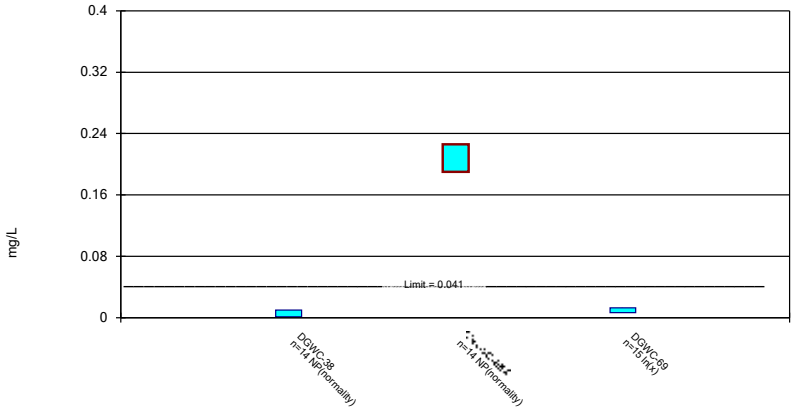

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Plant McDonough Client: Southern Company Data: McDonough AP

Non-Parametric Confidence Interval

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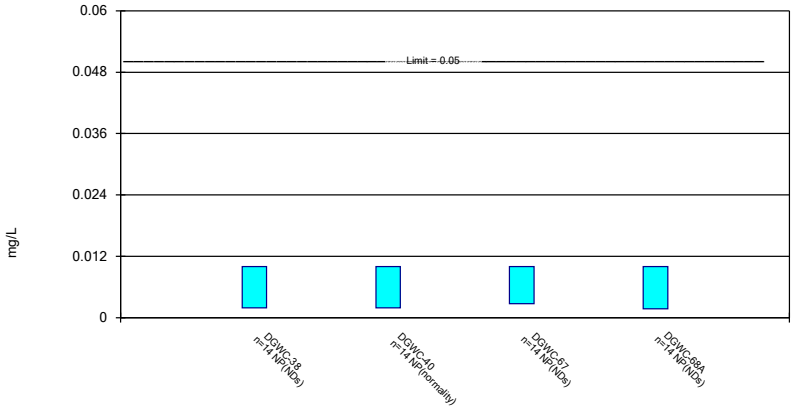

Constituent: Selenium Analysis Run 7/7/2021 10:58 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Non-Parametric Confidence Interval

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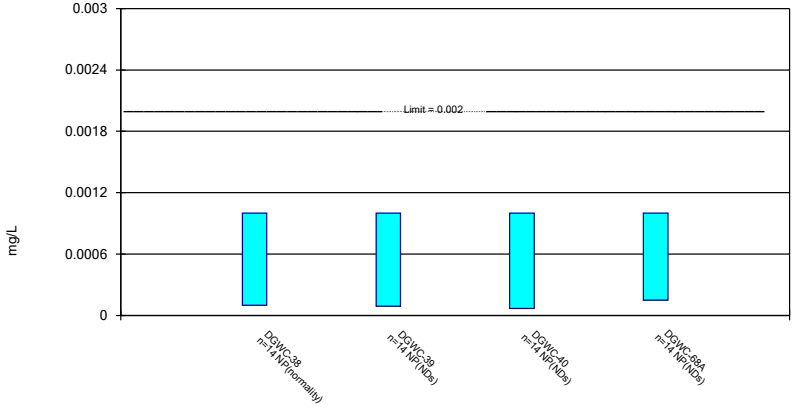
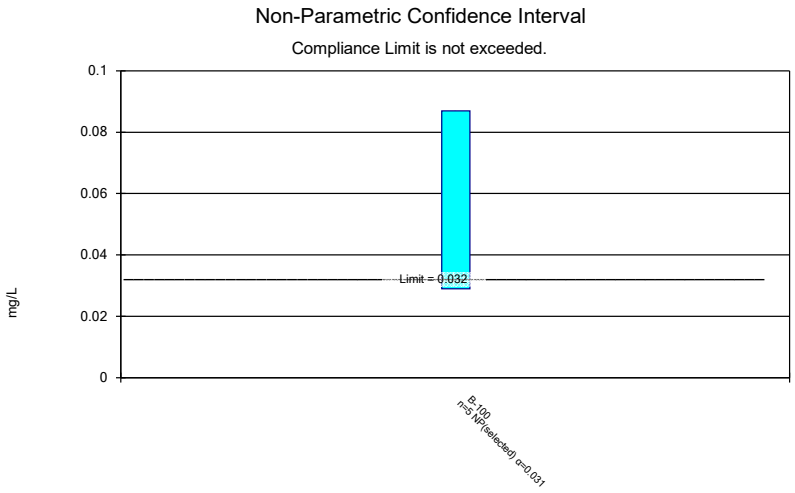


Constituent: Thallium Analysis Run 7/7/2021 10:58 AM View: AP 1 Confidence Intervals
Plant McDonough Client: Southern Company Data: McDonough AP

Non-parametric Confidence Intervals



Normality testing disabled.

Constituent: Cobalt Analysis Run 7/7/2021 10:59 AM View: AP 1 Confidence Intervals

Plant McDonough Client: Southern Company Data: McDonough AP

APPENDIX D

Semi-Annual Remedy Selection and Design Progress Report

GOLDER
MEMBER OF WSP

REPORT

Semi-Annual Remedy Selection and Design Progress Report

Plant McDonough-Atkinson Ash Pond 1

Submitted to:

Georgia Power Company

241 Ralph McGill Boulevard, Atlanta, Georgia 30308

Submitted by:

Golder Associates Inc.

5170 Peachtree Road Building 100 Suite 300, Atlanta, Georgia, USA 30341

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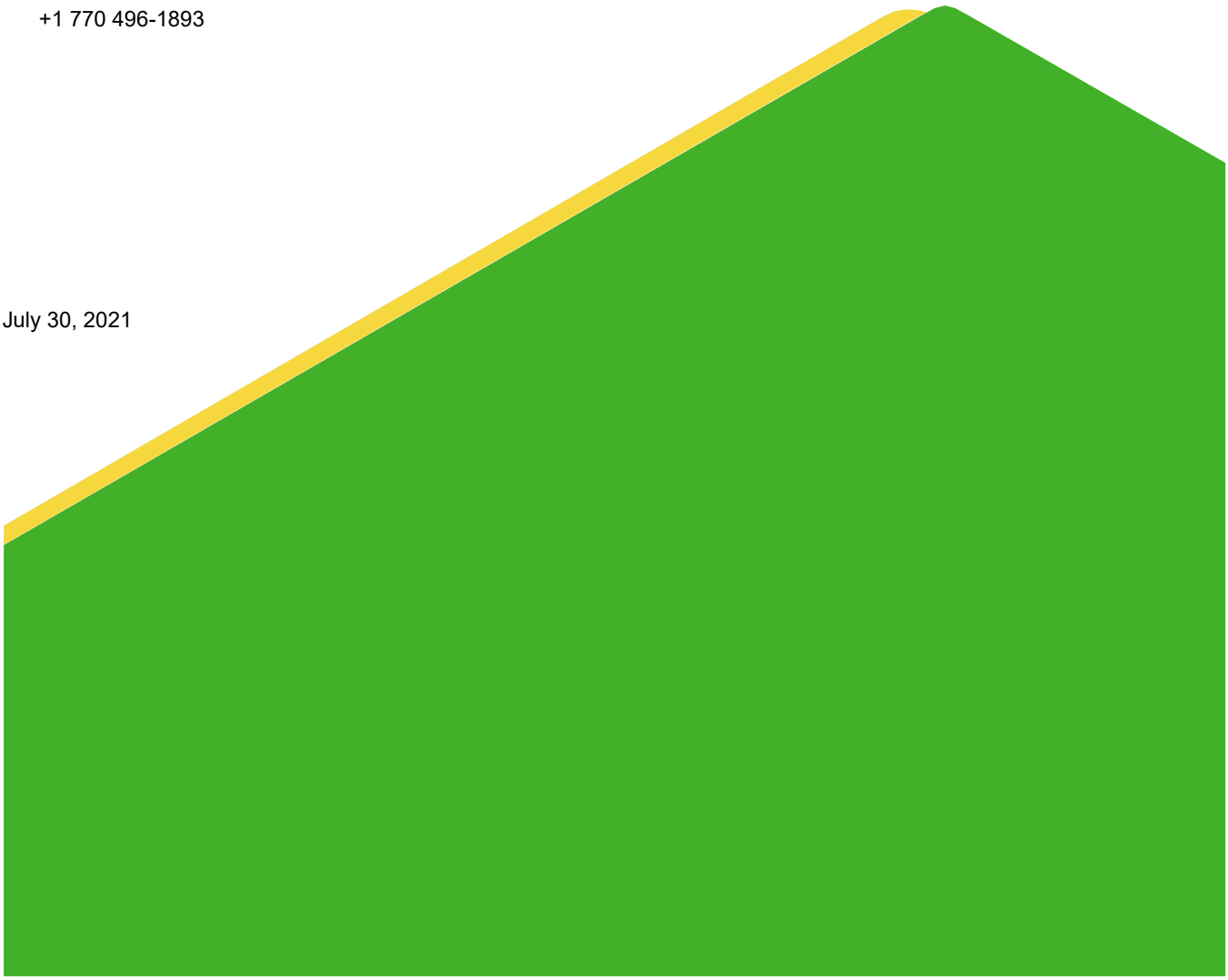

July 30, 2021

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Certification

This *Semi-Annual Remedy Selection and Design Progress Report, Georgia Power Company – Plant McDonough-Atkinson, Ash Pond 1* (AP-1), has been prepared in accordance with the United States Environmental Protection Agency coal combustion residual rule, specifically 40 Code of Federal (CFR) 227.97(a) and the Georgia Environmental Protection Division Rules for Solid Waste Management 341-3-4-.10(6)(a).

Golder Associates Inc.

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1.0 INTRODUCTION

In accordance with the United States Environmental Protection Agency (USEPA) coal combustion residuals (CCR) rule [40 Code of Federal Regulations (CFR) 257 Subpart D]; published in 80 FR 21302-21501, April 17, 2015 (CCR Rule; USEPA, 2015), Golder Associates Inc. (Golder) has prepared this *Semi-Annual Remedy Selection and Design Progress Report Ash Pond 1 (July 2021)*(Semi-Annual Progress Report) for Georgia Power Company (Georgia Power) Plant McDonough-Atkinson Ash Pond 1 (AP-1 or Site). Specifically, this Semi-Annual Progress Report has been prepared pursuant to 40 CFR § 257.97(a) and the Georgia Environmental Protection Division (GA EPD) Rules for Solid Waste Management 391-3-4-.10(6)(a). This Semi-Annual Progress Report documents activities conducted in support of the previously submitted *Assessment of Corrective Measures Report – Plant McDonough-Atkinson Ash Pond 1* (ACM Report; Golder, 2020a).

Plant McDonough, formerly a coal-fired power generating facility, was converted to a natural gas combined-cycle power generating facility in 2011. A site location map is included as Figure 1.

Pursuant to § 257.96, Georgia Power initiated an ACM for AP-1 on July 9, 2020 to address the occurrence of cobalt and molybdenum in groundwater at statistically significant levels (SSLs). Subsequently, Georgia Power completed an ACM report on December 4, 2020 and posted it to the CCR compliance website in January 2021. Since the submission of the ACM report, arsenic was identified as an SSL on January 28, 2021 at well DGWC-69. The SSL is reported in the semi-annual report for which this report is an appendix.

In addition to the assessment monitoring program at the Site, Georgia Power conducted a human health and ecological risk evaluation to evaluate cobalt and molybdenum SSLs in groundwater at AP-1. The evaluation provides one of many lines of evidence that will be evaluated and factored into the remedy selection process, which will be completed in accordance with § 257.97. Based on this risk evaluation, concentrations of cobalt and molybdenum, detected in groundwater at AP-1 between August 2016 and March 2020 are not expected to pose a risk to human health or the environment (Wood, 2020). Cobalt and molybdenum data collected since March 2020 are consistent with data used in the risk evaluation; therefore, the conclusions of the *2020 Risk Evaluation Report* are supported by current conditions. The risk evaluation will be updated to include arsenic, and the results will be submitted with the Remedy Selection Report.

1.1 Evaluation of Corrective Measures

Pursuant to § 257.97, Georgia Power is evaluating the potential corrective measures in the ACM report to identify a remedy or combination of remedies as soon as possible. The following corrective measures are potentially feasible for use at AP-1:

- Geochemical Approaches (In-Situ Injection)
- Hydraulic Containment (Pump and Treat)
- In-Situ Solidification/Stabilization (ISS)
- Monitored Natural Attenuation (MNA)
- Permeable Reactive Barrier (PRB)
- Phytoremediation

- Subsurface Vertical Barrier Wall (SVBW).

An evaluation of remedial technologies is presented in Table 1. As required by the CCR Rule, this Semi-Annual Progress Report describes the progress made in selecting and designing a remedy. This progress report also serves to incorporate the SSL of arsenic at well DGWC-69.

The following remedial alternatives have been retained for further evaluation.

- **Geochemical Approaches (In-Situ Injection):** Use of an injection well network, or other means of introducing reagents or air into the subsurface, is used to provide suitable reagents for either anaerobic or aerobic attenuation of constituents present as SSLs including, arsenic, cobalt, molybdenum. Under anaerobic conditions, arsenic would be attenuated within sparingly soluble sulfide minerals. Under aerobic conditions, soluble iron or manganese and oxygen (either via air sparging or through a chemical oxidant) would be injected to promote the formation of iron or manganese (oxy-) hydroxides for subsequent sorption of arsenic, cobalt, and to a lesser degree molybdenum onto these mineral phases. If sufficient iron is present in groundwater, the use of air sparging alone may be considered to precipitate iron (oxy-) hydroxides for sorption. In-situ chemical oxidation (ISCO) or in-situ chemical reduction (ISCR) can be used to chemically alter the redox environment in the subsurface to affect the mobility of certain inorganic compounds.
- **Hydraulic Containment**: Hydraulic containment involves extracting groundwater from wells or collection trenches to depress the water table and locally control the flow of groundwater. The proposed technology for a pump-and-treat system would include the installation of vertical and/or angled groundwater extraction wells downgradient of the source area(s). Groundwater extraction wells are feasible to install and can be designed and screened in the unconsolidated saprolite, transition zone, and fractured bedrock materials at the site for effective hydraulic capture. Groundwater extraction wells installed in bedrock can alternatively be completed as open-hole borings to maximize groundwater removal from multiple water-bearing fracture zones at varying depths.
- **Monitored Natural Attenuation (MNA):** MNA relies on natural attenuation processes to achieve site-specific remediation objectives within a reasonable time frame relative to more active methods. Under certain conditions (e.g., through sorption, mineral precipitation or oxidation-reduction reactions), MNA effectively reduces the dissolved concentrations of inorganic constituents in groundwater.

The following remedial alternatives have been removed from consideration:

- **Permeable Reactive Barrier (PRB):** Constructing a PRB wall outside of the alignment of the planned SVBW may impact the integrity of the SVBW. Additionally, there is limited space between the planned SVBW and either the property boundary or the adjacent surface water feature. As such, other retained options are more suitable for corrective action rather than the installation of a PRB.
- **Subsurface Vertical Barrier Wall (SVBW):** As part of site closure and source control, Georgia Power has elected to install a SVBW around AP-1 as an Advanced Engineering Method (AEM). Constructing a second SVBW outside the perimeter of the planned barrier wall is redundant and there is limited area for the construction of a second barrier.

- **In-Situ Solidification Stabilization (ISS):** AP-1 is currently capped and in the process of being closed in place. The application of ISS is either redundant or incompatible with the current closure in-place plan.
- **Phytoremediation:** Minimal space is available downgradient of the impacted wells for tree plantings and the TreeWell® root system could impact the SVBW being installed for closure.

1.2 Adaptive Site Management

Georgia Power proactively initiated adaptive site management as outlined in the ACM Report (Golder, 2020a) to support the groundwater remedy selection process and address potential changes in site conditions as appropriate during the ash pond closure. The adaptive site management approach will take existing site conditions, including natural attenuation mechanisms into account. Characterization activities to evaluate attenuation mechanisms at the site may include collection of data necessary to progressively evaluate the existing and long-term effectiveness of these processes in the aquifer and reduce uncertainty for decision making at each screening step as listed in the EPA guidelines for MNA (USEPA 2007, 2015). The USEPA issued MNA technical guidance specific to inorganic contaminants (USEPA, 2007) that contained four "tiers." The 2015 MNA guidance retains these four "tiers," but describes them as "phases" as described below (USEPA, 2015). This 2015 MNA document for inorganic contaminants expands on and is designed to be a companion to the 1999 MNA guidance.

- **Phase I:** Demonstration that the groundwater plume is *not expanding*.
- **Phase II:** Determination that the *mechanism and rate* of the attenuation process are sufficient.
- **Phase III:** Determination that the *capacity* of the aquifer is sufficient to attenuate the mass of contaminant within the plume and the *stability* of the immobilized contaminant is sufficient to resist re-mobilization.
- **Phase IV:** Design of a *performance monitoring program* based on an understanding of the mechanism of the attenuation process, and establishment of contingency remedies tailored to site-specific characteristics.

Georgia power will address Phase IV as appropriate during the development of the future corrective action monitoring plan, after the final remedy selection report.

2.0 POND CLOSURE ACTIVITIES

AP-1 is currently capped and in the process of closure to minimize infiltration and erosion and to meet or exceed the requirements of § 257.102(d)(3)(ii). The Closure Plan (Golder, 2019) was prepared in accordance with § 257, Subpart D and meets the requirements of § 257.102(b). Maintenance will be provided on the final cover system for the required post-closure care period so that the integrity and effectiveness of the final cover system is maintained.

As part of site closure and source control, Georgia Power has elected to install a SVBW around AP-1 as an AEM. The process of final design, permitting and subsequent installation of that vertical barrier wall is underway.

3.0 SUMMARY OF WORK COMPLETED

The following sections summarize field investigation activities and supplemental data collected since the previous *Semi-Annual Remedy Selection and Design Progress Report* (Golder 2021a) to support site characterization and delineation of Appendix IV SSLs, as well as evaluation of the corrective measures presented in the ACM report.

These data will be used to evaluate the feasibility, mechanisms, rates, and stability of identified remedial alternatives to address SSLs of arsenic, cobalt, and molybdenum in groundwater at AP-1. An evaluation of these data as they relate to remedy selection alternatives is ongoing and will be presented in future report(s).

3.1 Nature and Extent Delineation

CCR compliance groundwater monitoring-related activities have been performed for AP-1 since September 2016 pursuant to the CCR rule. Georgia Power initiated an assessment monitoring program in November 2019 after identifying statistically significant increases (SSIs) of Appendix III parameters in groundwater. Pursuant to § 257.95, samples were collected from the compliance monitoring wells and analyzed for Appendix IV constituents.

The 2021 assessment monitoring groundwater data show SSLs, as presented in the table below, at concentrations exceeding the state and/or federal Groundwater Protection Standards (GWPS). Details are provided in the *2021 Annual Groundwater Monitoring and Corrective Action Report* (Golder, 2021a).

AP-1 Statistically Significant Level Exceedances	
AP-1 Monitoring Well	**Appendix IV Parameter**
DGWC-40	Cobalt
DGWC-68A	Molybdenum
DGWC-69	Arsenic

The locations of the site monitoring wells and piezometers are shown on Figure 2. Table 2 provides a summary of construction details for each of the site monitoring wells and piezometers, respectively. A potentiometric surface contour map illustrating the February 2021 potentiometric surface elevations is provided on Figure 3.

Horizontal and Vertical Delineation Well Installation

To characterize the nature and extent of arsenic, cobalt, and molybdenum SSLs, additional piezometers were installed and sampled. In addition, surface water was previously sampled at multiple locations to demonstrate horizontal delineation in surface water bodies where proximity to surface water prevented installation of additional wells. Figures 4 through 6 present isoconcentration contours for each of the constituents with an exceedance of the GWPS, including arsenic, cobalt, and molybdenum, respectively.

In response to the observed SSLs as presented above, vertical delineation wells were installed within the weathered/fractured bedrock, adjacent to or downgradient of locations DGWC-40 (B-105D), DGWC-68A (B-110D and B-113D), and DGWC-69 (B-112D), resulting in a shallow and/or additional deep well pairs at each of these locations. In addition, an upgradient shallow and deep well pair (B-118/B-119D) along with piezometer B-116D (paired with DGWA-70A) and B-117D (paired with DGWA-71) were installed for site-wide monitoring.

A summary of piezometer installation details for each of the site wells and piezometers (e.g., boring logs) are documented within separate piezometer installation reports (Golder, 2020b; Golder, 2021b; and Golder, 2021c).

Groundwater Sampling

In March through May 2021, groundwater samples were collected from newly installed delineation wells B-105D, B-110D, B-112D, B-113D, B-115D, B-118, and B-119D and analyzed for Appendix III and Appendix IV

constituents and major cations/anions (i.e., bicarbonate/carbonate alkalinity, sodium, magnesium, and potassium). Results of this sampling event are provided in the *2021 Annual Groundwater Monitoring and Corrective Action Report* (Golder, 2021a). Statistical analysis of the Appendix IV data will occur after four sampling events are completed in order to construct the confidence intervals required to evaluate and confirm potential SSLs. Georgia Power will continue to monitor the delineation wells and adaptively manage the Site as new data become available.

Surface Water Sampling

Due to the proximity of the surface water body downgradient of AP-1, Georgia Power collected surface water samples from both the unnamed tributary and the Chattahoochee River downgradient of AP-1 on November 10, 2020, and February 2, 2021. Results of these sampling events are presented in Appendix A of the *2021 Annual Groundwater Monitoring and Corrective Action Report* (Golder, 2021b), for which this report is an appendix. To delineate the SSLs of arsenic and molybdenum in wells DGWC-68A and DGWC-69, the unnamed tributary near these well locations were sampled in November 2020 and Feb 2021. Arsenic and molybdenum are not detected in the unnamed tributary. The Chattahoochee River was sampled to delineated cobalt SSL in DGWC-40. Cobalt was not detected in the Chattahoochee River in the November 2020 and Feb 2021 sampling events. Based on data collected to date, there are no impacts to surface water. Georgia Power will continue to collect surface water samples on a semi-annual basis.

3.2 Supplemental Data Collection

Additional field investigation activities and data analyses have been performed to evaluate alternate sources and possible remedial alternatives. A summary of these data is included below.

Mineralogical Analysis

The mineralogical composition of soil and rock samples from select boreholes located around AP-1 was assessed using quantitative X-Ray Diffraction (XRD) with Rietveld refinement. Cores from the screened interval at boring B-113D completed west of AP-1 near DGWC-68A were analyzed to determine the general mineralogy of bedrock. The purpose of the mineralogical analysis was to identify and quantify the crystalline mineral phases in each sample. Core samples were submitted to SGS Laboratories in Burnaby, Canada for analysis.

Results of these analyses are pending. Analytical results and evaluation of these data as it relates to evaluation of remedy selection alternatives will be presented in a future report(s).

Chemical Analysis

Chemical analysis of soils/rock for Uranium-235, Uranium-238, Thorium-232, Thorium-235, and Radium 228 were completed as part of a radium source evaluation study to document the naturally occurring radium at the site. Rock core samples from the screened intervals at B-104D, B-109D, B-111D, B-115D, B-116D, B-117D, and B-119D were submitted to Pace Analytical Laboratories for these analyses.

Results of these analyses are presented in Appendix A. Preliminary evaluation of these data supports the presence of naturally-occurring radium at the site and an Alternate Source Demonstration will be prepared if an SSL of radium is identified once a sufficient number of samples have been collected to statistically analyze the results.

Core samples from within the aquifer unit at B-113D were submitted for X-Ray Fluorescence Analysis (XRF). XRF analyses was requested to quantify and determine the natural abundance of constituents exhibiting SSLs that may be above typical natural background.

Results of these analyses are pending. Analytical results and evaluation of these data as it relates to the presence of naturally occurring constituents as well as evaluation of remedy selection alternatives will be presented in a future report(s).

Aquifer Testing Activities

In May 2021, aquifer tests (slug tests) were performed by Golder representatives in select piezometers screened in bedrock (i.e., B-111D, B-112D, B-113D, B-115D, B-116D, B-117D, B-118, B-119D, and B-120D). The purpose of the testing was to further investigate the horizontal hydraulic conductivity of aquifer materials encountered at the site in support of our evaluation of remedial alternatives.

In situ rising-head and falling-head tests provide a quantitative estimate of horizontal hydraulic conductivity and a qualitative estimate of aquifer anisotropy in water-bearing units. The slug test data were analyzed using the mathematical solution by Bouwer and Rice (Bouwer and Rice, 1976 and Bauer,1989), which is applicable to fully or partially penetrating piezometers in unconfined or confined aquifers.

The computer software program AQTESOLV©, produced by HydroSOLVE, Inc., was used to assist in the analysis and plotting of data. The best fit lines were initially calculated by the computer software and were then adjusted manually, where necessary. A summary of the aquifer testing is presented in Table 3 and results are generally consistent with previous reported results (Golder, 2020c). Results of these analyses are presented in Appendix B. These new data will be used to supplement existing hydraulic conductivity data. An updated understanding of aquifer properties, including conductivity, will help refine the conceptual site model, and support assessment of certain groundwater corrective measures.

4.0 UPDATED SITE CONCEPTUAL MODEL

The additional data collected since the issuance of the ACM, together with new data evaluation tools and interpretations (described above), allow the development of a more refined conceptual site model (CSM). The following summarizes the current understanding of the CSM within the context of selecting an appropriate groundwater corrective measure for AP-1.

- The February 2021 potentiometric surface shows groundwater flow is generally west towards the unnamed stream channel and south towards the Chattahoochee River, as shown on Figure 3. The latest water level data collected in 2021 confirmed groundwater flow in the uppermost aquifer to be consistent with the CSM.
- Additional data (e.g., slug tests) have been evaluated to refine the hydraulic conductivities at the site (Table 3). These slug test results are generally consistent with historical slug test data reported for the respective lithological units across the site.
- The boring logs from the newly installed vertical delineation wells provided a more refined top of bedrock surface and confirmed geology consistent with that presented the CSM (i.e., gneiss and schist).

5.0 CORRECTIVE MEASURES ALTERNATIVES

Based on the data collected to date, three of the seven potential corrective measures being evaluated for AP-1 are retained for further evaluation. Table 1 presents a summary of each of the remedial alternatives presented as part of the ACM. Table 4 provides a summary of additional data planned to be collected to further evaluate the feasibility of the remaining alternatives. The retention evaluation (Retained for Further Evaluation or Not Retained) for each potential remedial alternative is included on Table 1. The following three remedial alternatives have been retained for further consideration:

- **Geochemical Approaches (In-Situ Injection):** Use of an injection well network, or other means of introducing reagents or air into the subsurface, to provide suitable reagents for either anaerobic or aerobic attenuation of constituents present as SSLs including, arsenic, cobalt, and molybdenum. Under anaerobic conditions, arsenic would be attenuated within sparingly soluble sulfide minerals. Under aerobic conditions, soluble iron or manganese and oxygen (either via air sparging or through a chemical oxidant) would be injected to promote the formation of iron or manganese (oxy-) hydroxides for subsequent sorption of arsenic, cobalt, and to a lesser degree molybdenum onto these mineral phases. If sufficient iron is present in groundwater, the use of air sparging alone may be considered to precipitate iron (oxy-) hydroxides for sorption. In-situ chemical oxidation (ISCO) or in-situ chemical reduction (ISCR) can be used to chemically alter the redox environment in the subsurface to affect the mobility of certain inorganic compounds.
- **Hydraulic Containment**: Hydraulic containment involves extracting groundwater from wells or collection trenches to depress the water table and locally control the flow of groundwater. The proposed technology for a pump-and-treat system would include the installation of vertical and/or angled groundwater extraction wells downgradient of the source area. Groundwater extraction wells are feasible to install and can be designed and screened in the unconsolidated saprolite, transition zone, and fractured bedrock materials at the site for effective hydraulic capture. Groundwater extraction wells installed in bedrock can alternatively be completed as open-hole borings to maximize groundwater removal from multiple water-bearing fracture zones at varying depths.
- **Monitored Natural Attenuation (MNA):** MNA relies on natural attenuation processes to achieve site-specific remediation objectives within a reasonable time frame. Under certain conditions (e.g., through sorption, mineral precipitation or oxidation-reduction reactions), MNA effectively reduces the dissolved concentrations of multiple inorganic constituents in groundwater.

6.0 PLANNED ACTIVITIES

Georgia Power has initiated activities as outlined in the ACM Report (Golder, 2020a) to support the groundwater remedy selection process and address potential changes in site conditions as appropriate. The adaptive site management approach toward remedy selection may be adjusted over the site's life cycle as new site information and technologies become available. To this end, Georgia Power will continue its data collection efforts as necessary in support of efforts to refine the CSM and to further evaluate the feasibility of each corrective measure identified in the ACM Report. At this time, and as discussed in Section 5.0, three of the corrective measures outlined in the ACM Report are being retained for further evaluation, including:

- Geochemical Approaches (In-Situ Injection)
- Hydraulic Containment (Pump and Treat)

- Monitored Natural Attenuation (MNA).

Supplementary data collection and evaluation activities proposed to be completed within the next 6 months are presented on Table 4, with the key elements summarized below.

- Vertical delineation will continue to be evaluated. Additional monitoring wells, as appropriate, will be installed to complete vertical delineation.
- Collect additional groundwater quality data to complete statistical analyses of delineation data. In addition to Appendix III/IV constituents, wells may also be analyzed for major cations/anions and other parameters for characterization of groundwater and evaluating the potential remedies.
- Refine bedrock surface based on data collected from newly installed horizontal and vertical delineation wells (as needed).
- Evaluate site data for attenuation mechanism and rates, aquifer capacity for attenuation, and mineralogical characterization.
- Evaluate the effects of the SVBW (AEM closure design and source control) on groundwater flow.
- Evaluate potential radius of influence for geochemical injections and determine the conceptual layout to achieve injection radius in target areas.

Georgia Power will continue to prepare semi-annual progress reports to document AP-1 groundwater conditions, results associated with additional data collection, and the progress in selecting and designing a groundwater remedy in accordance with § 257.97(a). Georgia Power will include these future semi-annual progress reports with routine groundwater monitoring and corrective action reports to meet the requirements of § 257.105(h)(12), § 257.106(h)(9), and § 257.107(h)(9), respectively.

7.0 REFERENCES

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TABLES

TABLE 1
Evaluation of Remedial Technologies
Georgia Power – Plant McDonough-Atkinson AP-1
Atlanta, Georgia

Corrective Measure	REGULATORY CITATION FOR CRITERIA: 40 CFR 257.96(C)(1)		
	Description	**Performance**	**Reliability**
Geochemical Approaches (in situ injection)	Use of an injection well network, or other means of introducing reagents or air into the subsurface, to provide suitable reagents for either anaerobic or aerobic attenuation of arsenic (As) and cobalt (Co). Under anaerobic conditions, As and Co would be attenuated within sparingly soluble sulfide minerals; this approach might also increase the attenuation of molybdenum (Mo), particularly is combined with an organic amendment. Under aerobic conditions, soluble iron or manganese and oxygen (either via air sparging or through a chemical oxidant) would be injected to promote the formation of iron or manganese (oxy-) hydroxides for subsequent sorption of As and Co (and potentially, Mo) onto these mineral phases. If sufficient iron is present in groundwater, the use of air sparging alone may be considered to precipitate iron (oxy-) hydroxides for sorption. In-situ chemical oxidation (ISCO) or in-situ chemical reduction (ISCR) can be used to chemically alter the redox environment in the subsurface to affect the mobility of certain inorganic compounds, including As and Co.	The effective immobilization of As and Co has been shown under aerobic and anaerobic conditions; however, the anaerobic approach (involving the injection of an electron donor together with iron or manganese and sulfur) requires careful study and testing. While aerobic approaches are somewhat less complex, additional aquifer characterization is needed to further evaluate these options. It is currently not well understood whether molybdenum can be efficiently attenuated using in-situ redox manipulations due to slow reaction kinetics. Mo attenuation under both aerobic and anaerobic conditions needs to be further evaluated but is expected to occur. Mo has been effectively immobilized under biologically enhanced conditions. Mo is more strongly sorbed to aluminum oxides than other metal oxides, and it is generally less sorptive and more mobile compared to As and Co.	Reliability dependent on permeability of the subsurface and the amount and distribution of secondary iron or manganese (oxy-) hydroxides (for aerobic approach), or electron donors and soluble iron or manganese and sulfur that can be consistently distributed (for anaerobic approach). Reliable technology if injected materials can be distributed throughout the impacted aquifer. Bench- and/or pilot-scale treatability testing programs are needed to understand the biogeochemical processes that would effectively reduce migration of As, Co and Mo in groundwater.
Hydraulic Containment (pump- and-treat)	Hydraulic containment refers to the use of groundwater extraction to induce a hydraulic gradient for hydraulic capture or control the migration of impacted groundwater. This approach uses extraction wells or trenches to capture groundwater, which may subsequently require above-ground treatment and permitted discharge to a receiving water feature, reinjection into the groundwater, or reuse (e.g., land application, CCR conditioning, etc.). It is applicable to a variable mix of inorganic constituents, including dissolved As, Co and Mo.	Pump and treat (P&T) is effective at providing hydraulic control, but it is unclear whether full groundwater remediation can be achieved without further understanding attenuation mechanisms at the Site. At AP-1, implementation of the corrective measure is contingent on completing additional assessment activities (i.e., high-resolution site characterization, additional pump tests, flow modeling, and capture zone analysis). This is needed to refine the constituent distribution in the subsurface to target specific zones for pumping for improved mass recovery efficiency/ effectiveness and to further evaluate the potential remedy performance.	Generally reliable for hydraulic containment, but uncertainty exists whether groundwater remediation goals can be achieved within a reasonable time frame without further understanding attenuation mechanisms.

TABLE 1
Evaluation of Remedial Technologies
Georgia Power – Plant McDonough-Atkinson AP-1
Atlanta, Georgia

Corrective Measure	REGULATORY CITATION FOR CRITERIA: 40 CFR 257.96(C)(1)		
	Description	**Performance**	**Reliability**
In-Situ Solidification / Stabilization	In-situ stabilization is a technique that uses mixing of the CCR with additives to solidify the material in place and reduce future dissolution of CCR compounds from the stabilized material. Additives typically include Portland cement, and the solidification is completed in-situ using large diameter augers. CCR located beneath the water table would be isolated by ISS.	Medium to high, groundwater impacts would be addressed through the processes of natural attenuation. This alternative would isolate/secure the source in a bound matrix, and over time, allow the concentrations of constituents of concern (COCs) in downgradient groundwater to decline to below applicable standards.	In-situ stabilization can be a reliable corrective measure for As, Co, and Mo in groundwater. Reliability is dependent on the permeability of the subsurface and mechanics of injection.
Monitored Natural Attenuation (MNA)	MNA relies on natural attenuation processes to achieve site-specific remediation objectives within a reasonable time frame relative to more active methods. Under certain conditions (e.g., through sorption, mineral precipitation or oxidation-reduction reactions), MNA effectively reduces the dissolved concentrations of inorganic constituents in groundwater. Attenuation mechanisms for inorganic constituents at CCR sites, including As, Co and Mo at AP-1, are either physical (e.g., dilution, dispersion, flushing, and related processes) or chemical (sorption or oxidation reduction reactions). Chemical attenuation processes include precipitation, and sorption reactions such as adsorption on the surfaces of soil minerals, absorption into the matrix of soil minerals, or partitioning into organic matter. Further, oxidation-reduction (redox) reactions, via abiotic or biotic processes, can transform the valence states of some inorganic constituents to less soluble and thus less mobile forms. For As, Co and Mo, the main attenuation processes include sorption to iron and manganese oxides (As, Co and Mo), and formation of sparingly soluble sulfide minerals (As and Co).	Physical and chemical MNA mechanisms for As, Co and Mo, including dilution, dispersion, sorption, and oxidation reduction reactions can be effective at achieving groundwater protection standards (GWPS) within a reasonable time frame. Attenuation processes for As, Co and Mo are already occurring at the site as evidenced by groundwater data from the delineation wells. Source control will improve the mass balance such that the buffer capacity of the aquifer is unlikely to be exhausted, and the attenuation processes already at work for As, Co and Mo at AP-1 will further enhance ongoing MNA.	Reliable as long as sufficient attenuation capacity is present. MNA is reliable and can either be used as a stand-alone corrective measure for groundwater impacted by dissolved As, Co and/or Mo, or in combination with a second technology.
Permeable Reactive Barrier (PRB)	Permeable reactive barrier (PRB) technology typically involves the installation of a permeable subsurface wall constructed with reactive media for the removal of constituents as groundwater passes through. Either ZVI-Carbon matrix or solid carbon (bio-barrier) are likely viable for the concurrent removal of As, Co and Mo. The carbon could be composed of peat moss, mulch or another carbon source. Exact placement of the PRB would be contingent on finalization of the nature and extent characterization. PRB walls are typically keyed into the bedrock. While the shallow groundwater in the residuum and fractured bedrock is connected to the groundwater in more competent bedrock, the higher permeability/conductivity of the PRB is not expected to impede groundwater flow. PRBs can also be constructed as “funnel and gate” systems, where a barrier wall directs groundwater to a smaller “treatment gate” filled with reactive media.	PRBs have been shown to effectively address As, Co in groundwater, but additional testing is required for Mo to select the appropriate reactive media. The approach is expected to achieve GWPS for both constituents as impacted groundwater passes through the reactive barrier. Mo redox kinetics may be slow and hence a thicker wall might be needed relative to solely treating for As and Co. Furthermore, additional testing is required to select the appropriate sorptive media mix, especially related to Mo.	Reliable groundwater corrective measure technology, but loss of reactivity over time may require re-installation depending on the duration of the remedy. Additional data collection, including conducting a bench and/or pilot study, is needed to better characterize current attenuation mechanisms and/or select the appropriate reactive media mix for a PRB wall.

TABLE 1
Evaluation of Remedial Technologies
Georgia Power – Plant McDonough-Atkinson AP-1
Atlanta, Georgia

Corrective Measure	REGULATORY CITATION FOR CRITERIA: 40 CFR 257.96(C)(1)		
	Description	**Performance**	**Reliability**
Phyto Remediation (TreeWell®)	Phytoremediation uses trees and other plants to degrade or immobilize constituents or achieve hydraulic control without the need for an above-ground water treatment system and infrastructure. Within the context of AP-1, this corrective measure would likely use an engineered (proprietary) TreeWell® phytoremediation system along the point of compliance or downgradient edge of the impacted groundwater for hydraulic control. The system promotes root development to the targeted groundwater zone (depth), allowing for hydraulic control of impacted groundwater. In addition, immobilization of As, Co and Mo within the root zone as well as incidental uptake of dissolved As, Co and Mo with groundwater is expected to occur concurrent with hydraulic control.	Once established (typically at the end of the third growing season), a TreeWell® system is effective for providing hydraulic containment of groundwater, and potential reduction of As, Co and Mo concentrations through immobilization and/or uptake and sequestration in the tree biomass; however, the main purpose is to provide hydraulic control. Given the likely construction of a SVBW for groundwater control at AP-1, phytoremediation is not practicable. Further the potential impacts to the planned SVBW from root development makes this option infeasible.	Engineered phytoremediation is a proven technology where hydrogeologic factors are taken into account (e.g., hydraulic conductivity, flow velocity, depth to impacted groundwater zone, etc.). This is considered an active remedial approach through the use of trees as the "pumps" driving the system. Careful design will be needed to select the proper species, which will include consideration of groundwater chemistry, plant uptake of constituents, and groundwater flow modeling to evaluate the required number and placement of TreeWell® units.
Subsurface Vertical Barrier Walls	This approach involves placing a barrier to groundwater flow in the subsurface, frequently around a source area, to prevent future migration of dissolved constituents in groundwater from beneath the source to downgradient areas. In general, barrier walls are designed to provide containment; localized treatment achieved through the sorption or chemical precipitation reactions from construction of the walls are incidental to the design objective. Barrier walls can also be used in downgradient applications to limit discharge to a surface water feature or to reduce aquifer recharge from an adjacent surface water feature when groundwater extraction wells are placed near one. A variety of barrier materials can be used, including cement and/or bentonite slurries, geomembrane composite materials, or driven materials such as steel or vinyl sheet pile.	Barrier walls are a proven technology for groundwater cutoff at impoundments. Slurry walls are limited by the depth of installation, which is approximately 90 ft below ground surface. However, site-specific geologic and technology-specific considerations may limit this depth to shallower installations. Within the context of AP-1, a barrier wall might be used in conjunction with a “funnel and gate” system for a PRB rather than a stand-alone technology. As such, groundwater with As, Co and Mo above GWPS could either be directed to “treatment gates” for passive treatment (in a PRB) or migration of impacted groundwater could be minimized via barrier wall installation. Additional subsurface investigations, aquifer testing, and compatibility testing with site-specific groundwater will be needed.	Generally reliable as a barrier to groundwater flow; however, treatment of downgradient groundwater is incidental and not the primary objective.

TABLE 1
Evaluation of Remedial Technologies
Georgia Power – Plant McDonough-Atkinson AP-1
Atlanta, Georgia

Corrective Measure	REGULATORY CITATION FOR CRITERIA: 40 CFR 257.96(C)(1)		
	Ease of Implementation	**Potential Impacts**	**Time Requirement to Begin/Complete**
Geochemical Approaches (in situ injection)	Moderate. Installation of injection well network or other injection infrastructure would be required. Alternative installation approaches may be considered, such as along the downgradient edge of impacted groundwater, which would function similar to a PRB application. Potential for clogging of aquifer matrix and/or injection well infrastructure. Chemical distribution during injections (i.e., radius of influence) needs to be evaluated.	Minimal impacts are expected if remedy works as designed, based on a thorough pre-design investigation, geochemical modeling, and bench/pilot study results. Redox-altering processes have the potential to mobilize naturally-occurring constituents as an unintended consequence if not properly studied and implemented.	Installation of the injection network can be accomplished relatively quickly (1 to 2 months). However, a thorough pre-design investigation, geochemical modeling, and/or bench- and/or pilot-testing will be required to obtain design parameters prior to design and construction of the corrective measure, which may take up to 24 months. Once installed, the time required to achieve GWPS within the treatment area may be relatively quick but depends on the attenuation process kinetics of each targeted constituent. The time for complete distribution of the injected materials throughout the treatment area is also variable.
Hydraulic Containment (pump- and-treat)	Moderate. Proven approach, and supplemental installation of extraction wells/trenches is fairly straightforward. The extracted groundwater may potentially require an above-ground treatment system. A variety of sorption and precipitation approaches exist for ex-situ treatment of Co and Mo. Operation and maintenance (O&M) requirements are expected to include upkeep of infrastructure components (pumps, pipes, tanks, instrumentation and controls, above-ground treatment system) and handling of treatment residuals.	Moderate. The main potential impacts are related to the presence and operation of an on-site above-ground water treatment facility and related infrastructure to convey and treat extracted groundwater. Pumping activity may unintentionally alter the geochemistry within the hydraulic capture zone.	Installation of extraction wells and/or trenches can be accomplished relatively quickly (1 to 2 months). However, additional aquifer testing, system design and installation, and permit approval may be required, which may take up to 24 months. The initiation of the approach would be contingent on the start-up of the wastewater treatment infrastructure. Hydraulic containment can be achieved relatively quickly after startup of the extraction system, but uncertainty exists with respect to the time to achieve GWPS without additional data collection to better understand attenuation mechanisms for As, Co and Mo.
In-Situ Solidification / Stabilization	Easy to moderate, implementation of ISS will require a detailed design effort with bench scale testing to determine the appropriate amendment mix for a variety of overburden geologic materials. Pilot testing will also be needed to verify the ability of equipment to solidify material at depth. ISS has not been commonly used to stabilize entire ash units as part of a closure strategy.	Potential impacts of the remedy will be negligible.	In-situ stabilization of AP-1 is predicted to take a number of years to complete, depending on the availability of specialized contractors and equipment.
Monitored Natural Attenuation (MNA)	Reasonably implementable with respect to infrastructure, but moderate to complex with respect to documentation. Proven approach, but additional data are needed to show that the existing attenuation capacity is sufficient to meet site objectives within a reasonable timeframe. A monitoring well network already exists to implement future groundwater monitoring efforts.	None. MNA relies on the natural processes active in the aquifer matrix to reduce constituent concentrations without disturbing the surface or the subsurface.	The infrastructure to initiate MNA is already in place. Demonstrating attenuation mechanisms and capacity can be time-consuming and can take up to 24 months. MNA is expected to be successful within a reasonable time frame following pond closure. Engineering measures will be implemented during closure of the CCR unit to minimize potential impacts to the subsurface during closure activities and routine groundwater monitoring will be used to verify that groundwater impacts remain stable or decrease over time.

TABLE 1
Evaluation of Remedial Technologies
Georgia Power – Plant McDonough-Atkinson AP-1
Atlanta, Georgia

Corrective Measure	REGULATORY CITATION FOR CRITERIA: 40 CFR 257.96(C)(1)		
	Ease of Implementation	**Potential Impacts**	**Time Requirement to Begin/Complete**
Permeable Reactive Barrier (PRB)	Moderate to difficult. Trenching would be required to install a mix of reactive materials in the subsurface. Continuous trenching may be the most feasible construction method. Installation methods and materials are readily available. Once installed, treatment will be passive and O&M requirements are minimal if replacement of the PRB is not necessary.	Minimal impacts are expected following the construction of the remedy. However, ZVI has the potential to create anaerobic conditions downgradient of the PRB wall that may mobilize redox-sensitive naturally-occurring constituents. These conditions need to be carefully monitored. Short-term impacts during the construction of the remedy can be mitigated through appropriate planning and health and safety measures.	Installation of a PRB can be accomplished relatively quickly (6 to 12 months), depending on the final location and configuration. However, bench- and/or pilot-testing would be required to obtain design parameters prior to design and construction of the remedy, which may take up to 24 months. Once installed, the time to achieve GWPS downgradient of the PRB is anticipated to be relatively quick.
Phyto Remediation (TreeWell®)	Reasonably implementable to moderate. Engineered approach has been proven effective, and specific depth zones can be targeted. Trees are installed as "tree wells" in a large diameter boring to get the roots deep enough to intercept impacted groundwater flow paths. Area must be clear of above and below-ground structures (i.e., power lines). The system, once established (approximately three growing seasons), is a self-maintaining, sustainable remedial system that has no external energy requirements and little maintenance (i.e., efforts normally associated with landscaping).	Minimal impacts are expected. In fact, there are several positive impacts expected, including enhanced aesthetics, wildlife habitat, and limited energy consumption.	The design phase will require some groundwater modeling for optimal placement of the TreeWell® units, which may take up to 6 months. Depending on the number of required units, the installation effort is expected to last several weeks. Hydraulic capture/control is expected approximately three years after planting and system performance is expected to further improve over time.
Subsurface Vertical Barrier Walls	Moderate to difficult. Trenching will be required to fill in the various slurry mixes; alternatively, sheet pile installations can be accomplished without excavation of trenches. The application of barrier walls is limited by the depth of installation, which similar to PRBs, should be keyed into a low permeability layer such as a thick clay layer, PWR, or bedrock. Installation methods and materials are readily available.	Minimal impacts are expected following the construction of the remedy. Short-term impacts during the construction of the remedy can be mitigated through appropriate planning and health and safety measures. Changes to groundwater flow patterns due to installation of the barrier wall are expected, which can affect other aspects of groundwater corrective action.	Installation of a barrier wall can be accomplished relatively quickly (6 to 12 months), depending on the final location and configuration. However, some design phase and additional aquifer and compatibility testing will be required, which may take up to 24 months. Once installed, preventing migration of constituents dissolved in groundwater is anticipated to be relatively quick. Since this approach does not treat the downgradient area of impacted groundwater but prevents migration from a source area, it will likely have to be maintained long-term and coupled with other approaches.

TABLE 1
Evaluation of Remedial Technologies
Georgia Power – Plant McDonough-Atkinson AP-1
Atlanta, Georgia

Corrective Measure	REGULATORY CITATION FOR CRITERIA: 40 CFR 257.96(C)(1)			Retention Evaluation
	Institutional Requirements	Other Env. Or Public Health Requirements	Relative Costs	
Geochemical Approaches (in situ injection)	Deed restrictions may be necessary until in-situ treatment has achieved GWPS. A new UIC permit (for in-situ injections) would be required to implement this corrective measure. No other institutional requirements are expected at this time.	None expected at this point. Potential for mobilization of redox-sensitive constituents exists during implementation of an anerobic attenuation approach. Following installation, the remedy is passive.	Medium (depending on expanse of injection network required and injectate volume required per derived design parameters)	Retained for further analysis; can be applied to As, and Co as a sparingly-soluble mineral, or could be applied to raise the groundwater pH to promote immobilization through sorption mechanisms. Additional evaluation required to determine likelihood to treat Mo.
Hydraulic Containment (pump- and-treat)	Depending on the effluent management strategy, modifications to the existing NPDES permit may be required, or obtaining a new underground injection control (UIC) permit may be needed if groundwater reinjection is chosen. In addition, deed restrictions may be required as long as groundwater conditions are above regulatory standards for unrestricted use.	Above-ground treatment components may need to be present for an extended period of time, generating residuals requiring management and disposal.	Medium to high (depending on remedy duration, complexity of above-ground treatment system, and volume of water processed)	Retained for further analysis; extracted water could be routed to wastewater treatment infrastructure built for dewatering and closure of ponds at the site. Could be considered an effective measure to maintain hydraulic control along the engineered stream channel west of AP-1 or the Chattahoochee River south of AP-1.
In-Situ Solidification / Stabilization	Deed restrictions may be necessary until groundwater concentrations are below GWPS. No other institutional requirements that may limit application of this technology are expected at this time.	Changes to groundwater chemistry relative to the mobility of Appendix IV constituents following completion of ISS, where large volumes of amendments (typically Portland cement) are added to the subsurface, are unknown and would require pilot testing.	Medium, depending on permeability of aquifer	Not retained for further analysis; the application of ISS is either redundant or incompatible with the current closure in-place plan. Not retained for further analysis.
Monitored Natural Attenuation (MNA)	MNA may require the implementation of institutional controls, such as deed restrictions, to preclude potential exposure to groundwater within the footprint of impacted groundwater until GWPS are achieved.	Little to no physical disruption to remediation areas and no adverse construction-related impacts are expected on the surrounding community.	Low to medium	Retained for further analysis; may be used as a stand-alone corrective measure or in conjunction with other potential groundwater corrective measures.
Permeable Reactive Barrier (PRB)	Deed restrictions may be necessary for groundwater areas upgradient of the PRB (if not installed along the waste boundary). No other institutional requirements are expected at this time.	None expected at this point. Following installation, the remedy is passive. However, certain treatment media (such as ZVI) have the potential to mobilize naturally-occurring constituents downgradient of the PRB.	Medium to high (for installation) - minimal O&M requirements if replacement is not necessary	Not retained for further analysis; a PRB cannot treat groundwater downgradient of the constructable alignment; there is minimal space available downgradient of the impacted wells; potential for increased maintenance due to potential biofouling and mineral precipitation.

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Georgia Power – Plant McDonough-Atkinson AP-1
Atlanta, Georgia

Corrective Measure	REGULATORY CITATION FOR CRITERIA: 40 CFR 257.96(C)(1)			Retention Evaluation
	Institutional Requirements	Other Env. Or Public Health Requirements	Relative Costs	
Phyto Remediation (TreeWell®)	Deed restrictions may be necessary for groundwater areas upgradient of the TreeWell system. No other institutional requirements are expected at this time.	None expected at this point. Following installation, the remedy is passive and does not require external energy.	Medium (for installation) - minimal O&M requirements	Not retained for further analysis, little space available downgradient of the impacted wells for tree plantings. TreeWell® root system would likely impact the SVBW.
Subsurface Vertical Barrier Walls	Deed restrictions may be necessary for groundwater areas downgradient of the barrier wall until remedial goals are met. No other institutional requirements are expected at this time.	If groundwater extraction associated with barrier walls is necessary, above-ground treatment components may need to be present for an extended period of time, generating residuals requiring management and disposal. Groundwater extraction is not planned as part of the AEM.	Medium to high (depending on length and depth of wall)	Not retained for further evaluation. This methodology is currently undergoing permitting as part of closure methodology and therefore a second SVBW is not being considered for groundwater corrective action.

TABLE 2
SUMMARY OF MONITORING WELL, ASSESSMENT WELL AND PIEZOMETER CONSTRUCTION
Georgia Power Company - Plant McDonough
Atlanta, Georgia

Well-ID	Hydraulic Location	Screened Media	NAD 83 Northing	NAD 83 Easting	Top of Casing Elevation (feet NAVD 88)	Ground Surface Elevation (feet NAVD 88)	Total Well Depth (feet bgs)	Top of Screen Elevation (feet NAVD 88)	Bottom of Screen Elevation (feet NAVD 88)	Screen Length (feet)	Date of Installation
ASH POND 1 (AP-1) DETECTION MONITORING WELL NETWORK											
DGWA-53	Upgradient	Upper Bedrock	1393472.8	2201668.8	844.26	841.3	28.9	823.7	813.7	10	9/24/2016
DGWA-70A	Upgradient	Overburden	1390481.4	2200591.6	808.52	805.8	59.3	756.9	746.9	10	5/10/2017
DGWA-71	Upgradient	Overburden	1393963.3	2201714.8	863.84	861.2	43.8	827.8	817.8	10	2/28/2017
DGWC-37	Downgradient	Overburden	1390482.2	2200919.8	766.21	763.7	39.7	734.4	724.4	10	11/28/2012
DGWC-38	Downgradient	Overburden	1390362.7	2201148.6	757.43	754.7	25.0	740.0	730.0	10	11/29/2012
DGWC-39	Downgradient	Overburden	1390303.6	2201540.1	759.89	757.0	21.2	746.2	736.2	10	11/6/2012
DGWC-40	Downgradient	Overburden	1390625.7	2201825.9	779.06	776.2	34.9	751.7	741.7	10	11/5/2012
DGWC-67	Downgradient	Overburden	1390953.8	2200830.7	766.70	767.0	56.3	720.7	710.7	10	3/14/2017
DGWC-68A	Downgradient	Overburden	1391301.2	2200734.9	765.33	765.4	29.8	746.0	736.0	10	4/20/2017
DGWC-69	Downgradient	Overburden	1391585.0	2200657.1	763.75	764.0	24.3	749.7	739.7	10	3/16/2017
ASH POND 1 (AP-1) ASSESSMENT MONITORING WELL NETWORK											
B-62	Downgradient	Upper Bedrock	1389828.1	2201811.2	760.08	760.4	39.9	730.7	720.7	10	10/4/2016
B-100	Downgradient	Overburden	1390254.8	2202242.1	777.95	775.3	44.8	740.5	730.5	10	7/8/2020
B-105D	Downgradient	Upper Bedrock	1390634.5	2201831.9	779.01	776.0	70.00	716.0	706.0	10	10/19/2020
B-112D	Downgradient	Upper Bedrock	1391564.2	2200664.1	765.58	766.1	55	721.4	711.4	10	3/22/2021
B-113D	Downgradient	Upper Bedrock	1391264.6	2200719.2	758.22	758.8	85	684.4	674.4	10	3/30/2021

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SUMMARY OF MONITORING WELL, ASSESSMENT WELL AND PIEZOMETER CONSTRUCTION
Georgia Power Company - Plant McDonough
Atlanta, Georgia

Well-ID	Hydraulic Location	Screened Media	NAD 83 Northing	NAD 83 Easting	Top of Casing Elevation (feet NAVD 88)	Ground Surface Elevation (feet NAVD 88)	Total Well Depth (feet bgs)	Top of Screen Elevation (feet NAVD 88)	Bottom of Screen Elevation (feet NAVD 88)	Screen Length (feet)	Date of Installation
ASH POND 2 and ASH PONDS 3/4 (AP-2, 3/4) DETECTION MONITORING WELL NETWORK											
DGWA-53	Upgradient	Upper Bedrock	1393472.8	2201668.8	844.26	841.3	28.9	823.7	813.7	10	9/24/2016
DGWA-70A	Upgradient	Overburden	1390481.4	2200591.6	808.52	805.8	59.3	756.9	746.9	10	5/10/2017
DGWA-71	Upgradient	Overburden	1393963.3	2201714.8	863.84	861.2	43.8	827.8	817.8	10	2/28/2017
DGWC-2	Downgradient	Overburden/Upper Bedrock	1393958.0	2202119.5	850.88	848.3	49.0	809.6	799.6	10	10/2/2012
DGWC-4	Downgradient	Overburden	1394171.5	2202662.4	814.85	812.1	45.0	777.4	767.4	10	10/3/2012
DGWC-5	Downgradient	Overburden/Upper Bedrock	1394306.3	2202965.1	791.75	788.7	30.0	769.0	759.0	10	10/4/2012
DGWC-8	Downgradient	Overburden	1394322.2	2203882.1	826.38	824.1	49.1	785.4	775.4	10	10/10/2012
DGWC-9	Downgradient	Overburden	1394055.9	2204170.0	824.35	821.8	30.0	802.2	792.2	10	10/10/2012
DGWC-10	Downgradient	Overburden	1393818.3	2204201.1	823.55	820.9	45.4	785.9	775.9	10	10/11/2012
DGWC-11	Downgradient	Overburden	1393547.1	2204166.2	800.57	798.1	49.1	759.3	749.3	10	10/15/2012
DGWC-12	Downgradient	Overburden	1393149.4	2204128.3	773.86	771.2	25.1	756.5	746.5	10	10/15/2012
DGWC-13	Downgradient	Overburden	1392881.1	2204084.6	794.10	791.3	43.8	757.9	747.9	10	11/29/2012
DGWC-14	Downgradient	Overburden/Upper Bedrock	1392574.2	2204013.3	792.40	789.8	34.3	765.9	755.9	10	12/18/2012
DGWC-15	Downgradient	Overburden	1392544.1	2203679.0	824.50	821.5	67.1	764.8	754.8	10	11/29/2012
DGWC-17	Downgradient	Overburden	1392645.6	2203051.0	837.05	834.2	44.5	800.0	790.0	10	1/9/2013
DGWC-19	Downgradient	Overburden	1392342.6	2202601.0	825.46	822.9	39.8	793.5	783.5	10	3/12/2013
DGWC-20	Downgradient	Overburden	1392164.5	2202315.6	822.14	819.8	39.7	790.7	780.7	10	3/5/2013
DGWC-21	Downgradient	Overburden/Upper Bedrock	1392067.5	2202063.5	816.28	813.5	69.0	754.9	744.9	10	10/31/2012
DGWC-22	Downgradient	Upper Bedrock	1392126.3	2201791.9	816.59	813.7	60.0	764.0	754.0	10	10/25/2012
DGWC-23	Downgradient	Upper Bedrock	1392239.7	2201582.0	818.37	815.7	60.1	765.9	755.9	10	10/25/2012
DGWC-42	Downgradient	Overburden	1391327.8	2201870.2	804.68	802.0	50.4	762.1	752.1	10	11/12/2012
DGWC-47	Downgradient	Overburden/Upper Bedrock	1391553.8	2202610.5	797.45	794.3	28.8	775.9	765.9	10	6/23/2016
DGWC-48	Downgradient	Overburden/Upper Bedrock	1391314.6	2202290.2	788.33	785.2	30.0	765.6	755.6	10	6/22/2016

TABLE 2
SUMMARY OF MONITORING WELL, ASSESSMENT WELL AND PIEZOMETER CONSTRUCTION
Georgia Power Company - Plant McDonough
Atlanta, Georgia

Well-ID	Hydraulic Location	Screened Media	NAD 83 Northing	NAD 83 Easting	Top of Casing Elevation (feet NAVD 88)	Ground Surface Elevation (feet NAVD 88)	Total Well Depth (feet bgs)	Top of Screen Elevation (feet NAVD 88)	Bottom of Screen Elevation (feet NAVD 88)	Screen Length (feet)	Date of Installation
ASH POND 2 and ASH PONDS 3/4 (AP-2, 3/4) ASSESSMENT MONITORING WELL NETWORK											
B-56	Downgradient	Overburden	1393957.9	2204187.8	823.59	821.0	45.0	786.4	776.4	10	10/3/2016
B-62	Downgradient	Upper Bedrock	1389828.1	2201811.2	760.08	760.4	39.9	730.7	720.7	10	10/4/2016
B-63	Downgradient	Overburden	1390999.1	2202978.1	777.10	777.3	46.0	741.8	731.8	10	10/6/2016
B-66	Downgradient	Overburden	1393858.2	2204277.5	815.90	813.3	55.3	768.3	758.3	10	11/16/2016
B-77	Downgradient	Overburden	1390948.7	2202942.0	776.86	777.1	42	745.1	735.1	10	9/17/2019
B-82	Downgradient	Overburden	1393750.0	2204258.1	810.07	807.5	45	773.0	763.0	10	9/21/2019
B-83	Downgradient	Overburden	1390735.5	2202695.6	776.98	777.1	48.6	738.5	728.5	10	9/30/2019
B-88	Downgradient	Overburden	1394401.1	2203738.3	820.07	817.0	72	755.0	745.0	10	11/15/2019
B-92	Downgradient	Overburden	1394392.7	2203026.7	785.08	785.3	24.6	770.7	760.7	10	12/11/2019
B-93	Downgradient	Overburden	1394348.7	2202946.7	789.07	789.2	28.9	770.3	760.3	10	12/12/2019
B-97	Downgradient	Overburden/Upper Bedrock	1394430.0	2203008.3	786.29	786.6	31	765.3	755.3	10	2/11/2020
B-98	Downgradient	Overburden	1394392.5	2202934.0	789.67	789.8	19.4	780.8	770.8	10	2/10/2020
B-100	Downgradient	Overburden	1390254.8	2202242.1	777.95	775.3	44.8	740.5	730.5	10	7/8/2020
B-101D	Downgradient	Overburden/Upper Bedrock	1394063.6	2204168.2	824.29	821.2	75.00	756.3	746.3	10	11/12/2020
B-102D	Downgradient	Upper Bedrock	1393828.4	2204200.4	823.42	820.6	85.00	746.2	736.2	10	11/10/2020
B-104D	Downgradient	Upper Bedrock	1391318.3	2202298.5	787.90	785.3	60.00	735.3	725.3	10	10/20/2020
B-106D	Downgradient	Upper Bedrock	1394327.1	2203869.2	826.21	823.5	80.00	754.1	744.1	10	11/13/2020
B-107D	Downgradient	Upper Bedrock	1392334.5	2202596.4	823.38	820.6	85.75	745.5	735.5	10	10/28/2020
B-108D	Downgradient	Upper Bedrock	1392156.1	2202312.5	821.13	818.4	80.00	749.4	739.4	10	10/27/2020
B-109D	Downgradient	Upper Bedrock	1393957.5	2202127.0	850.73	847.8	100.00	758.4	748.4	10	10/31/2020
B-111D	Downgradient	Upper Bedrock	1394303.4	2202956.4	791.87	789.1	85.00	714.9	704.9	10	11/3/2020
B-115D	Downgradient	Upper Bedrock	1391265.3	2202580.7	789.17	786.4	80	717.2	707.2	10	3/20/2021
B-120D	Downgradient	Upper Bedrock	1394047.2	2202436.4	836.42	834.0	70	775.0	765.0	10	3/6/2021

TABLE 2
SUMMARY OF MONITORING WELL, ASSESSMENT WELL AND PIEZOMETER CONSTRUCTION
Georgia Power Company - Plant McDonough
Atlanta, Georgia

Well-ID	Hydraulic Location	Screened Media	NAD 83 Northing	NAD 83 Easting	Top of Casing Elevation (feet NAVD 88)	Ground Surface Elevation (feet NAVD 88)	Total Well Depth (feet bgs)	Top of Screen Elevation (feet NAVD 88)	Bottom of Screen Elevation (feet NAVD 88)	Screen Length (feet)	Date of Installation
PIEZOMETERS											
B-3	Downgradient	Overburden/Upper Bedrock	1394045.1	2202411.5	837.78	835.0	37.0	808.3	798.3	10	10/3/2012
B-6	Downgradient	Overburden	1394419.5	2203266.5	789.47	786.5	35.4	761.5	751.5	10	10/9/2012
B-7	Downgradient	Overburden	1394374.6	2203596.1	809.16	806.1	25.2	791.3	781.3	10	10/9/2012
B-16	Downgradient	Overburden	1392595.1	2203315.4	826.47	823.6	43.7	790.2	780.2	10	12/19/2012
B-18	Downgradient	Overburden	1392521.0	2202875.5	826.56	823.9	32.6	801.5	791.5	10	1/10/2013
B-24	Downgradient	Upper Bedrock	1392479.9	2201450.0	822.11	819.3	79.1	751.0	741.0	10	10/24/2012
B-25	Downgradient	Upper Bedrock	1392813.3	2201502.7	836.54	833.5	54.8	789.1	779.1	10	10/24/2012
B-26	Downgradient	Upper Bedrock	1393105.6	2201550.4	853.60	850.6	49.3	811.7	801.7	10	10/23/2012
B-28	Downgradient	Overburden/Upper Bedrock	1391967.4	2201679.2	816.08	813.3	69.4	754.3	744.3	10	10/31/2012
B-29	Downgradient	Overburden	1391890.0	2201422.0	816.43	813.5	54.4	769.4	759.4	10	1/11/2013
B-31	Downgradient	Upper Bedrock	1392034.3	2200928.5	797.47	794.9	45.1	760.2	750.2	10	1/22/2013
B-41	Downgradient	Overburden	1390920.8	2201751.9	795.20	792.4	60.0	743.0	733.0	10	11/14/2012
B-50	Downgradient	Overburden	1391657.1	2201841.0	809.67	809.2	36.0	784.4	774.4	10	6/24/2016
B-51	Downgradient	Overburden	1390501.2	2200906.5	765.92	763.3	65.0	708.3	698.3	10	6/27/2016
B-52	Downgradient	Overburden	1392308.3	2201314.8	822.89	820.3	50.0	781.4	771.4	10	9/28/2016
B-54	Downgradient	Overburden/Upper Bedrock	1394423.5	2203140.7	785.46	782.6	34.2	758.8	748.8	10	9/26/2016
B-55	Downgradient	Overburden	1394142.6	2204147.9	825.12	822.9	52.0	781.9	771.9	10	9/22/2016
B-56	Downgradient	Overburden	1393957.9	2204187.8	823.59	821.0	45.0	786.4	776.4	10	10/3/2016
B-57	Downgradient	Upper Bedrock	1391396.3	2202736.9	789.04	786.0	50.5	746.0	736.0	10	9/24/2016
B-58	Downgradient	Overburden	1391125.7	2202426.5	788.17	785.2	45.0	750.7	740.7	10	9/23/2016
B-59	Downgradient	Overburden/Upper Bedrock	1394349.1	2203001.1	788.00	785.5	30.3	765.3	755.3	10	9/23/2016
B-60	Downgradient	Overburden	1391100.7	2202881.6	782.13	779.2	49.8	739.9	729.9	10	9/29/2016
B-61	Downgradient	Overburden	1390957.8	2202505.8	782.09	779.0	51.9	737.5	727.5	10	9/29/2016
B-62	Downgradient	Upper Bedrock	1389828.1	2201811.2	760.08	760.4	39.9	730.7	720.7	10	10/4/2016

TABLE 2
SUMMARY OF MONITORING WELL, ASSESSMENT WELL AND PIEZOMETER CONSTRUCTION
Georgia Power Company - Plant McDonough
Atlanta, Georgia

Well-ID	Hydraulic Location	Screened Media	NAD 83 Northing	NAD 83 Easting	Top of Casing Elevation (feet NAVD 88)	Ground Surface Elevation (feet NAVD 88)	Total Well Depth (feet bgs)	Top of Screen Elevation (feet NAVD 88)	Bottom of Screen Elevation (feet NAVD 88)	Screen Length (feet)	Date of Installation
PIEZOMETERS											
B-64	Downgradient	Overburden	1394381.9	2203031.3	785.83	786.1	30.4	766.1	756.1	10	11/2/2016
B-65	Downgradient	Overburden/Upper Bedrock	1394381.2	2204050.8	821.95	822.3	45.4	787.9	777.9	10	11/15/2016
B-68	Downgradient	Overburden	1391298.2	2200714.2	758.68	759.0	18.0	751.0	741.0	10	3/16/2017
B-72	Downgradient	Overburden	1391242.2	2200723.9	758.85	758.09	21.9	746.6	736.6	10	4/19/2017
B-73	Downgradient	Overburden	1391352.4	2200697.5	759.46	758.85	15.8	753.5	743.5	10	4/19/2017
B-74	Downgradient	Overburden	1391279.8	2200665.3	759.44	758.96	16.5	748.2	743.2	5	4/25/2017
B-78	Downgradient	Overburden/Upper Bedrock	1394328.2	2202958.2	790.75	788.0	30	768.0	758.5	10	9/22/2019
B-79	Downgradient	Overburden	1394458.6	2203223.0	788.66	785.9	34.93	761.0	751.5	10	9/21/2019
B-80	Downgradient	Overburden	1394372.6	2203533.9	804.47	801.8	30	782.0	772.5	10	9/20/2019
B-81	Downgradient	Overburden	1394364.9	2203741.1	820.56	817.7	50	778.5	768.5	10	9/22/2019
B-84	Downgradient	Overburden	1390411.9	2202241.9	776.34	776.6	49.1	737.5	727.5	10	10/1/2019
B-85	Downgradient	Overburden/Upper Bedrock	1394433.4	2203134.5	782.54	782.7	34.5	758.5	748.5	10	11/18/2019
B-86	Downgradient	Overburden/Upper Bedrock	1394480.0	2203206.6	784.29	784.6	34.1	760.5	750.5	10	11/18/2019
B-87	Downgradient	Overburden	1394401.9	2203531.3	803.37	800.4	42	768.7	758.7	10	11/17/2019
B-89	Downgradient	Upper Bedrock	1394398.4	2204049.4	822.36	822.6	49.5	783.1	773.1	10	11/19/2019
B-90	Downgradient	Overburden	1394501.0	2203212.6	784.00	784.2	33.4	760.8	750.8	10	12/10/2019
B-91	Downgradient	Overburden	1394447.1	2203123.9	782.98	783.1	34.6	758.5	748.5	10	12/11/2019
B-94	Downgradient	Overburden	1394402.0	2203513.7	801.74	799.2	45.24	764.6	754.6	10	1/23/2020
B-95	Downgradient	Overburden	1394518.6	2203167.7	784.00	784.3	33.3	761.3	751.3	10	2/11/2020
B-96	Downgradient	Overburden	1394478.7	2203099.3	784.92	785.3	33.1	762.2	752.2	10	2/10/2020
B-99	Downgradient	Overburden	1394524.2	2203084.5	782.39	782.6	12.3	775.3	770.3	5	7/7/2020
B-103D	Downgradient	Upper Bedrock	1391543.5	2202614.4	795.96	793.8	70.00	733.8	723.8	10	10/15/2020

TABLE 2
SUMMARY OF MONITORING WELL, ASSESSMENT WELL AND PIEZOMETER CONSTRUCTION
Georgia Power Company - Plant McDonough
Atlanta, Georgia

Well-ID	Hydraulic Location	Screened Media	NAD 83 Northing	NAD 83 Easting	Top of Casing Elevation (feet NAVD 88)	Ground Surface Elevation (feet NAVD 88)	Total Well Depth (feet bgs)	Top of Screen Elevation (feet NAVD 88)	Bottom of Screen Elevation (feet NAVD 88)	Screen Length (feet)	Date of Installation
PIEZOMETERS											
B-110D	Downgradient	Upper Bedrock	1391294.4	2200736.0	764.61	764.7	65.00	711.7	701.7	10	11/17/2020
B-111D	Downgradient	Upper Bedrock	1394303.4	2202956.4	791.87	789.1	85.00	714.9	704.9	10	11/3/2020
B-115D	Downgradient	Upper Bedrock	1391265.3	2202580.7	789.17	786.4	80	717.2	707.2	10	3/20/2021
B-116D	Upgradient	Upper Bedrock	1390483.7	2200611.0	807.82	805.3	90	726.1	716.1	10	3/8/2021
B-117D	Upgradient	Upper Bedrock	1393963.8	2201727.3	863.82	861.2	75	796.5	786.5	10	3/17/2021
B-118	Upgradient	Upper Bedrock	1391219.3	2200449.7	807.70	805.0	75	740.2	730.2	10	3/9/2021
B-119D	Upgradient	Upper Bedrock	1391236.4	2200446.6	807.15	804.5	105	709.8	699.8	10	3/16/2021

Notes:

1. bgs = below ground surface
2. DGWC-68 and DGWA-70 are not used as monitoring well due to well replacement and modifications to the proposed well network. DGWA-70 was abandoned 5/1/2017.
3. Coordinate System: NAD 1983 State Plane Georgia West (U.S. feet)
4. NAD - North American Datum; NAVD - North American Vertical Datum

TABLE 3
SUMMARY OF AQUIFER (SLUG) TEST DATA
Georgia Power Company - Plant McDonough
Atlanta, Georgia

Piezometer ID	Hydrogeologic Unit Screened	Screen Length (feet)	Aquifer Test Type	Hydraulic Conductivity (cm/sec)
B-111D	Gneiss	10	Falling	2.21E-04
			Rising	2.07E-04
B-112D	Gneiss	10	Falling	6.75E-04
			Falling	9.58E-04
B-113D	Gneiss	10	Rising	1.09E-04
			Falling	7.34E-04
			Rising	7.89E-04
B-115D	Schist	10	Falling	6.83E-05
			Rising	4.83E-05
B-116D	Schist	10	Falling	4.14E-04
			Rising	4.06E-04
B-117D	Gneiss	10	Falling	2.49E-04
			Rising	6.40E-05
B-118	Gneiss	10	Falling	4.20E-04
			Rising	7.96E-04
B-119D	Gneiss	10	Falling	5.66E-05
			Rising	1.42E-05
B-120D	Gneiss	10	Falling	1.50E-02
			Rising	1.51E-02
			Falling	9.58E-03
			Rising	1.76E-02

NOTES:

1. cm/sec = centimeters per second

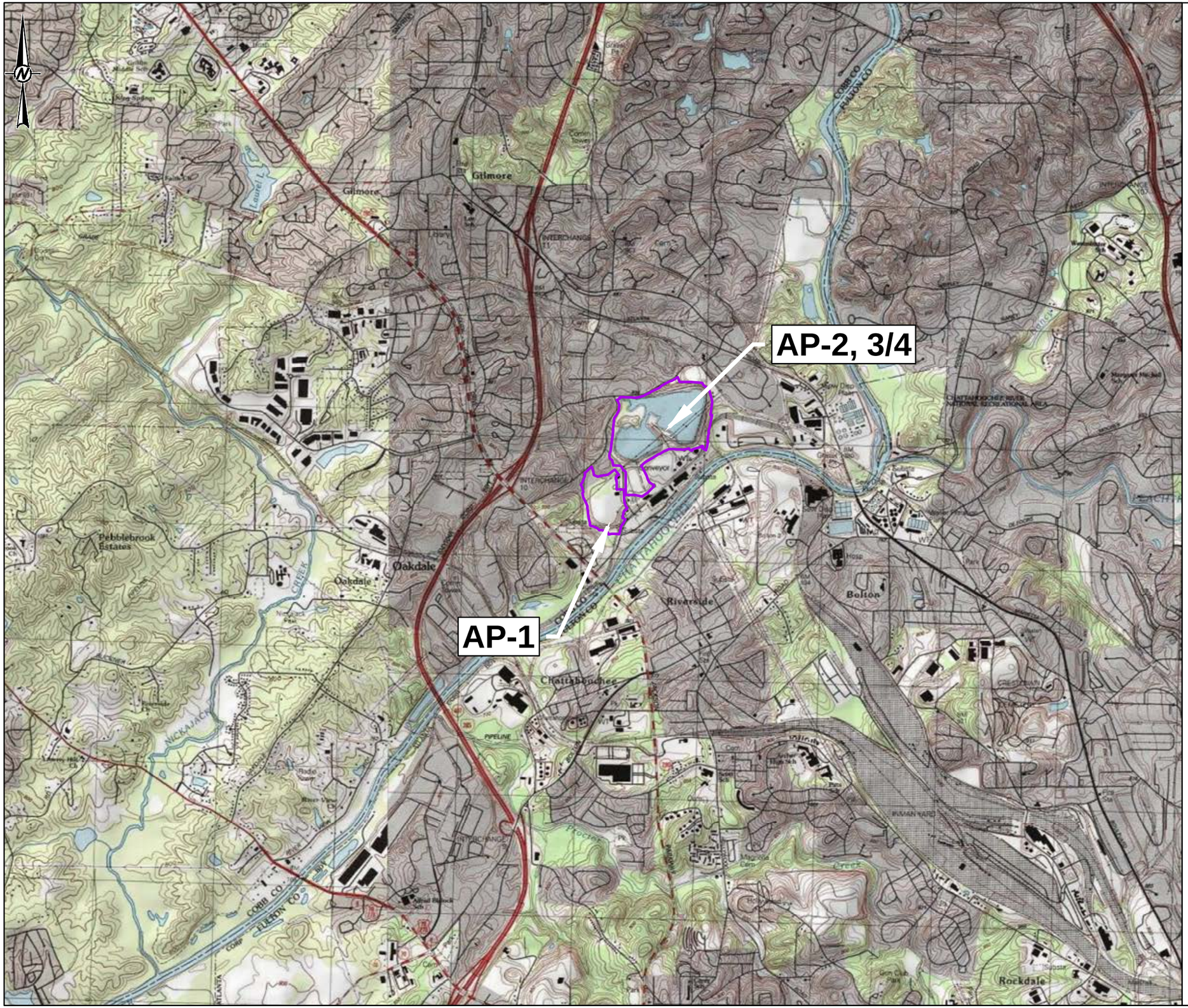
TABLE 4
Proposed ACM Supplementary Data Collection Tasks for July through December 2021
Georgia Power – Plant McDonough-Atkinson AP-1
Atlanta, Georgia

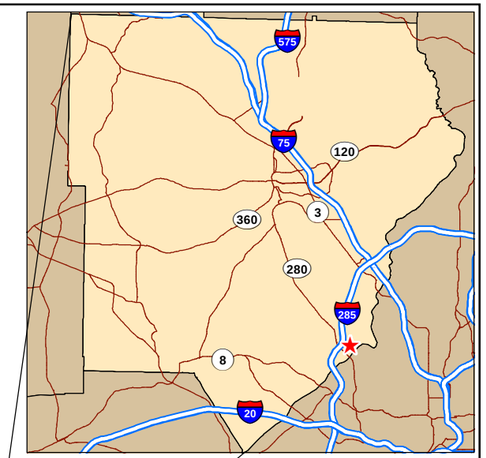
Data Collection Event	Applicable CMs	Applicability / Rationale	Field Component	Parameters of Interest (POI)
Well Installation	ISI P&T MNA	Nature and Extent: Install vertical delineation wells to evaluate cobalt downgradient of monitoring well DGWC-40.	Install well to total well depths ranging approximately from 80 to 120 feet below ground surface, screened at least 20-feet below the top of wells B-76, B-77 and/or B-100.	Vertical delineation
Groundwater Sampling	ISI MNA	(i) Evaluation of attenuation mechanisms and rates and aquifer capacity for attenuation. (ii) Continue sampling to provide sufficient data for statistical analyses at assessment wells.	Collect groundwater samples from existing well network currently sampled under the assessment monitoring program as well as additional site piezometers within migration pathway.	In addition to routine App III/IV parameters: orthophosphate, phosphorous, sulfide, iron, manganese, magnesium, sodium, potassium, total alkalinity, bicarbonate, dissolved organic carbon (DOC), nitrate/nitrite.
Evaluation of the analytical results from specialized analysis of collected saturated unconsolidated aquifer matrix samples	ISI P&T MNA	Evaluation of aquifer matrix for: (i) attenuation mechanisms and rates, and aquifer capacity for attenuation; and (ii) mineralogical characterization.	No Field Component: Aquifer matrix samples collected and submitted to the lab in November 2019 with additional samples submitted May 2021.	Conceptually identify attenuation rates and aquifer capacity for As, Co, and Mo. Evaluate long term stability of attenuation.
Perform a conceptual-level feasibility study of applied corrective measures using limited groundwater flow model	ISI MNA	Evaluate potential radius of influence for geochemical injections; determine conceptual layouts to achieve injection radius of influence in target areas.	No Field Component (Desktop Study)	Conceptually determine layouts for selected remedies.
Phase II & Phase III Geochemical Modeling	ISI MNA	MNA as a component of Final Remedy Selection	No Field Component: Phase II & III geochemical modeling and assessment.	Geochemical modeling to determine mechanism and rate of attenuation, adsorption capacity, and long-term stability for As, Co, and Mo.

Applicable Corrective Measures (CM Retained):

ISI - Geochemical Approaches (In-Situ Injection) ; P&T - Hydraulic Containment (Pump and Treat); MNA - Monitored Natural Attenuation

FIGURES





REFERENCE

SERVICE LAYER CREDITS: COPYRIGHT:© 2013 NATIONAL GEOGRAPHIC SOCIETY, I-CUBED

0 0.5 1

1 INCH=0.5 MILES

CLIENT
GEORGIA POWER COMPANY
PLANT MCDONOUGH-ATKINSON

PROJECT
SEMI-ANNUAL REMEDY SELECTION AND DESIGN PROGRESS REPORT PLANT MCDONOUGH-ATKINSON

TITLE
SITE LOCATION MAP

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2019-1-31
PREPARED	SEB
DESIGN	SEB
CHECKED	DP
REVIEWED/APPROVED	RPK

PROJECT No. 166849618
Rev. 0
FIGURE 1

LEGEND

- AP-1 MONITORING WELL
- PIEZOMETER
- AP-2,3/4 MONITORING WELL
- UPGRADIENT WELL
- SURFACE WATER MONITORING LOCATION
- DEWATERING WELL
- STAFF GUAGE
- PROPERTY BOUNDARY
- PERMIT BOUNDARY

NOTES

1. ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE

REFERENCE

1. SERVICE LAYER CREDITS: AERIAL IMAGE DATED NOVEMBER 2019 FROM GOOGLE EARTH AND MARCH 09, 2021 FROM COOPER, BARNETTE & PAGE, INC. (CBP).

2. COORDINATE SYSTEM: NAD 1983 STATE PLANE GEORGIA WEST (U.S. FEET).

3. MONITORING WELL/PIEZOMETER LOCATIONS SURVEYED BY METRO ENGINEERING 08/10/2020.

0 600 1,200

1 IN= 600 FT

CLIENT
GEORGIA POWER COMPANY PLANT MCDONOUGH-ATKINSON

PROJECT
SEMI-ANNUAL REMEDY SELECTION AND DESIGN PROGRESS REPORT PLANT MCDONOUGH-ATKINSON

TITLE
MONITORING WELL, PIEZOMETER AND SURFACE WATER LOCATION MAP

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2021-02-03
PREPARED	DJC
DESIGN	DLP
CHECKED	DLP
REVIEWED/APPROVED	RPK

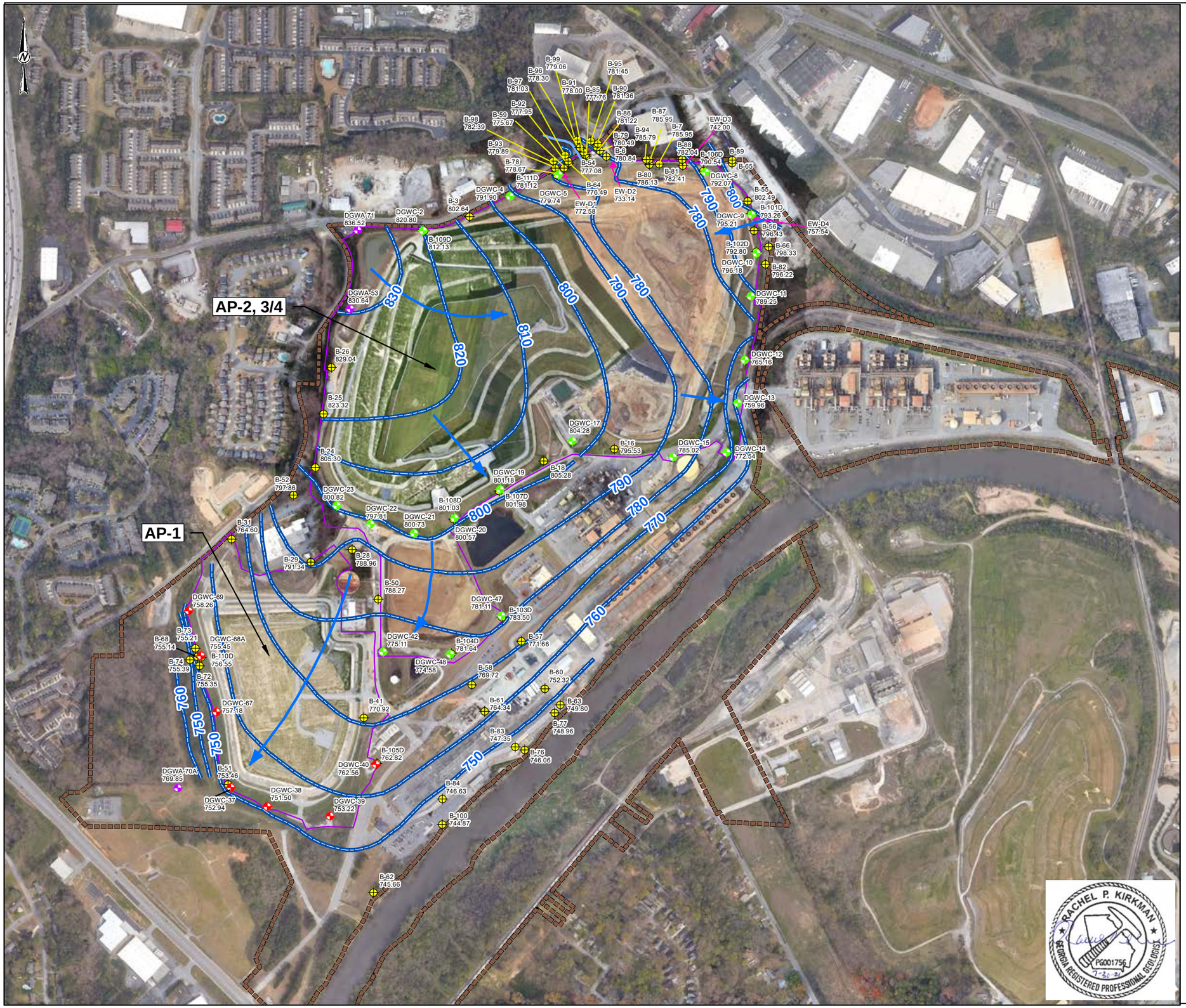
PROJECT No. 166849621

Rev. 0

FIGURE 2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET HAS BEEN MODIFIED FROM ANSI B

Path: C:\Jarvis\Golder Associates\166849\6_GIS\Plant McDonough GW Cons Svcs GA - 800_Shapefile\MXD\Remedy Selection Work Plan\Figure 2 - Proposed Investigation Location Map.mxd



LEGEND

- PIEZOMETER
- AP-1 MONITORING WELL
- AP-2,3/4 MONITORING WELL
- UPGRADIENT WELL
- DEWATERING WELL
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- GROUNDWATER SURFACE CONTOUR (FT-NAVD)
- SURFACE WATER STREAM
- PERMIT BOUNDARY
- PROPERTY BOUNDARY

NOTES

1. ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
2. GROUNDWATER ELEVATION MEAUSREMENTS OBTAINED FEBRUARY 25, 2021 BY GOLDER ASSOCIATES.
3. GROUNDWATER ELEVATIONS DISPLAYED IN FEET REFERENCED TO NORTH AMERICAN VERTICAL DATUM (FT NAVD).
4. WELLS THAT CONTAIN A "D" DESIGNATION FOLLOWING THE NUMBER ARE DEEP WELLS AND ELEVATIONS ARE NOT USED FOR CONTOURING.

REFERENCE

1. AERIAL IMAGE DATED NOVEMBER 2019 FROM GOOGLE EARTH AND MARCH 09, 2021 FROM COOPER, BARNETTE & PAGE, INC. (CBP).
2. COORDINATE SYSTEM: NAD 1983 STATE PLANE GEORGIA WEST (U.S. FEET).
3. MONITORING WELL/PIEZOMETER LOCATIONS AND ELEVATIONS SURVEYED BY METRO ENGINEERING AND SURVEYING COMPANY IN AUGUST 2020 WITH ADDITIONAL SURVEY PROVIDED IN JANUARY 2021 AND MAY 2021.

0 600 1,200

1 IN= 600 FT

CLIENT
GEORGIA POWER COMPANY PLANT MCDONOUGH-ATKINSON

PROJECT
SEMI-ANNUAL REMEDY SELECTION AND DESIGN PROGRESS REPORT PLANT MCDONOUGH-ATKINSON

TITLE
SITE POTENTIOMETRIC MAP
FEBRUARY 25, 2021

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2021-03-05
PREPARED	SEB
DESIGN	SEB
CHECKED	BAS
REVIEWED/APPROVED	RPK

PROJECT No. 166849621
Rev. 0
FIGURE 3

RACHEL P. KIRKMAN
PG001756
GEORGIA REGISTERED PROFESSIONAL GEOLOGIST
3-30-21

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET HAS BEEN MODIFIED FROM: ANSI B

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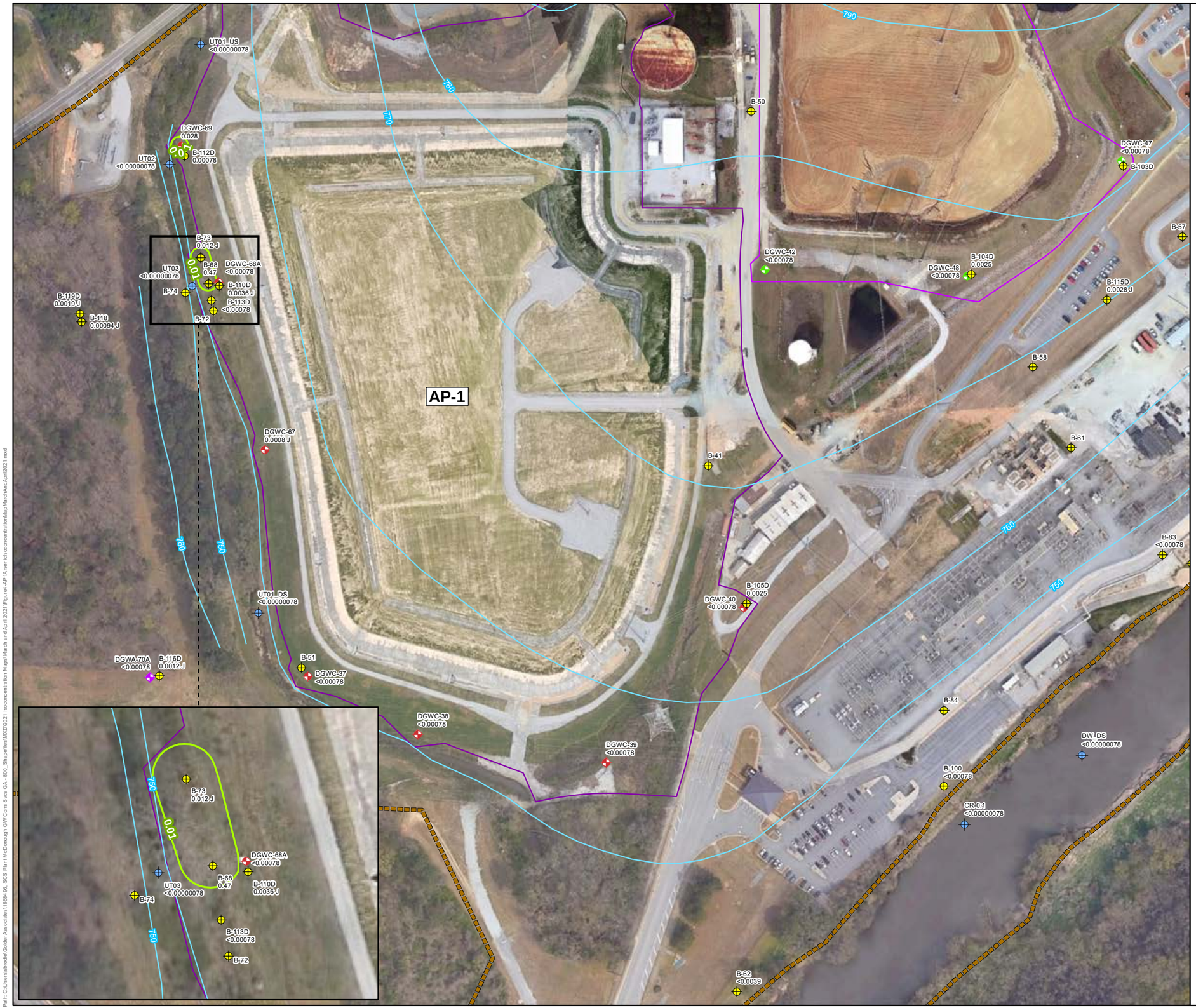

LEGEND

- PIEZOMETER
- AP-1 MONITORING WELL
- AP-2,3/4 MONITORING WELL
- UPGRADIENT WELL
- SURFACE WATER MONITORING LOCATION
- 0.01 ARSENIC GWPS ISOCONCENTRATION CONTOUR
- INFERRED POTENTIOMETRIC SURFACE CONTOUR (FEB 2021)
- PROPERTY BOUNDARY
- PERMIT BOUNDARY

NOTES

1. ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE

2. GOUNDWATER CONCENTRATIONS IN MILLIGRAMS PER LITER (MG/L). GWPS = GROUNDWATER PROTECTION STANDARD.

3. DATA SHOWN REPRESENT THE MARCH AND APRIL 2021 SEMI-ANNUAL MONITORING EVENT RESULTS AS WELL AS APPLICABLE DELINEATION WELL DATA. SURFACE WATER QUALITY DATA COLLECTED BY ARCADIS ON MARCH 9, 2021.

4. GWPS IS EQUAL TO THE MCL.

5. DEEP WELL DATA IS NOT USED FOR ISOCONCENTRATION CONTOURING.

Analyte	Units	GWPS
Arsenic	mg/L	0.01

REFERENCE

1. SERVICE LAYER CREDITS: AERIAL IMAGE DATED NOVEMBER 2019 FROM GOOGLE EARTH AND MARCH 09, 2021 FROM COOPER, BARNETTE & PAGE, INC. (CBP).

2. COORDINATE SYSTEM: NAD 1983 STATE PLANE GEORGIA WEST (U.S. FEET).

3. MONITORING WELL/PIEZOMETER LOCATIONS SURVEYED BY METRO ENGINEERING 08/10/2020.

0 200 400

1 IN= 200 FT

CLIENT
GEORGIA POWER COMPANY PLANT MCDONOUGH-ATKINSON

PROJECT
SEMI-ANNUAL REMEDY SELECTION AND DESIGN PROGRESS REPORT PLANT MCDONOUGH-ATKINSON ASH POND 1

TITLE
ARSENIC ISOCONCENTRATION CONTOUR MAP - MARCH AND APRIL 2021

CONSULTANT
GOLDER MEMBER OF WSP

YYYY-MM-DD	2021-01-22
PREPARED	SEB
DESIGN	DLP
CHECKED	BAS
REVIEWED/APPROVED	RPK

PROJECT No. 166849621 Rev. 0 FIGURE 4

Path: C:\Users\sbrodie\Golder Associates\166849621 SCS Plant McDonough GW Cons Svcs GA - 800_Shapefiles\MXD\2021 Isoconcentration Maps\March and April 2021\Figure4-AP1Arsenicisoconcentration.mxd

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET HAS BEEN MODIFIED FROM: ANSI B

LEGEND

- PIEZOMETER
- AP-1 MONITORING WELL
- AP-2,3/4 MONITORING WELL
- UPGRADIENT WELL
- SURFACE WATER MONITORING LOCATION
- 0.0322 COBALT GWPS ISOCONCENTRATION CONTOUR
- COBALT GWPS ISOCONCENTRATION CONTOUR (INFERRED)
- INFERRED POTENTIOMETRIC SURFACE CONTOUR (FEB 2021)
- PROPERTY BOUNDARY
- PERMIT BOUNDARY

NOTES

1. ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE

2. GOUNDWATER CONCENTRATIONS IN MILLIGRAMS PER LITER (MG/L). GWPS = GROUNDWATER PROTECTION STANDARD. RSL = (FEDERAL REGIONAL SCREENING LEVEL)

3. DATA SHOWN REPRESENT THE MARCH AND APRIL 2021 SEMI-ANNUAL MONITORING EVENT RESULTS AS WELL AS APPLICABLE DELINEATION WELL DATA. SURFACE WATER QUALITY DATA COLLECTED BY ARCADIS ON MARCH 9, 2021.

4. GWPS IS EQUAL TO SITE SPECIFIC BACKGROUND CONCENTRATION AS THERE IS NO MCL AND THE RSL IS BELOW SITE SPECIFIC BACKGROUND CONCENTRATION.

5. DEEP WELL ANALYTICAL RESULTS NOT USED FOR ISOCONCENTRATION CONTOURING.

6. B-76 IS AN OUTLIER AND NOT USED FOR CONTOURING.

Analyte	Units	GWPS
Cobalt	mg/L	0.0322

REFERENCE

1. SERVICE LAYER CREDITS:AERIAL IMAGE DATED NOVEMBER 2019 FROM GOOGLE EARTH AND MARCH 09, 2021 FROM COOPER, BARNETTE & PAGE, INC. (CBP).

2. COORDINATE SYSTEM: NAD 1983 STATE PLANE GEORGIA WEST (U.S. FEET).

3. MONITORING WELL/PIEZOMETER LOCATIONS SURVEYED BY METRO ENGINEERING 08/10/2020.

0 300 600

1 IN= 300 FT

CLIENT
GEORGIA POWER COMPANY PLANT MCDONOUGH-ATKINSON

PROJECT
SEMI-ANNUAL REMEDY SELECTION AND DESIGN PROGRESS REPORT PLANT MCDONOUGH-ATKINSON ASH POND 1

TITLE
COBALT ISOCONCENTRATION CONTOUR MAP - MARCH AND APRIL 2021

CONSULTANT
GOLDER MEMBER OF WSP

YYYY-MM-DD	2021-05-12
PREPARED	SEB
DESIGN	DLP
CHECKED	BAS
REVIEWED/APPROVED	RPK

PROJECT No. 166849621 Rev. 0 FIGURE 5

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET HAS BEEN MODIFIED FROM: ANSI B

Path: C:\Users\sbrodie\Golder Associates\166849\6. SCS Plant McDonough GW Cons Svcs GA - 800_Shapefiles\MXD\2021 Isoconcentration Maps\March and April 2021\Figure5-AP1Cobaltisoconcentration\MapMarchAndApril2021.mxd

LEGEND

- PIEZOMETER
- AP-1 MONITORING WELL
- AP-2,3/4 MONITORING WELL
- UPGRADIENT WELL
- SURFACE WATER MONITORING LOCATION
- 0.0409 MOLYBDENUM GWPS ISOCONCENTRATION CONTOUR
- INFERRED POTENTIOMETRIC SURFACE CONTOUR (FEB 2021)
- PROPERTY BOUNDARY
- PERMIT BOUNDARY

NOTES

1. ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE

2. GOUNDWATER CONCENTRATIONS IN MILLIGRAMS PER LITER (MG/L)

3. DATA SHOWN REPRESENT THE MARCH AND APRIL 2021 SEMI-ANNUAL MONITORING EVENT RESULTS AS WELL AS APPLICABLE DELINEATION WELL DATA. SURFACE WATER QUALITY DATA COLLECTED BY ARCADIS ON MARCH 9, 2021.

4. GWPS IS EQUAL TO SITE SPECIFIC BACKGROUND CONCENTRATION AS THERE IS NO MCL AND THE RSL IS BELOW SITE SPECIFIC BACKGROUND CONCENTRATION.

5. DEEP WELL ANALYTICAL RESULTS NOT USED FOR ISOCONCENTRATION CONTOURING.

Analyte	Units	FED GWPS	STATE GWPS
Molybdenum	mg/L	0.1	0.0409

REFERENCE

1. SERVICE LAYER CREDITS: AERIAL IMAGE DATED NOVEMBER 2019 FROM GOOGLE EARTH AND MARCH 09, 2021 FROM COOPER, BARNETTE & PAGE, INC. (CBP).

2. COORDINATE SYSTEM: NAD 1983 STATE PLANE GEORGIA WEST (U.S. FEET).

3. MONITORING WELL/PIEZOMETER LOCATIONS SURVEYED BY METRO ENGINEERING 08/10/2020.

0 200 400

1 IN=200 FT

CLIENT
GEORGIA POWER COMPANY PLANT MCDONOUGH-ATKINSON

PROJECT
SEMI-ANNUAL REMEDY SELECTION AND DESIGN PROGRESS REPORT PLANT MCDONOUGH-ATKINSON ASH POND 1

TITLE
MOLYBDENUM ISOCONCENTRATION CONTOUR MAP - MARCH AND APRIL 2021

CONSULTANT
GOLDER MEMBER OF WSP

YYYY-MM-DD	2021-05-12
PREPARED	SEB
DESIGN	DLP
CHECKED	BAS
REVIEWED/APPROVED	RPK

PROJECT No. 166849621 Rev. 0 FIGURE 6

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET HAS BEEN MODIFIED FROM: ANSI B

Path: C:\Users\sbrodie\Golder Associates\166849...\SCS Plant McDonough GW Cons Svcs GA - 800_Shapefiles\MXD\2021 Isoconcentration Maps\March and April 2021\Figure6-AP1Molybdenumisoconcentration MapMarchAndApril2021.mxd

APPENDIX A

LABORATORY ANALYTICAL DATA REPORTS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

May 14, 2021

Joju Abraham
Georgia Power-CCR
2480 Maner Road
Atlanta, GA 30339

RE: Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on April 08, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Herring
kevin.herring@pacelabs.com
1(704)875-9092
HORIZON Database Administrator

Enclosures

cc: Joe Booth, Resolute Environmental & Water Resources
Trent Godwin, Resolute Environmental & Water Resources
Kristen Jurinko
Ms. Lauren Petty, Southern Company
Kevin Stephenson, Resolute Environmental & Water Resources Consulting, LLC
Stephen Wilson, Resolute Environmental & Water Resources Consulting, LLC

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92532118001	**B-104D 56.5-57'**	Solid	04/08/21 12:00	04/08/21 14:56
92532118002	**B-109D 92.5-93'**	Solid	04/08/21 12:05	04/08/21 14:56
92532118003	**B-111D 82-82.5'**	Solid	04/08/21 12:10	04/08/21 14:56
92532118004	**B-115D 70.9-71.4'**	Solid	04/08/21 12:15	04/08/21 14:56
92532118005	**B-116D 88-88.25'**	Solid	04/08/21 12:20	04/08/21 14:56
92532118006	**B-117D 67-67.5'**	Solid	04/08/21 12:25	04/08/21 14:56
92532118007	**B-119D 101-101.4'**	Solid	04/08/21 12:30	04/08/21 14:56

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92532118001	**B-104D 56.5-57'**	EPA 901.1	MAH	6	PASI-PA
92532118002	**B-109D 92.5-93'**	EPA 901.1	MAH	6	PASI-PA
92532118003	**B-111D 82-82.5'**	EPA 901.1	MAH	6	PASI-PA
92532118004	**B-115D 70.9-71.4'**	EPA 901.1	MAH	6	PASI-PA
92532118005	**B-116D 88-88.25'**	EPA 901.1	MAH	6	PASI-PA
92532118006	**B-117D 67-67.5'**	EPA 901.1	MAH	6	PASI-PA
92532118007	**B-119D 101-101.4'**	EPA 901.1	MAH	6	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SUMMARY OF DETECTION

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92532118001	**B-104D 56.5-57'**					
EPA 901.1	Radium-226	2.092 ± 0.499 (0.307) C:NA T:NA	pCi/g		05/06/21 15:24	Ra
EPA 901.1	Radium-228	1.929 ± 0.628 (0.658) C:NA T:NA	pCi/g		05/06/21 15:24	
EPA 901.1	Thorium-232	30.535 ± 97.930 (121.200) C:NA T:NA	pCi/g		05/06/21 15:24	
EPA 901.1	Thorium-234	2.382 ± 5.443 (6.737) C:NA T:NA	pCi/g		05/06/21 15:24	
EPA 901.1	Uranium-235	0.000 ± 0.963 (2.546) C:NA T:NA	pCi/g		05/06/21 15:24	
EPA 901.1	Uranium-238	14.981 ± 18.556 (17.580) C:NA T:NA	pCi/g		05/06/21 15:24	
92532118002	**B-109D 92.5-93'**					
EPA 901.1	Radium-226	1.062 ± 0.248 (0.149) C:NA T:NA	pCi/g		05/06/21 15:25	Ra
EPA 901.1	Radium-228	1.612 ± 0.328 (0.257) C:NA T:NA	pCi/g		05/06/21 15:25	
EPA 901.1	Thorium-232	0.000 ± 15.879 (35.880) C:NA T:NA	pCi/g		05/06/21 15:25	
EPA 901.1	Thorium-234	1.868 ± 1.351 (1.678) C:NA T:NA	pCi/g		05/06/21 15:25	
EPA 901.1	Uranium-235	0.000 ± 0.816 (1.401) C:NA T:NA	pCi/g		05/06/21 15:25	
EPA 901.1	Uranium-238	5.079 ± 12.720 (14.300) C:NA T:NA	pCi/g		05/06/21 15:25	
92532118003	**B-111D 82-82.5'**					
EPA 901.1	Radium-226	1.296 ± 0.310 (0.241) C:NA T:NA	pCi/g		05/06/21 15:56	Ra

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SUMMARY OF DETECTION

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92532118003	**B-111D 82-82.5'**					
EPA 901.1	Radium-228	1.440 ± 0.518 (0.681) C:NA T:NA	pCi/g		05/06/21 15:56	
EPA 901.1	Thorium-232	40.530 ± 63.887 (77.770) C:NA T:NA	pCi/g		05/06/21 15:56	
EPA 901.1	Thorium-234	1.785 ± 3.710 (4.578) C:NA T:NA	pCi/g		05/06/21 15:56	
EPA 901.1	Uranium-235	0.568 ± 1.526 (1.740) C:NA T:NA	pCi/g		05/06/21 15:56	
EPA 901.1	Uranium-238	0.000 ± 5.574 (19.140) C:NA T:NA	pCi/g		05/06/21 15:56	
92532118004	**B-115D 70.9-71.4'**					
EPA 901.1	Radium-226	1.518 ± 0.291 (0.260) C:NA T:NA	pCi/g		05/06/21 15:58	Ra
EPA 901.1	Radium-228	2.297 ± 0.463 (0.292) C:NA T:NA	pCi/g		05/06/21 15:58	
EPA 901.1	Thorium-232	25.865 ± 22.768 (36.310) C:NA T:NA	pCi/g		05/06/21 15:58	
EPA 901.1	Thorium-234	0.831 ± 1.366 (2.265) C:NA T:NA	pCi/g		05/06/21 15:58	
EPA 901.1	Uranium-235	0.161 ± 1.217 (1.528) C:NA T:NA	pCi/g		05/06/21 15:58	
EPA 901.1	Uranium-238	0.922 ± 17.282 (19.570) C:NA T:NA	pCi/g		05/06/21 15:58	
92532118005	**B-116D 88-88.25'**					
EPA 901.1	Radium-226	1.344 ± 0.346 (0.220) C:NA T:NA	pCi/g		05/06/21 16:34	Ra
EPA 901.1	Radium-228	1.777 ± 0.536 (0.474) C:NA T:NA	pCi/g		05/06/21 16:34	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SUMMARY OF DETECTION

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92532118005	**B-116D 88-88.25'**					
EPA 901.1	Thorium-232	0.000 ± 33.838 (77.080) C:NA T:NA	pCi/g		05/06/21 16:34	
EPA 901.1	Thorium-234	0.000 ± 1.927 (4.422) C:NA T:NA	pCi/g		05/06/21 16:34	
EPA 901.1	Uranium-235	0.032 ± 1.441 (1.662) C:NA T:NA	pCi/g		05/06/21 16:34	
EPA 901.1	Uranium-238	6.984 ± 15.413 (14.130) C:NA T:NA	pCi/g		05/06/21 16:34	
92532118006	**B-117D 67-67.5'**					
EPA 901.1	Radium-226	1.297 ± 0.322 (0.173) C:NA T:NA	pCi/g		05/06/21 17:06	Ra
EPA 901.1	Radium-228	1.431 ± 0.433 (0.200) C:NA T:NA	pCi/g		05/06/21 17:06	
EPA 901.1	Thorium-232	0.000 ± 41.225 (100.100) C:NA T:NA	pCi/g		05/06/21 17:06	
EPA 901.1	Thorium-234	0.000 ± 2.347 (5.994) C:NA T:NA	pCi/g		05/06/21 17:06	
EPA 901.1	Uranium-235	0.845 ± 1.424 (1.634) C:NA T:NA	pCi/g		05/06/21 17:06	
EPA 901.1	Uranium-238	0.295 ± 19.653 (18.960) C:NA T:NA	pCi/g		05/06/21 17:06	
92532118007	**B-119D 101-101.4'**					
EPA 901.1	Radium-226	1.892 ± 0.320 (0.204) C:NA T:NA	pCi/g		05/06/21 16:35	Ra
EPA 901.1	Radium-228	1.928 ± 0.421 (0.206) C:NA T:NA	pCi/g		05/06/21 16:35	
EPA 901.1	Thorium-232	18.394 ± 35.121 (44.700) C:NA T:NA	pCi/g		05/06/21 16:35	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SUMMARY OF DETECTION

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92532118007	**B-119D 101-101.4'**					
EPA 901.1	Thorium-234	0.000 ± 1.622 (2.771) C:NA T:NA	pCi/g		05/06/21 16:35	
EPA 901.1	Uranium-235	0.000 ± 0.575 (1.461) C:NA T:NA	pCi/g		05/06/21 16:35	
EPA 901.1	Uranium-238	10.618 ± 9.175 (9.480) C:NA T:NA	pCi/g		05/06/21 16:35	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Sample: B-104D 56.5-57' **Lab ID: 92532118001** Collected: 04/08/21 12:00 Received: 04/08/21 14:56 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 901.1	**2.092 ± 0.499 (0.307) C:NA T:NA**	pCi/g	05/06/21 15:24	13982-63-3	Ra
Radium-228	EPA 901.1	**1.929 ± 0.628 (0.658) C:NA T:NA**	pCi/g	05/06/21 15:24	15262-20-1	
Thorium-232	EPA 901.1	**30.535 ± 97.930 (121.200) C:NA T:NA**	pCi/g	05/06/21 15:24	7440-29-1	
Thorium-234	EPA 901.1	**2.382 ± 5.443 (6.737) C:NA T:NA**	pCi/g	05/06/21 15:24	15065-10-8	
Uranium-235	EPA 901.1	**0.000 ± 0.963 (2.546) C:NA T:NA**	pCi/g	05/06/21 15:24	15117-96-1	
Uranium-238	EPA 901.1	**14.981 ± 18.556 (17.580) C:NA T:NA**	pCi/g	05/06/21 15:24		

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Sample: B-109D 92.5-93' **Lab ID: 92532118002** Collected: 04/08/21 12:05 Received: 04/08/21 14:56 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 901.1	**1.062 ± 0.248 (0.149) C:NA T:NA**	pCi/g	05/06/21 15:25	13982-63-3	Ra
Radium-228	EPA 901.1	**1.612 ± 0.328 (0.257) C:NA T:NA**	pCi/g	05/06/21 15:25	15262-20-1	
Thorium-232	EPA 901.1	**0.000 ± 15.879 (35.880) C:NA T:NA**	pCi/g	05/06/21 15:25	7440-29-1	
Thorium-234	EPA 901.1	**1.868 ± 1.351 (1.678) C:NA T:NA**	pCi/g	05/06/21 15:25	15065-10-8	
Uranium-235	EPA 901.1	**0.000 ± 0.816 (1.401) C:NA T:NA**	pCi/g	05/06/21 15:25	15117-96-1	
Uranium-238	EPA 901.1	**5.079 ± 12.720 (14.300) C:NA T:NA**	pCi/g	05/06/21 15:25		

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Sample: B-111D 82-82.5' **Lab ID: 92532118003** Collected: 04/08/21 12:10 Received: 04/08/21 14:56 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 901.1	**1.296 ± 0.310 (0.241) C:NA T:NA**	pCi/g	05/06/21 15:56	13982-63-3	Ra
Radium-228	EPA 901.1	**1.440 ± 0.518 (0.681) C:NA T:NA**	pCi/g	05/06/21 15:56	15262-20-1	
Thorium-232	EPA 901.1	**40.530 ± 63.887 (77.770) C:NA T:NA**	pCi/g	05/06/21 15:56	7440-29-1	
Thorium-234	EPA 901.1	**1.785 ± 3.710 (4.578) C:NA T:NA**	pCi/g	05/06/21 15:56	15065-10-8	
Uranium-235	EPA 901.1	**0.568 ± 1.526 (1.740) C:NA T:NA**	pCi/g	05/06/21 15:56	15117-96-1	
Uranium-238	EPA 901.1	**0.000 ± 5.574 (19.140) C:NA T:NA**	pCi/g	05/06/21 15:56		

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Sample: B-115D 70.9-71.4' **Lab ID: 92532118004** Collected: 04/08/21 12:15 Received: 04/08/21 14:56 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 901.1	**1.518 ± 0.291 (0.260) C:NA T:NA**	pCi/g	05/06/21 15:58	13982-63-3	Ra
Radium-228	EPA 901.1	**2.297 ± 0.463 (0.292) C:NA T:NA**	pCi/g	05/06/21 15:58	15262-20-1	
Thorium-232	EPA 901.1	**25.865 ± 22.768 (36.310) C:NA T:NA**	pCi/g	05/06/21 15:58	7440-29-1	
Thorium-234	EPA 901.1	**0.831 ± 1.366 (2.265) C:NA T:NA**	pCi/g	05/06/21 15:58	15065-10-8	
Uranium-235	EPA 901.1	**0.161 ± 1.217 (1.528) C:NA T:NA**	pCi/g	05/06/21 15:58	15117-96-1	
Uranium-238	EPA 901.1	**0.922 ± 17.282 (19.570) C:NA T:NA**	pCi/g	05/06/21 15:58		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Sample: B-116D 88-88.25' **Lab ID: 92532118005** Collected: 04/08/21 12:20 Received: 04/08/21 14:56 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 901.1	**1.344 ± 0.346 (0.220) C:NA T:NA**	pCi/g	05/06/21 16:34	13982-63-3	Ra
Radium-228	EPA 901.1	**1.777 ± 0.536 (0.474) C:NA T:NA**	pCi/g	05/06/21 16:34	15262-20-1	
Thorium-232	EPA 901.1	**0.000 ± 33.838 (77.080) C:NA T:NA**	pCi/g	05/06/21 16:34	7440-29-1	
Thorium-234	EPA 901.1	**0.000 ± 1.927 (4.422) C:NA T:NA**	pCi/g	05/06/21 16:34	15065-10-8	
Uranium-235	EPA 901.1	**0.032 ± 1.441 (1.662) C:NA T:NA**	pCi/g	05/06/21 16:34	15117-96-1	
Uranium-238	EPA 901.1	**6.984 ± 15.413 (14.130) C:NA T:NA**	pCi/g	05/06/21 16:34		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Sample: B-117D 67-67.5' **Lab ID: 92532118006** Collected: 04/08/21 12:25 Received: 04/08/21 14:56 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 901.1	**1.297 ± 0.322 (0.173) C:NA T:NA**	pCi/g	05/06/21 17:06	13982-63-3	Ra
Radium-228	EPA 901.1	**1.431 ± 0.433 (0.200) C:NA T:NA**	pCi/g	05/06/21 17:06	15262-20-1	
Thorium-232	EPA 901.1	**0.000 ± 41.225 (100.100) C:NA T:NA**	pCi/g	05/06/21 17:06	7440-29-1	
Thorium-234	EPA 901.1	**0.000 ± 2.347 (5.994) C:NA T:NA**	pCi/g	05/06/21 17:06	15065-10-8	
Uranium-235	EPA 901.1	**0.845 ± 1.424 (1.634) C:NA T:NA**	pCi/g	05/06/21 17:06	15117-96-1	
Uranium-238	EPA 901.1	**0.295 ± 19.653 (18.960) C:NA T:NA**	pCi/g	05/06/21 17:06		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Sample: B-119D 101-101.4' **Lab ID: 92532118007** Collected: 04/08/21 12:30 Received: 04/08/21 14:56 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 901.1	**1.892 ± 0.320 (0.204) C:NA T:NA**	pCi/g	05/06/21 16:35	13982-63-3	Ra
Radium-228	EPA 901.1	**1.928 ± 0.421 (0.206) C:NA T:NA**	pCi/g	05/06/21 16:35	15262-20-1	
Thorium-232	EPA 901.1	**18.394 ± 35.121 (44.700) C:NA T:NA**	pCi/g	05/06/21 16:35	7440-29-1	
Thorium-234	EPA 901.1	**0.000 ± 1.622 (2.771) C:NA T:NA**	pCi/g	05/06/21 16:35	15065-10-8	
Uranium-235	EPA 901.1	**0.000 ± 0.575 (1.461) C:NA T:NA**	pCi/g	05/06/21 16:35	15117-96-1	
Uranium-238	EPA 901.1	**10.618 ± 9.175 (9.480) C:NA T:NA**	pCi/g	05/06/21 16:35		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL - RADIOCHEMISTRY

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

QC Batch: 444911 Analysis Method: EPA 901.1
QC Batch Method: EPA 901.1 Analysis Description: 901.1 Gamma Spec Ingrowth
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92532118001, 92532118002, 92532118003, 92532118004, 92532118005

METHOD BLANK: 2147795 Matrix: Solid
Associated Lab Samples: 92532118001, 92532118002, 92532118003, 92532118004, 92532118005, 92532118006, 92532118007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.039 ± 0.069 (0.117) C:NA T:NA	pCi/g	04/27/21 13:30	Ra
Radium-228	0.042 ± 0.087 (0.195) C:NA T:NA	pCi/g	04/27/21 13:30	
Thorium-232	4.826 ± 10.987 (15.230) C:NA T:NA	pCi/g	04/27/21 13:30	
Thorium-234	0.021 ± 0.700 (1.011) C:NA T:NA	pCi/g	04/27/21 13:30	
Uranium-235	0.040 ± 0.068 (0.713) C:NA T:NA	pCi/g	04/27/21 13:30	
Uranium-238	3.072 ± 3.895 (6.635) C:NA T:NA	pCi/g	04/27/21 13:30	

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
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

Ra	The reported Ra-226 results were determined by hermetically sealing the dried, processed sample in an appropriate-sized can. Each sample was stored for a minimum of 21 days to ensure that equilibrium between Ra-226 and daughters Bi-214 and Pb-214 was achieved. Reported Ra-226 results were inferred from gamma peaks attributable to Bi-214 and Pb-214.

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Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PLANT MCDONOUGH AP-1
Pace Project No.: 92532118

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92532118001	**B-104D 56.5-57'**	EPA 901.1	444911		
92532118002	**B-109D 92.5-93'**	EPA 901.1	444911		
92532118003	**B-111D 82-82.5'**	EPA 901.1	444911		
92532118004	**B-115D 70.9-71.4'**	EPA 901.1	444911		
92532118005	**B-116D 88-88.25'**	EPA 901.1	444911		
92532118006	**B-117D 67-67.5'**	EPA 901.1	444911		
92532118007	**B-119D 101-101.4'**	EPA 901.1	444911		

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GA Powell

Project #:

WO#: 92532118

92532118

Courier: ☐ Commercial ☐ Fed Ex ☐ Pace ☐ UPS ☐ USPS ☐ Other: ☑ Client

Custody Seal Present? ☐ Yes ☑ No Seals Intact? ☐ Yes ☐ No

Date/Initials Person Examining Contents: 4/8/24

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☑ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

Thermometer: ☑ IR Gun ID: 214 ☐ Wet ☐ Blue ☐ None

Type of Ice:

Cooler Temp: 22.0 Correction Factor: Add/Subtract (°C) +0.1

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 22.1

USDA Regulated Soil (☐ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6. 250mL Glass Mason Jars
-Pace Containers Used?	☐ Yes	☑ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: SL				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: _____ **Date:** _____

Project Manager SRF Review: _____ **Date:** _____

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, UHg

**Bottom half of box is to list number of bottles

Project #

WO#: 92532118

PM: KLH1 Due Date: 04/29/21

CLIENT: GA-GA Power

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpr (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SPST-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	BG3U (Mason Jar)	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1																									1			
2																									1			
3																									1			
4																									1			
5																									1			
6																									1			
7																									1			
8																												
9																												
10																												
11																												
12																												

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

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.

PaceAnalytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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: Joju Abraham	Attention: scsinvoices@southernco.com
Address: 2480 Maner Road Atlanta, GA 30339	Copy To: Golder	Company Name:
Email: jabraham@southernco.com	Purchase Order #:	Address:
Phone: (404) 506-7239 Fax:	Project Name: Plant McDonough AP-1	Pace Quote:
Requested Due Date: 10 Day TAT	Project #: 166849618	Pace Project Manager: Kevin Herring
		Pace Profile #:

Regulatory Agency	
State / Location	GA

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique MATRIX: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved - Ice	H2SO4	HNO3	HCl	NaOH + Zn Acetate	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N): Analyses Test Y/N	Gamma Spectometry U Th Ra	Residual Chlorine (Y/N)	
1	B-104D 56.5-57'	SL	G	4/8/2021	12:00		1										X		
2	B-109D 92.5-93'	SL	G	4/8/2021	12:05		1										X		
3	B-111D 82-82.5'	SL	G	4/8/2021	12:10		1										X		
4	B-115D 70.9-71.4'	SL	G	4/8/2021	12:15		1										X		
5	B-116D 88-88.25'	SL	G	4/8/2021	12:20		1										X		
6	B-117D 67-67.5'	SL	G	4/8/2021	12:25		1										X		
7	B-119D 101-101.4'	SL	G	4/8/2021	12:30		1										X		
8																			
9																			
10																			
11																			
12																			

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Michael Bostwick	4/8/2021	14:56	[signature]	4/9/21	1456	

DATE Signed:

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Gamma Spec Quality Control Sample Performance Assessment

Analyst: MAH
Date: 4/27/2021
Batch ID: 60140
Matrix: SOLID

Method: EPA 901.1

Geometry: 4 OZ CANS
Activity Units: pCi
Aliquot Units: GRAM

Method Blank Assessment Method Blank ID. 2147795

Analytes of Interest	MB Result	2 Sigma CSU	MB MDC	Numerical Indicator	MB Evaluation
Ra-226	0.039	0.069	0.117	1.124	Pass
Ra-228	0.042	0.037	0.795	0.947	Pass
Th-232	4.826	10.987	15.230	0.861	Pass
Th-234	0.021	0.700	1.011	0.058	Pass
U-235	0.040	0.068	0.713	1.163	Pass
U-238	3.072	3.895	6.835	1.546	Pass

Duplicate Sample Precision Assessment

Sample ID: Duplicate Sample ID:

Analytes of Interest	Sample Results	Sample 2 Sigma CSU	Duplicate Results	Duplicate 2 Sigma CSU	Numerical Indicator	% RPD	Evaluation
Ra-226					#DIV/0!	#DIV/0!	#DIV/0!
Ra-228					#DIV/0!	#DIV/0!	#DIV/0!
Th-232					#DIV/0!	#DIV/0!	#DIV/0!
Th-234					#DIV/0!	#DIV/0!	#DIV/0!
U-235					#DIV/0!	#DIV/0!	#DIV/0!
U-238					#DIV/0!	#DIV/0!	#DIV/0!

Duplicate LCS Precision Assessment

Analyte	LCS Concentration	LCS 2 Sigma CSU	LCSD Concentration	LCSD 2 Sigma CSU	Numerical Indicator	Percent RPD	Precision Evaluation
Lead-210	1432.400	189.430	1555.700	255.020	-0.761	8.3%	Pass
Cobalt-60	20.642	2.282	20.499	2.743	0.079	0.7%	Pass
Cesium-137	46.814	5.219	48.877	6.576	-0.482	4.3%	Pass

Laboratory Control Sample Assessment

	Analyte	Lead-210	Cobalt-60	Cesium-137
	Count Date	4/27/2021	4/27/2021	4/27/2021
	Reference ID	14-008Pb	14-008Co	14-008Cs
Volume or Mass of Reference Geometry	Reference Concentration	1387.046	21.589	49.586
	Reference Uncertainty	0.059	0.059	0.059
	LCS Concentration	1432.4	20.642	46.814
	LCS 2 Sigma CSU	189.430	2.282	5.219
	Numerical Indicator	-0.47	0.81	1.04
	Percent Recovery	103.3%	95.6%	94.4%
	LCS Evaluation	Pass	Pass	Pass

Laboratory Control Sample Duplicate Assessment

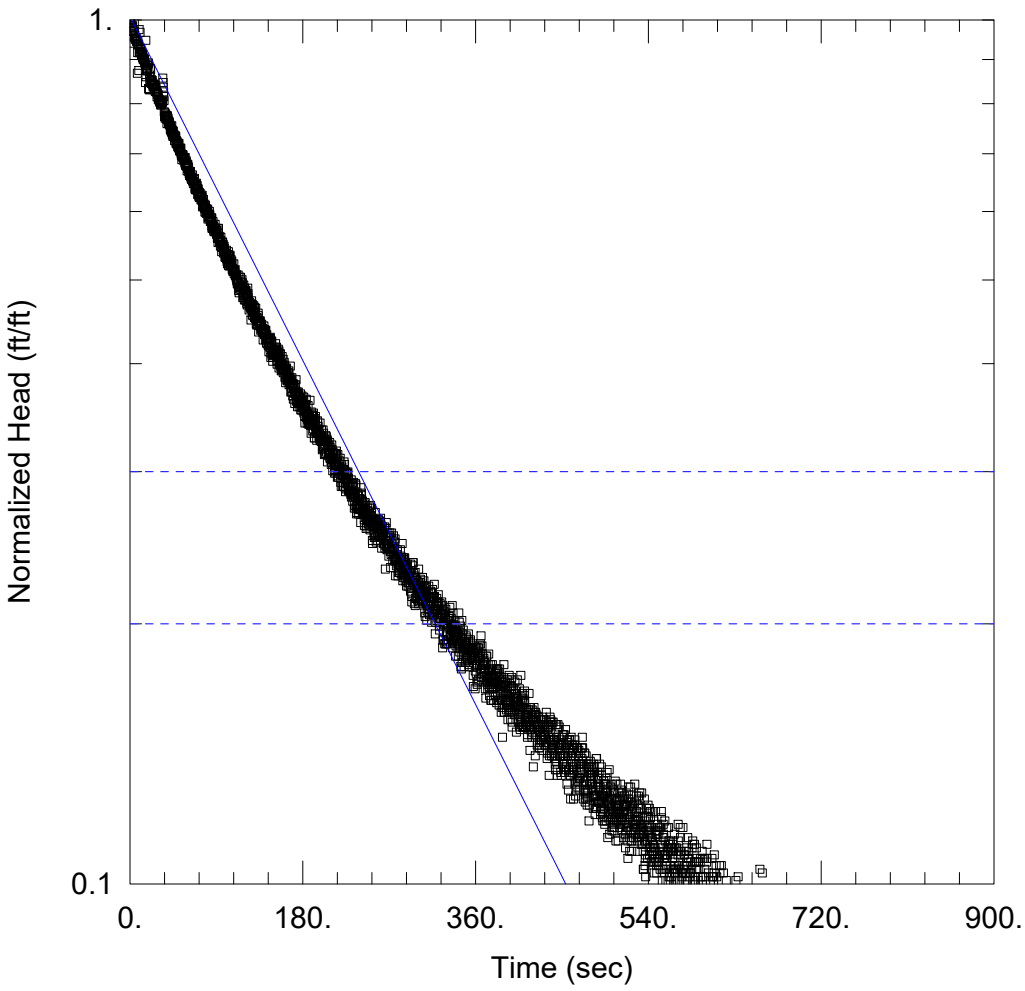
Analyte	Lead-210	Cobalt-60	Cesium-137
Count Date	4/27/2021	4/27/2021	4/27/2021
Reference ID	14-008Pb	14-008Co	14-008Cs
Reference Concentration	1387.046	21.589	49.586
Reference Uncertainty	0.059	0.059	0.059
LCSD Concentration	1555.7	20.499	48.877
LCSD 2 Sigma CSU	255.020	2.743	6.576
Numerical Indicator	-1.30	0.78	0.21
Percent Recovery	112.2%	95.0%	98.6%
LCSD Evaluation	Pass	Pass	Pass

Evaluation: If the sample or Duplicate sample activity is below the associated MDC, the %RPD evaluation is not applicable and the sample duplicate precision criteria is acceptable.

ACCEPTED FOR DE N ANALYSES.
JRD 5/10/21

APPENDIX B

SLUG TEST ANALYSES



B-111D TEST 1 SLUG IN

Data Set: C:\...\B-111D SLUG IN.aqt
Date: 07/28/21 Time: 10:06:27

PROJECT INFORMATION

Company: Golder
Client: Southern Company
Project: 166849621
Location: McDonough
Test Well: B-111D
Test Date: 05/2021

AQUIFER DATA

Saturated Thickness: 74.77 ft Anisotropy Ratio (Kz/Kr): 1.

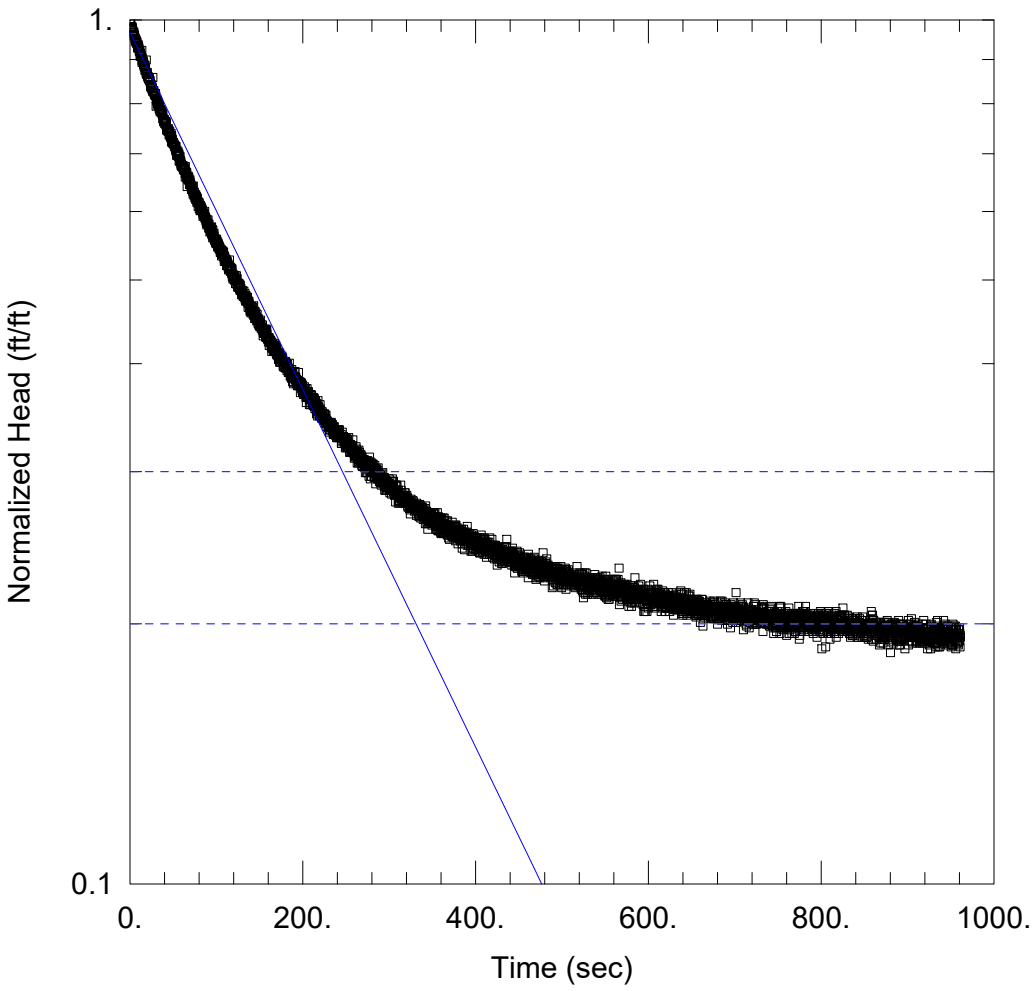
WELL DATA (B-111D)

Initial Displacement: 0.981 ft
Total Well Penetration Depth: 85. ft
Casing Radius: 0.081 ft
Static Water Column Height: 74.77 ft
Screen Length: 10. ft
Well Radius: 0.081 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 0.0002209 cm/sec
y0 = 0.9903 ft



B-111D TEST 1 SLUG OUT

Data Set: C:\...\B-111D SLUG OUT.aqt
Date: 07/28/21 Time: 10:09:47

PROJECT INFORMATION

Company: Golder
Client: Southern Company
Project: 166849621
Location: McDonough
Test Well: B-111D
Test Date: 05/2021

AQUIFER DATA

Saturated Thickness: 74.77 ft Anisotropy Ratio (Kz/Kr): 1.

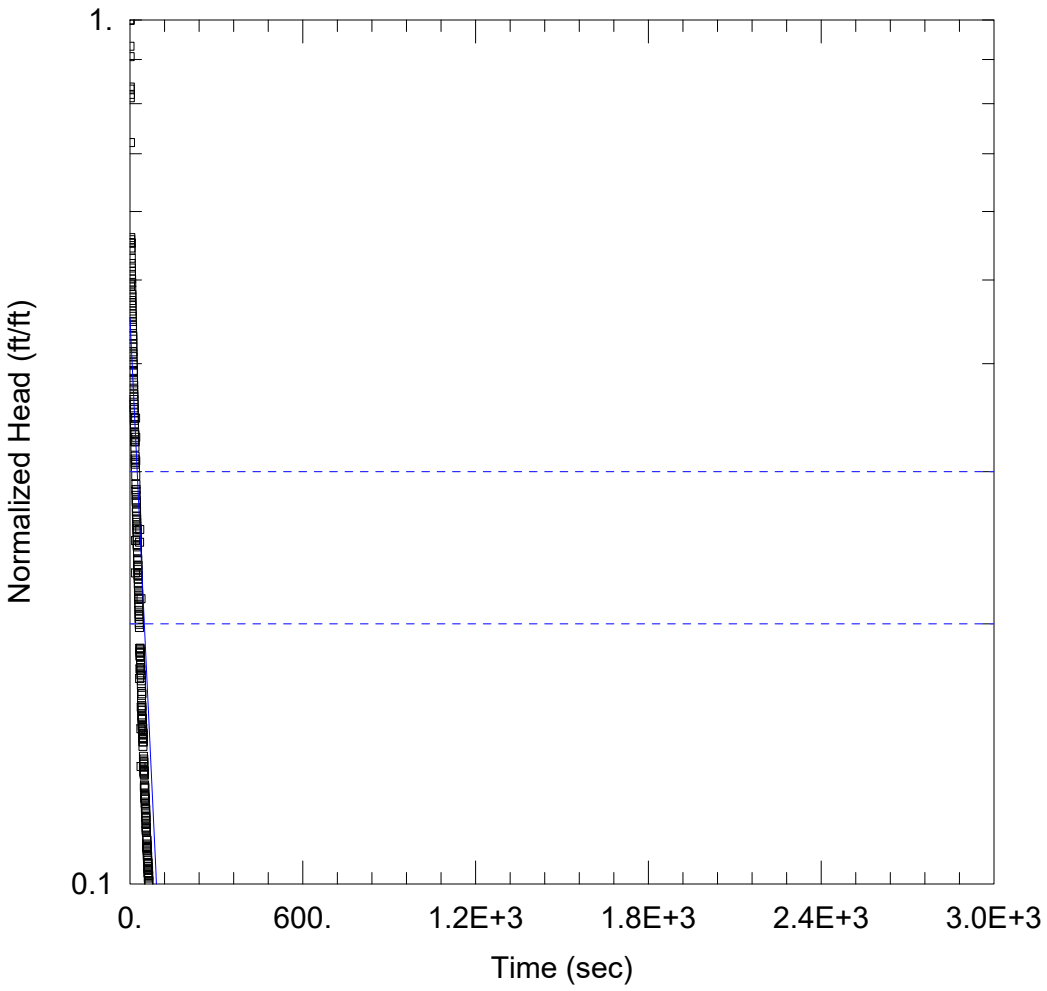
WELL DATA (B-111D)

Initial Displacement: -1.026 ft Static Water Column Height: 74.77 ft
Total Well Penetration Depth: 85. ft Screen Length: 10. ft
Casing Radius: 0.081 ft Well Radius: 0.081 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.0002066 cm/sec y0 = -0.9929 ft



B-112D TEST 1 SLUG IN

Data Set: C:\...\B-112D SLUG IN.aqt
Date: 07/28/21 Time: 10:12:12

PROJECT INFORMATION

Company: Golder
Client: Southern Company
Project: 166849621
Location: McDonough
Test Well: B-112D
Test Date: 05/2021

AQUIFER DATA

Saturated Thickness: 47.95 ft Anisotropy Ratio (Kz/Kr): 1.

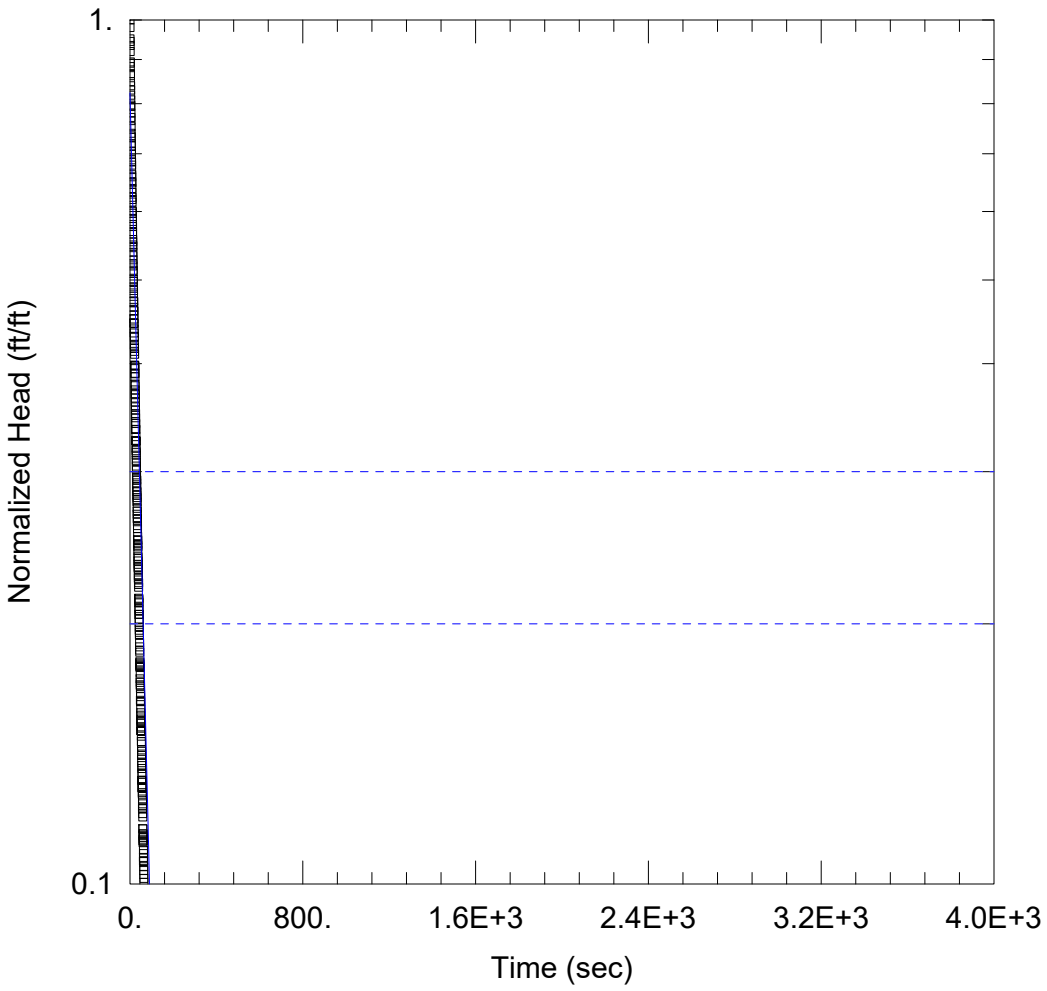
WELL DATA (B-112D)

Initial Displacement: 2.904 ft
Total Well Penetration Depth: 55. ft
Casing Radius: 0.081 ft
Static Water Column Height: 47.95 ft
Screen Length: 10. ft
Well Radius: 0.081 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 0.0006745 cm/sec
y0 = 1.313 ft



B-112D TEST 1 SLUG OUT

Data Set: C:\...\B-112D SLUG OUT.aqt
Date: 07/28/21 Time: 10:18:13

PROJECT INFORMATION

Company: Golder
Client: Southern Company
Project: 166849621
Location: McDonough
Test Well: B-112D
Test Date: 05/2021

AQUIFER DATA

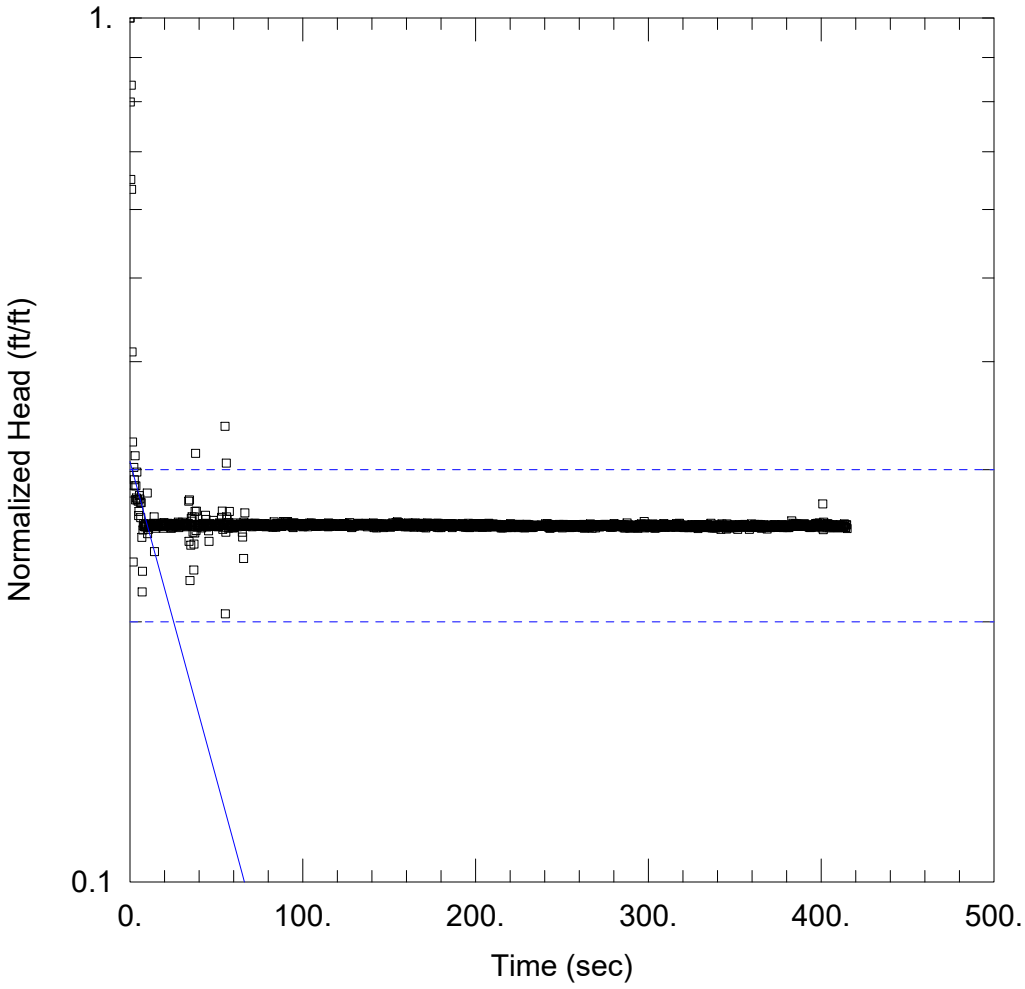
Saturated Thickness: 47.95 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B-112D)

Initial Displacement: -1.882 ft
Total Well Penetration Depth: 55. ft
Casing Radius: 0.081 ft
Static Water Column Height: 47.95 ft
Screen Length: 10. ft
Well Radius: 0.081 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.000958 cm/sec
y0 = -1.55 ft



B-113D TEST 2 SLUG IN

Data Set: C:\...\B-113D SLUG IN (2).aqt
Date: 07/28/21 Time: 11:08:34

PROJECT INFORMATION

Company: Golder
Client: Southern Company
Project: 166849621
Location: McDonough
Test Well: B-113D
Test Date: 05/2021

AQUIFER DATA

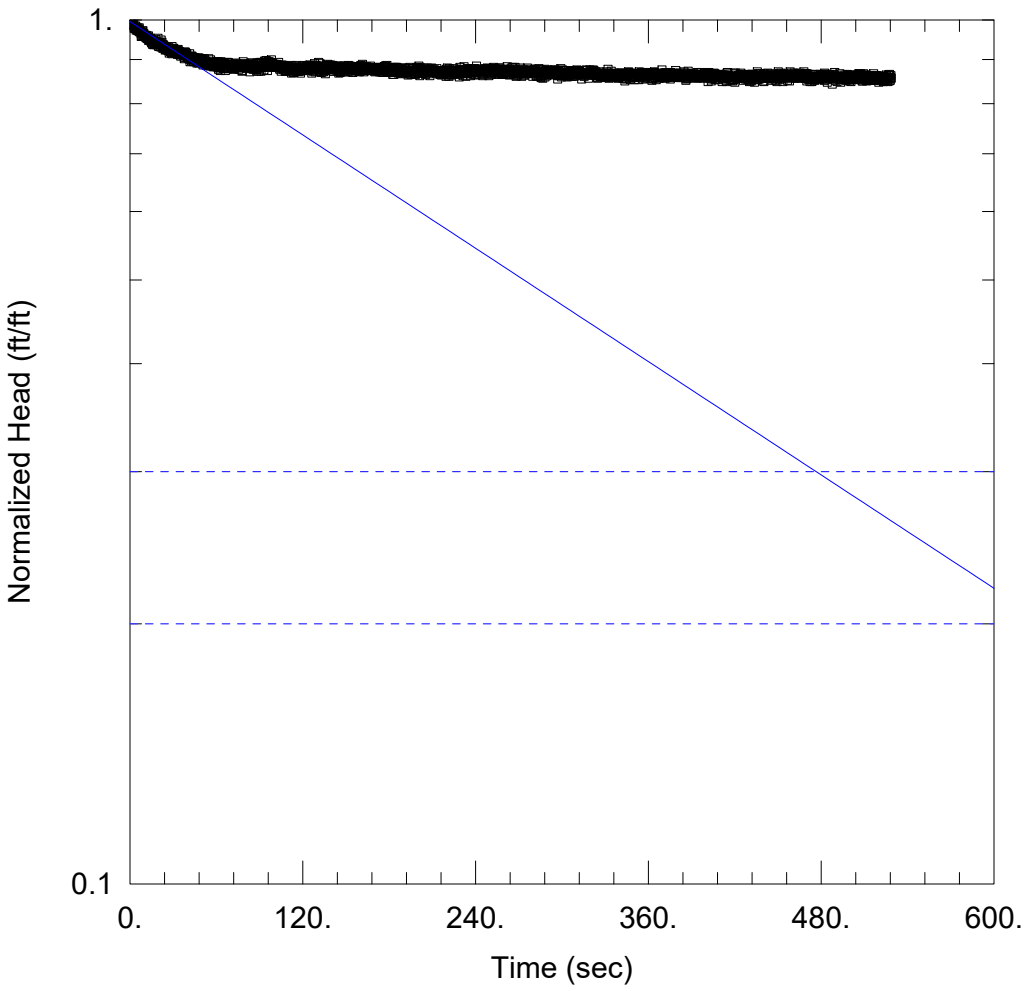
Saturated Thickness: 85.3 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B-113D)

Initial Displacement: 4.072 ft
Total Well Penetration Depth: 86. ft
Casing Radius: 0.081 ft
Static Water Column Height: 85.3 ft
Screen Length: 10. ft
Well Radius: 0.081 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.000734 cm/sec
y0 = 1.248 ft



B-113D TEST 1 SLUG OUT

Data Set: C:\...\B-113D SLUG OUT (1).aqt
Date: 07/28/21 Time: 11:09:29

PROJECT INFORMATION

Company: Golder
Client: Southern Company
Project: 166849621
Location: McDonough
Test Well: B-113D
Test Date: 05/2021

AQUIFER DATA

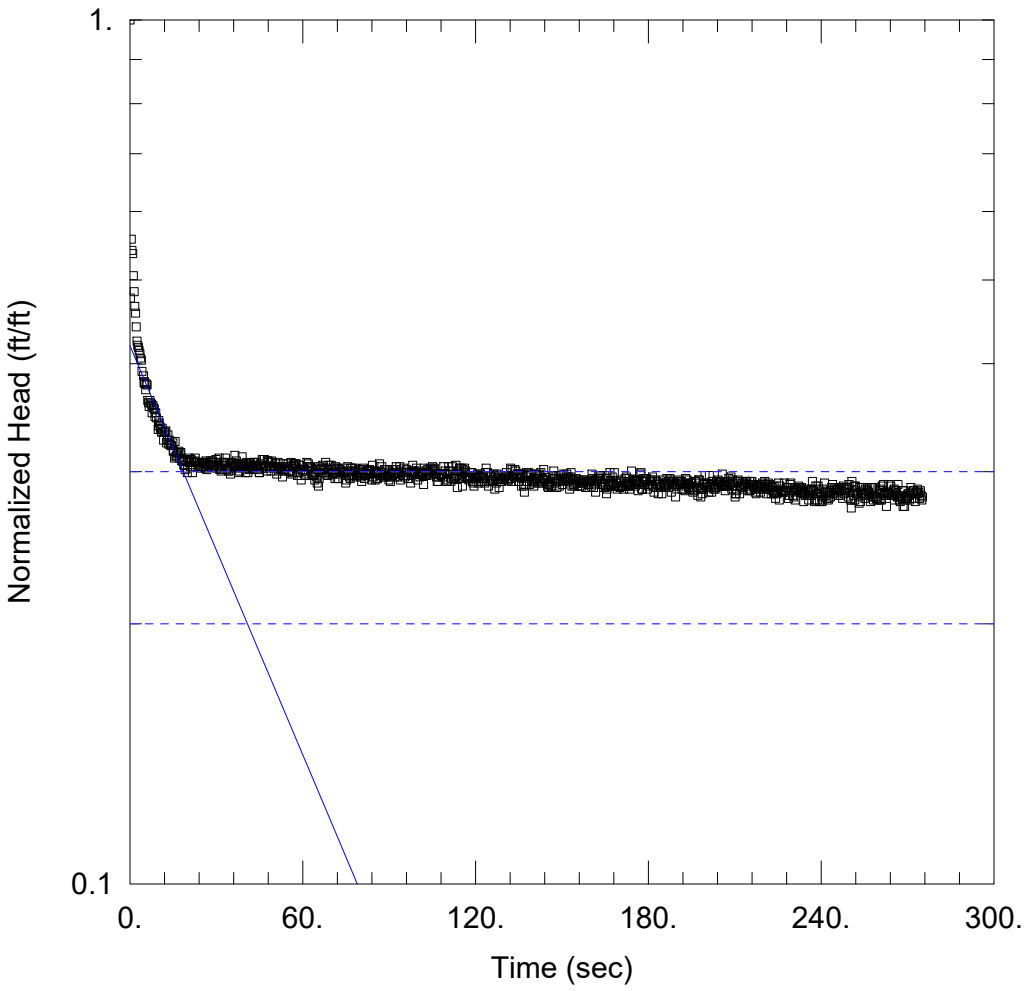
Saturated Thickness: 85.3 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B-113D)

Initial Displacement: -0.673 ft
Total Well Penetration Depth: 86. ft
Casing Radius: 0.081 ft
Static Water Column Height: 85.3 ft
Screen Length: 10. ft
Well Radius: 0.081 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0001093 cm/sec
y0 = -0.67 ft



B-113D TEST 2 SLUG OUT

Data Set: C:\...\B-113D SLUG OUT (2).aqt
Date: 07/28/21 Time: 11:10:59

PROJECT INFORMATION

Company: Golder
Client: Southern Company
Project: 166849621
Location: McDonough
Test Well: B-113D
Test Date: 05/2021

AQUIFER DATA

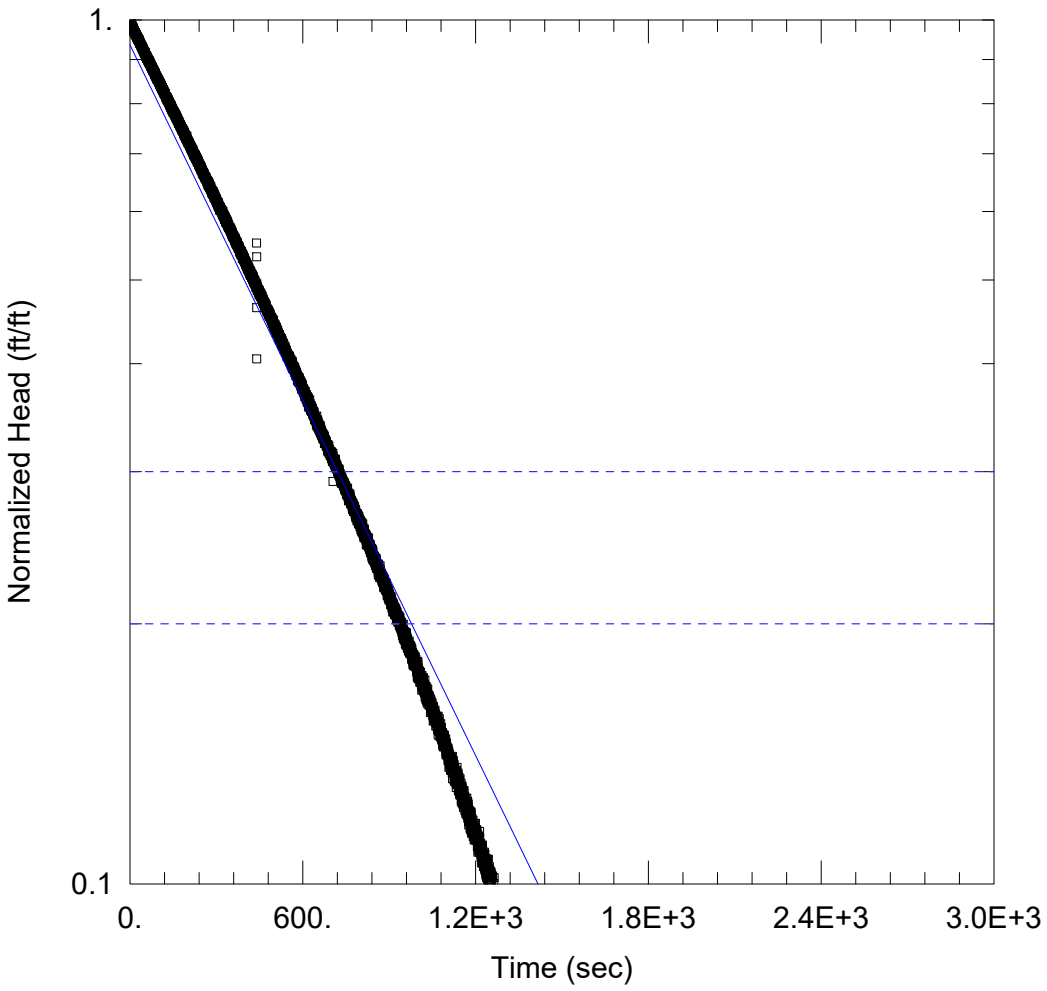
Saturated Thickness: 85.3 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B-113D)

Initial Displacement: -0.852 ft
Total Well Penetration Depth: 86. ft
Casing Radius: 0.081 ft
Static Water Column Height: 85.3 ft
Screen Length: 10. ft
Well Radius: 0.081 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0007891 cm/sec
y0 = -0.3575 ft



B-115D TEST 1 SLUG IN

Data Set: C:\...\B-115D SLUG IN.aqt
Date: 07/28/21 Time: 11:16:16

PROJECT INFORMATION

Company: Golder
Client: Southern Company
Project: 166849621
Location: McDonough
Test Well: B-115D
Test Date: 05/2021

AQUIFER DATA

Saturated Thickness: 62.97 ft Anisotropy Ratio (Kz/Kr): 1.

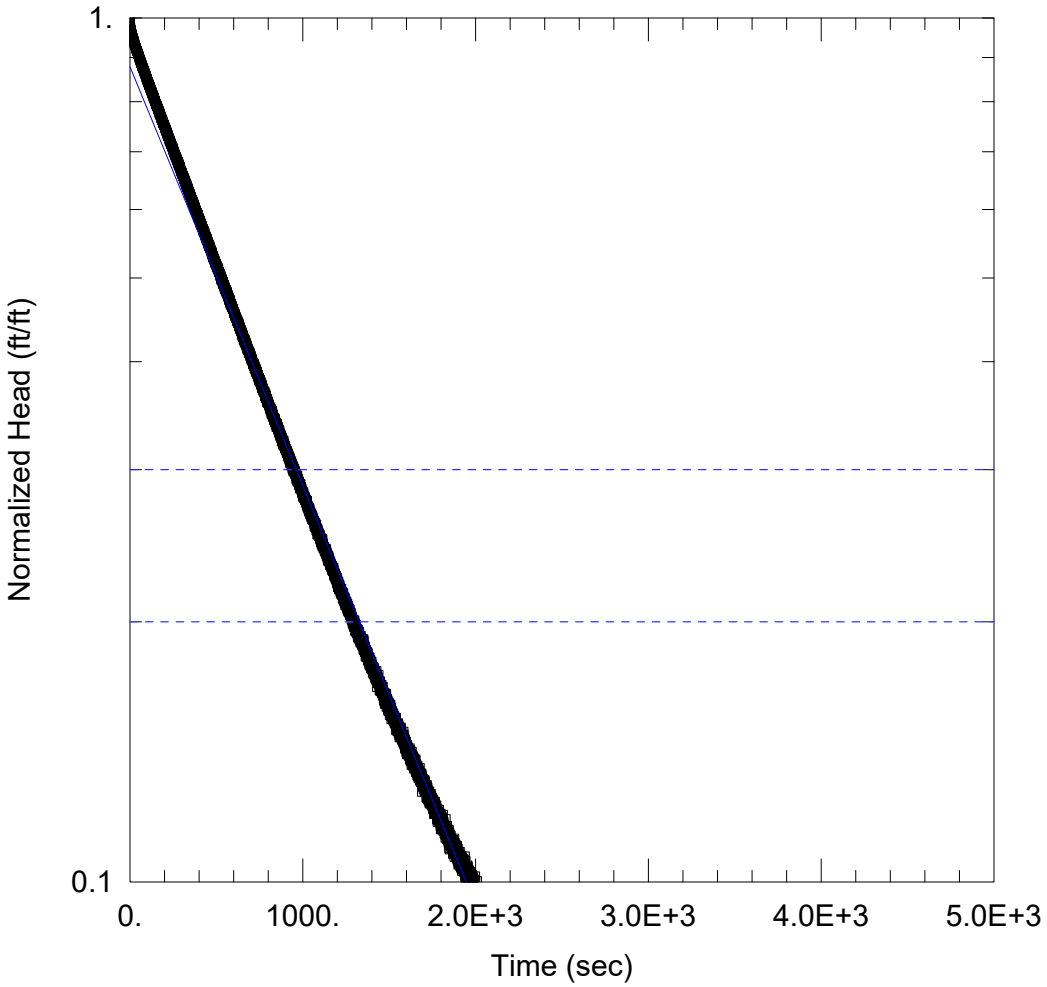
WELL DATA (B-115D)

Initial Displacement: 1.957 ft
Total Well Penetration Depth: 83. ft
Casing Radius: 0.081 ft
Static Water Column Height: 62.97 ft
Screen Length: 10. ft
Well Radius: 0.081 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 6.826E-5 cm/sec
y0 = 1.83 ft



B-115D TEST 1 SLUG OUT

Data Set: C:\...\B-115D SLUG OUT.aqt
Date: 07/28/21 Time: 11:18:10

PROJECT INFORMATION

Company: Golder
Client: Southern Company
Project: 166849621
Location: McDonough
Test Well: B-115D
Test Date: 05/2021

AQUIFER DATA

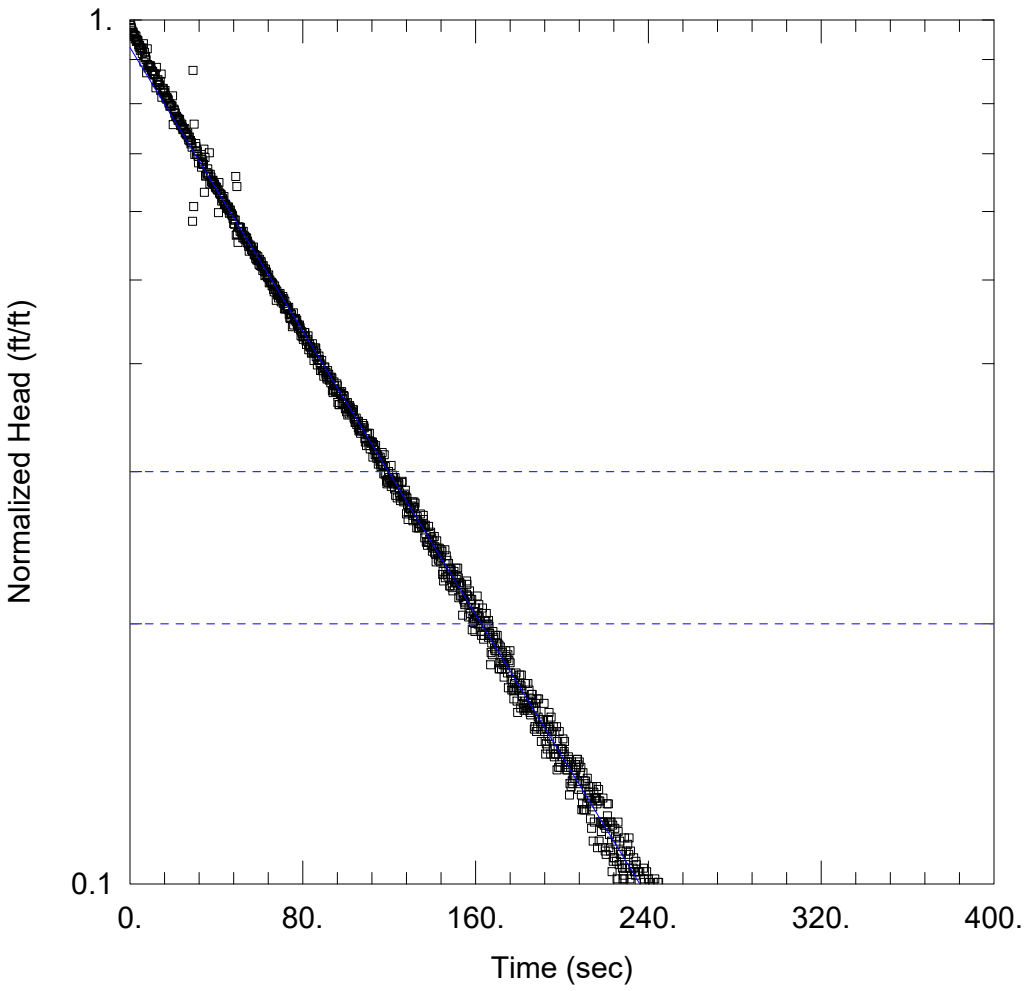
Saturated Thickness: 62.97 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B-115D)

Initial Displacement: -2.323 ft
Total Well Penetration Depth: 83. ft
Casing Radius: 0.081 ft
Static Water Column Height: 62.97 ft
Screen Length: 10. ft
Well Radius: 0.081 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 4.83E-5 cm/sec
y0 = -2.039 ft



B-116D TEST 1 SLUG IN

Data Set: C:\...\B-116D SLUG IN.aqt
Date: 07/28/21 Time: 11:19:30

PROJECT INFORMATION

Company: Golder
Client: Southern Company
Project: 166849621
Location: McDonough
Test Well: B-116D
Test Date: 05/2021

AQUIFER DATA

Saturated Thickness: 51.84 ft Anisotropy Ratio (Kz/Kr): 1.

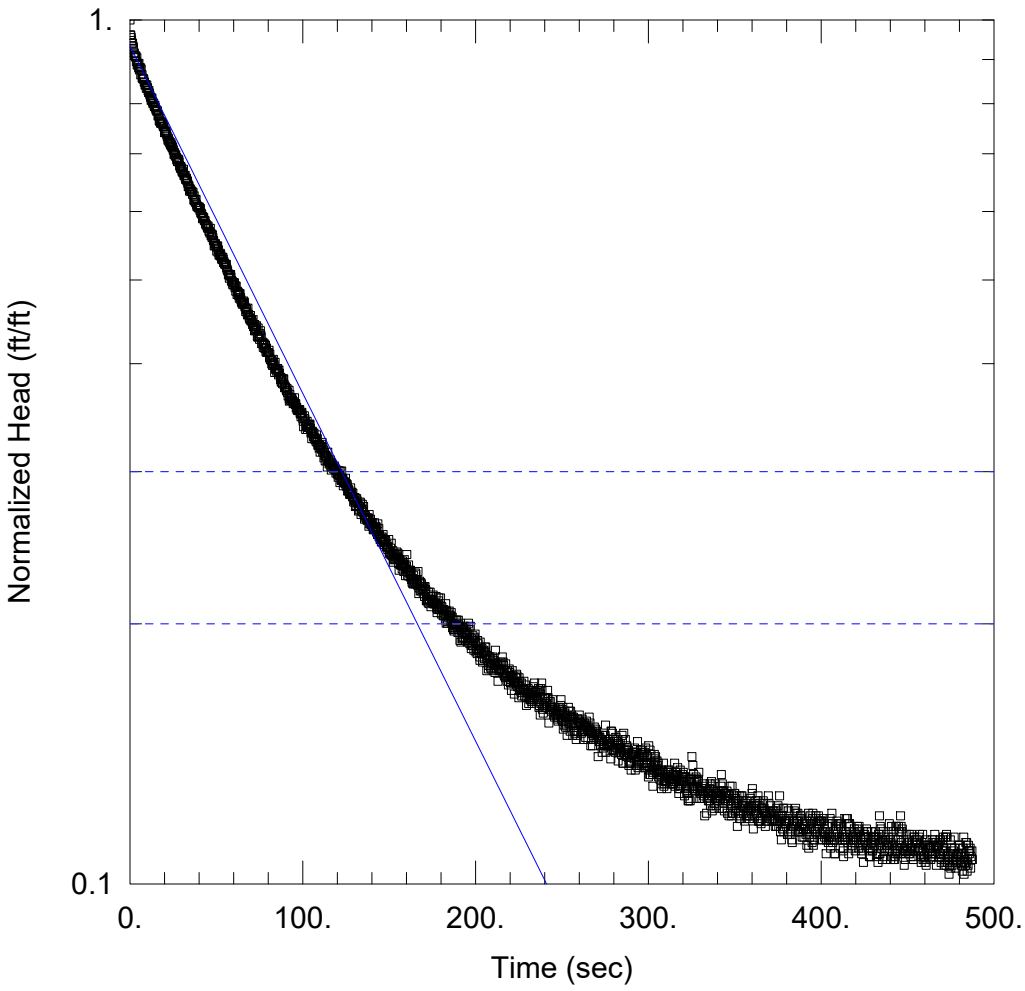
WELL DATA (B-116D)

Initial Displacement: 1.026 ft Static Water Column Height: 51.84 ft
Total Well Penetration Depth: 92.45 ft Screen Length: 10. ft
Casing Radius: 0.081 ft Well Radius: 0.081 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.0004135 cm/sec y0 = 0.9533 ft



B-116D TEST 1 SLUG OUT

Data Set: C:\...\B-116D SLUG OUT.aqt
Date: 07/28/21 Time: 11:21:20

PROJECT INFORMATION

Company: Golder
Client: Southern Company
Project: 166849621
Location: McDonough
Test Well: B-116D
Test Date: 05/2021

AQUIFER DATA

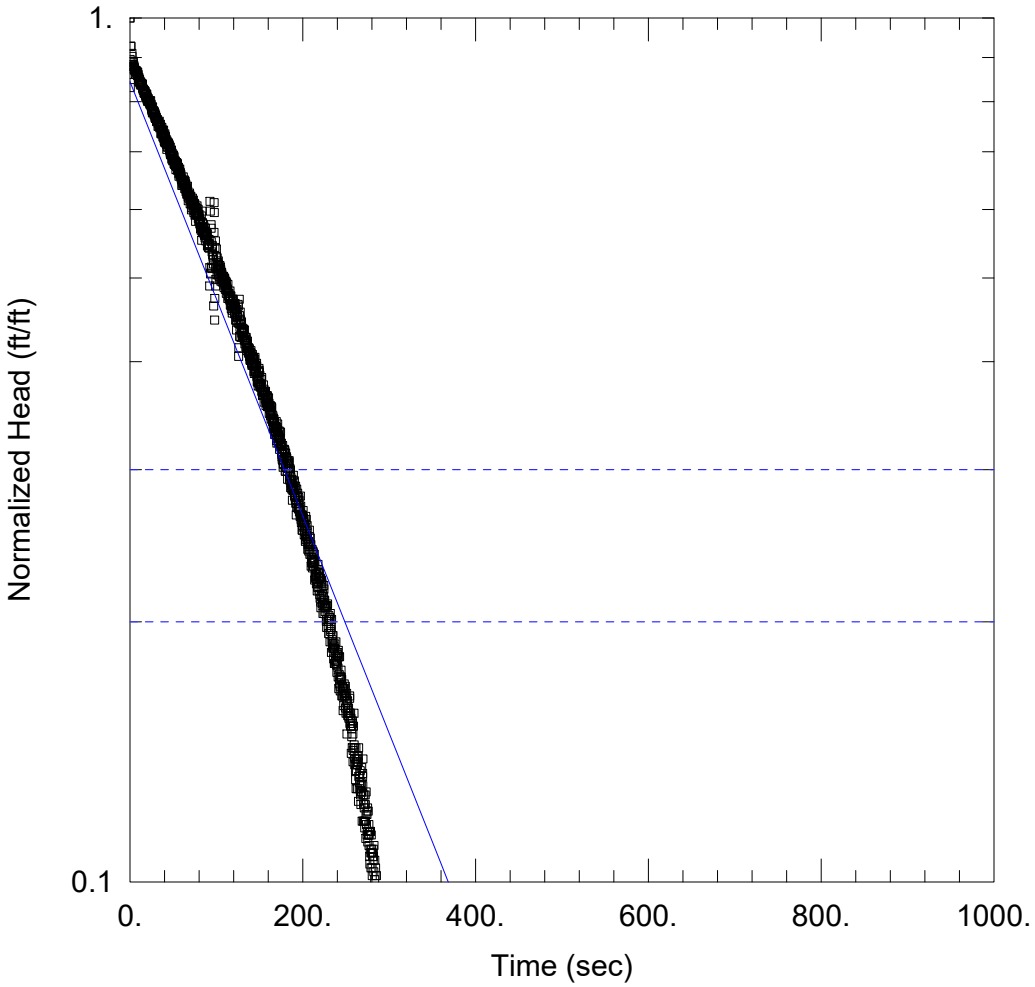
Saturated Thickness: 51.84 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B-116D)

Initial Displacement: -1.218 ft Static Water Column Height: 51.84 ft
Total Well Penetration Depth: 92.45 ft Screen Length: 10. ft
Casing Radius: 0.081 ft Well Radius: 0.081 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 0.0004057 cm/sec y0 = -1.137 ft



B-117D TEST 1 SLUG IN

Data Set: C:\...\B-117D SLUG IN.aqt
Date: 07/28/21 Time: 11:23:22

PROJECT INFORMATION

Company: Golder
Client: Southern Company
Project: 166849621
Location: McDonough
Test Well: B-117D
Test Date: 05/2021

AQUIFER DATA

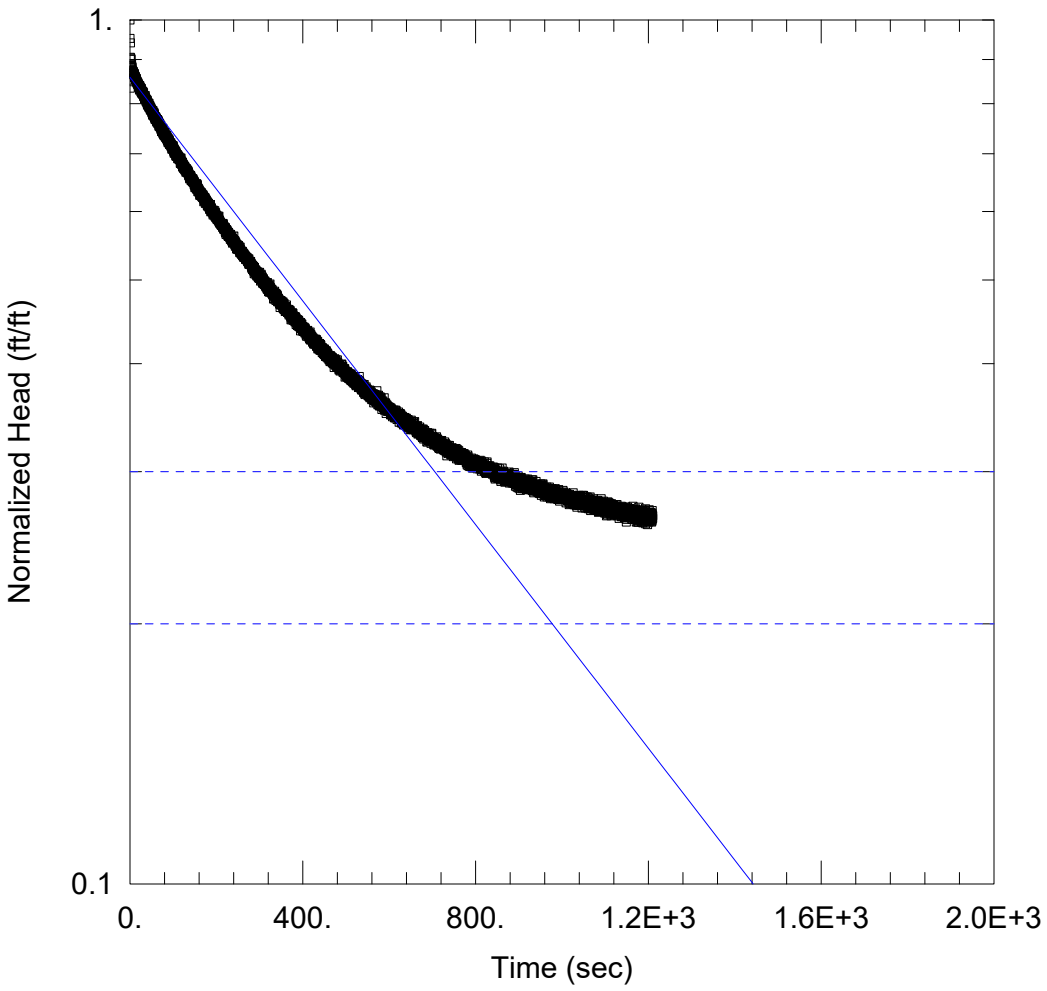
Saturated Thickness: 49.74 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B-117D)

Initial Displacement: 0.944 ft
Total Well Penetration Depth: 77.72 ft
Casing Radius: 0.081 ft
Static Water Column Height: 49.74 ft
Screen Length: 10. ft
Well Radius: 0.081 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0002485 cm/sec
y0 = 0.7965 ft



B-117D TEST 1 SLUG OUT

Data Set: C:\...\B-117D SLUG OUT.aqt
Date: 07/28/21 Time: 11:25:50

PROJECT INFORMATION

Company: Golder
Client: Southern Company
Project: 166849621
Location: McDonough
Test Well: B-117D
Test Date: 05/2021

AQUIFER DATA

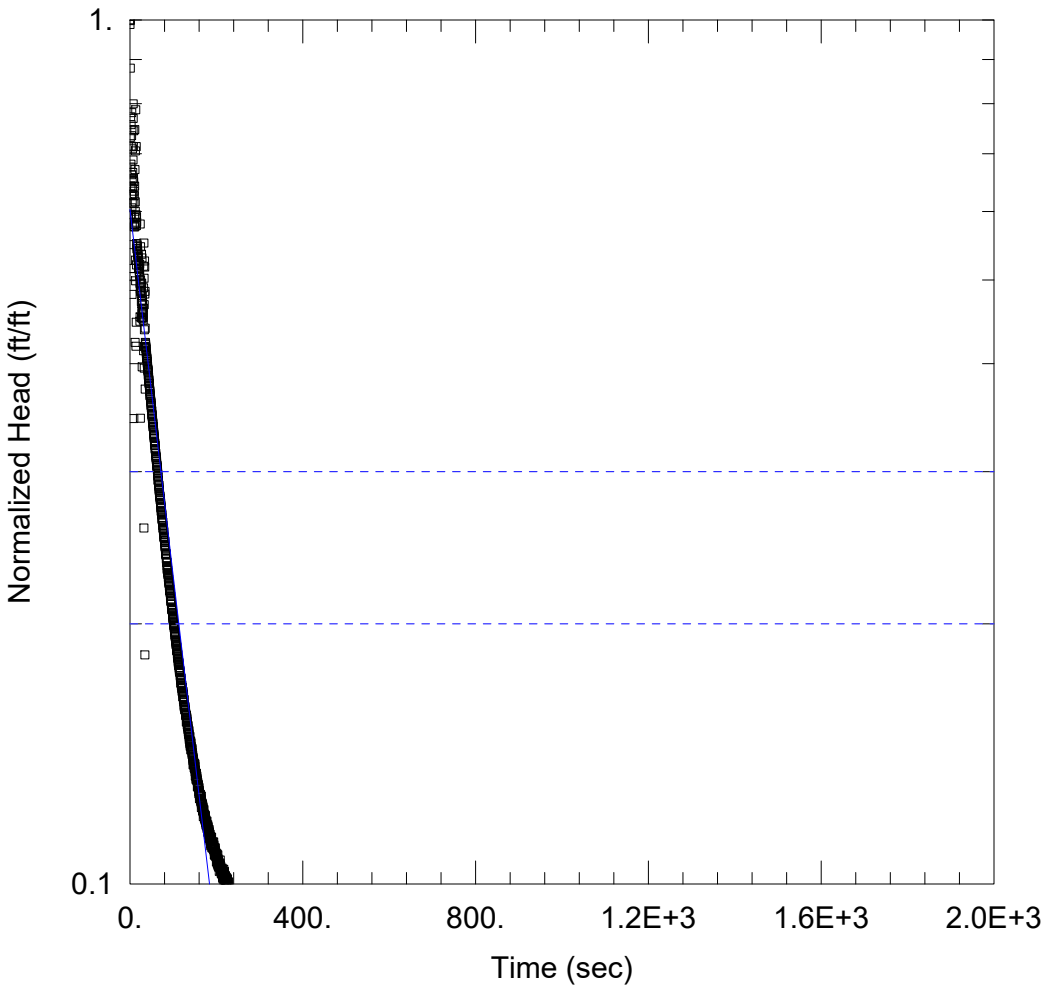
Saturated Thickness: 49.74 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B-117D)

Initial Displacement: -1.601 ft
Total Well Penetration Depth: 77.72 ft
Casing Radius: 0.081 ft
Static Water Column Height: 49.74 ft
Screen Length: 10. ft
Well Radius: 0.081 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 6.397E-5 cm/sec
y0 = -1.374 ft



B-118 TEST 1 SLUG IN

Data Set: C:\...\B-118 SLUG IN.aqt
Date: 07/28/21 Time: 11:28:08

PROJECT INFORMATION

Company: Golder
Client: Southern Company
Project: 166849621
Location: McDonough
Test Well: B-118
Test Date: 05/2021

AQUIFER DATA

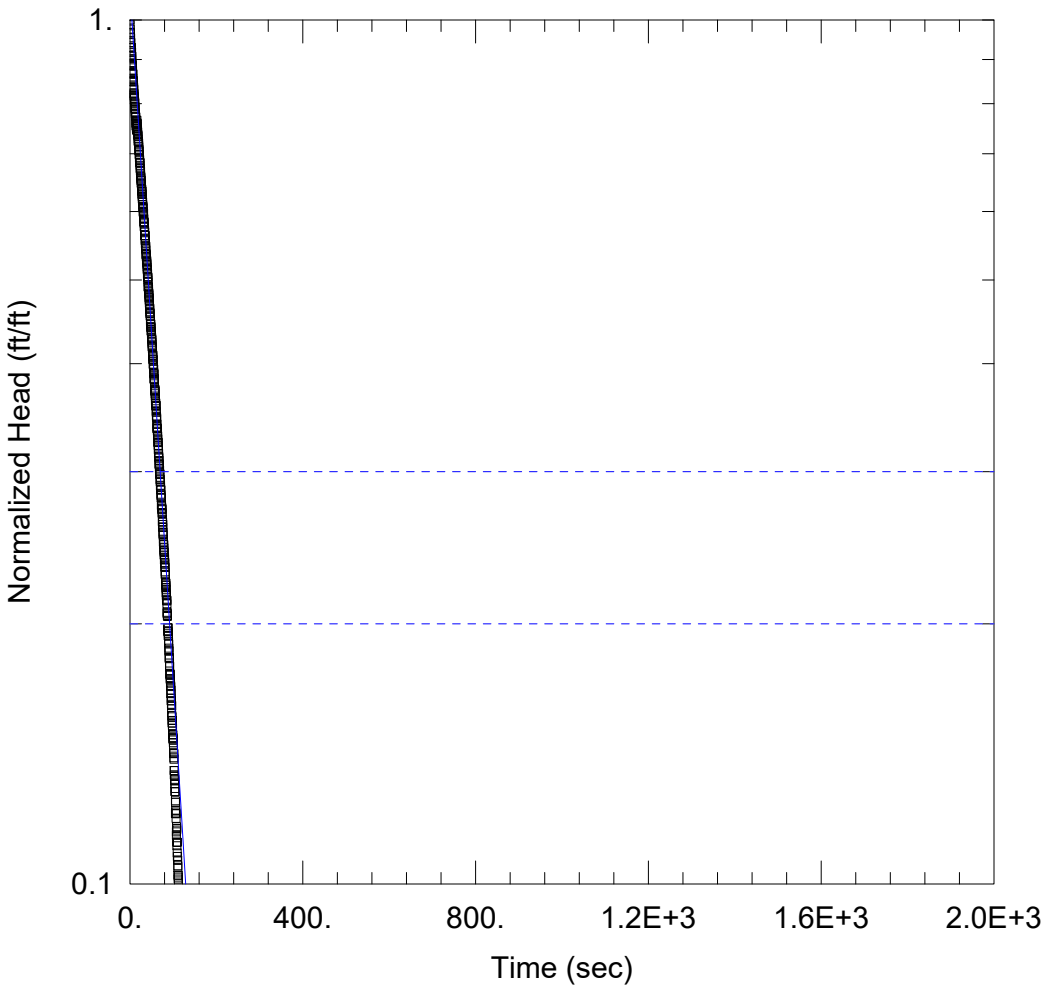
Saturated Thickness: 28.3 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B-118)

Initial Displacement: 3.443 ft
Total Well Penetration Depth: 78.3 ft
Casing Radius: 0.081 ft
Static Water Column Height: 28.3 ft
Screen Length: 10. ft
Well Radius: 0.081 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0004195 cm/sec
y0 = 2.078 ft



B-118 TEST 1 SLUG OUT

Data Set: C:\...\B-118 SLUG OUT.aqt
Date: 07/28/21 Time: 11:30:24

PROJECT INFORMATION

Company: Golder
Client: Southern Company
Project: 166849621
Location: McDonough
Test Well: B-118
Test Date: 05/2021

AQUIFER DATA

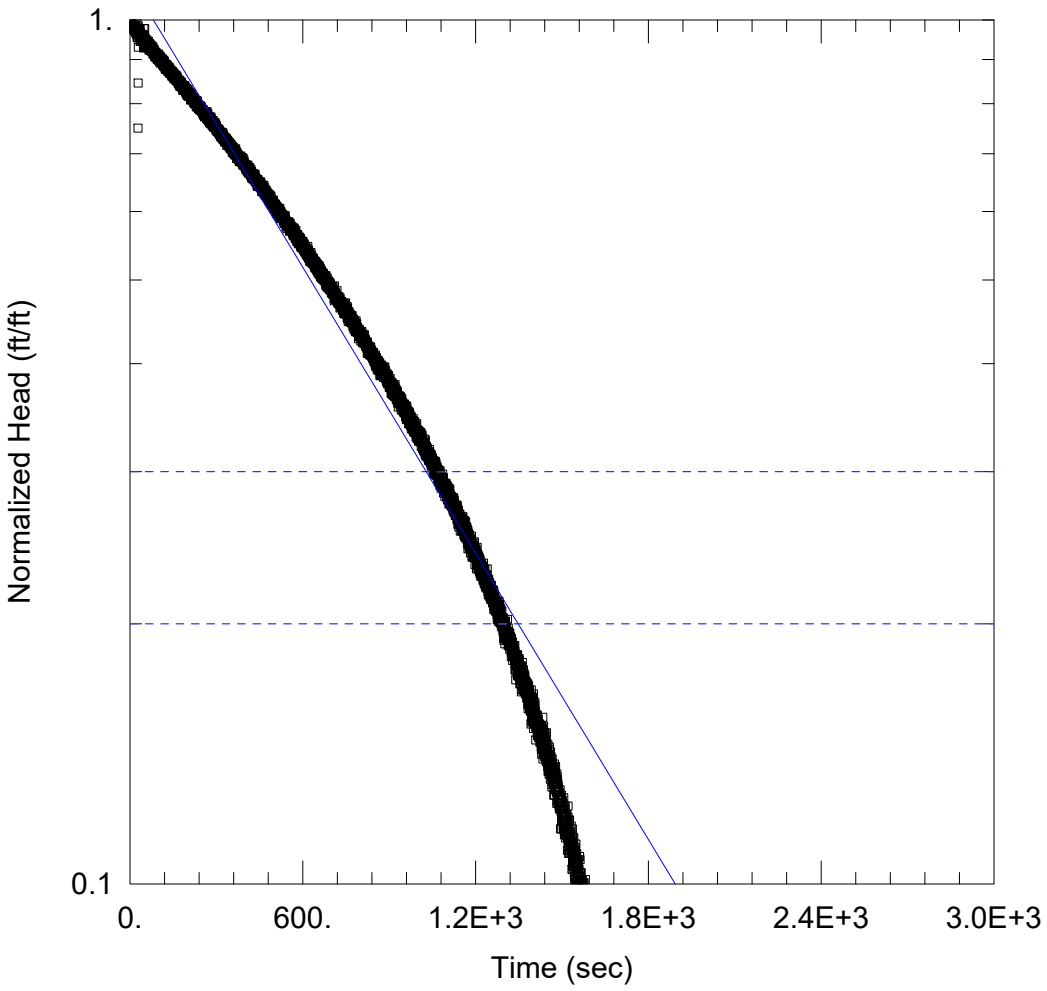
Saturated Thickness: 28.3 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B-118)

Initial Displacement: -1.915 ft
Total Well Penetration Depth: 78.3 ft
Casing Radius: 0.081 ft
Static Water Column Height: 28.3 ft
Screen Length: 10. ft
Well Radius: 0.081 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0007961 cm/sec
y0 = -2.093 ft



B-119D TEST 1 SLUG IN

Data Set: C:\...\B-119D SLUG IN.aqt
Date: 07/28/21 Time: 11:34:09

PROJECT INFORMATION

Company: Golder
Client: Southern Company
Project: 166849621
Location: McDonough
Test Well: B-119D
Test Date: 05/2021

AQUIFER DATA

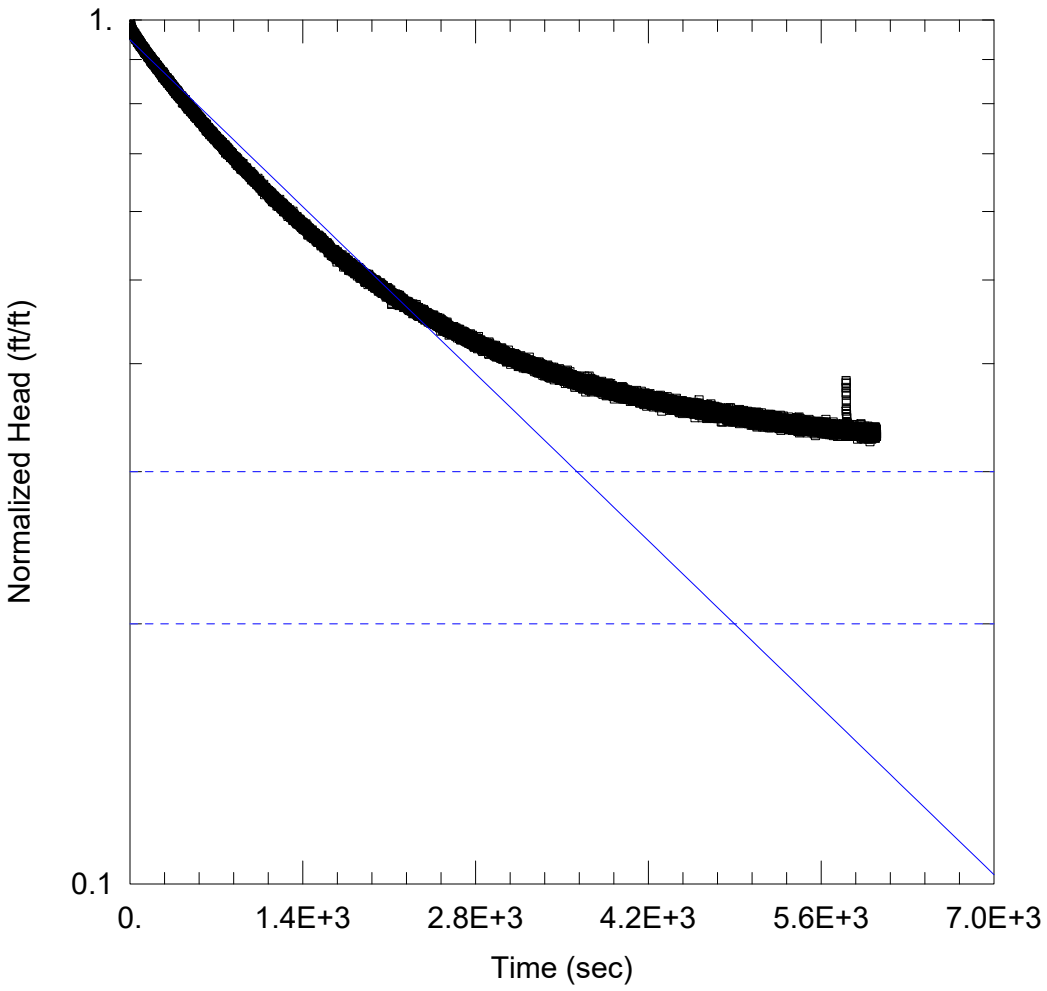
Saturated Thickness: 61.12 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B-119D)

Initial Displacement: 1.097 ft
Total Well Penetration Depth: 108. ft
Casing Radius: 0.081 ft
Static Water Column Height: 61.12 ft
Screen Length: 10. ft
Well Radius: 0.081 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 5.662E-5 cm/sec
y0 = 1.216 ft



B-119D TEST 1 SLUG OUT

Data Set: C:\...\B-119D SLUG OUT.aqt
Date: 07/28/21 Time: 11:36:04

PROJECT INFORMATION

Company: Golder
Client: Southern Company
Project: 166849621
Location: McDonough
Test Well: B-119D
Test Date: 05/2021

AQUIFER DATA

Saturated Thickness: 61.12 ft Anisotropy Ratio (Kz/Kr): 1.

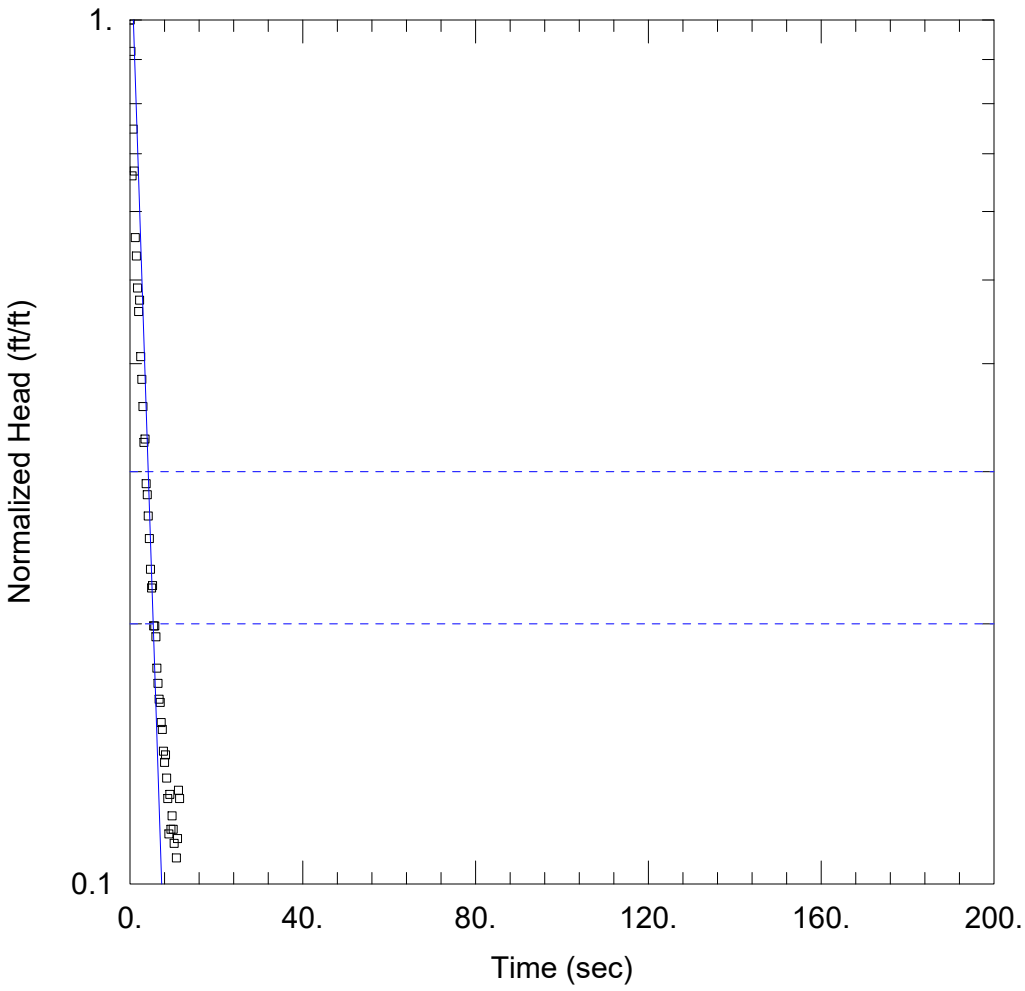
WELL DATA (B-119D)

Initial Displacement: -1.302 ft Static Water Column Height: 61.12 ft
Total Well Penetration Depth: 108. ft Screen Length: 10. ft
Casing Radius: 0.081 ft Well Radius: 0.081 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 1.416E-5 cm/sec y0 = -1.235 ft



B-120D TEST 1 SLUG IN

Data Set: C:\...\B-120D SLUG IN (1).aqt
Date: 07/28/21 Time: 11:49:22

PROJECT INFORMATION

Company: Golder
Client: Southern Company
Project: 166849621
Location: McDonough
Test Well: B-120D
Test Date: 05/2021

AQUIFER DATA

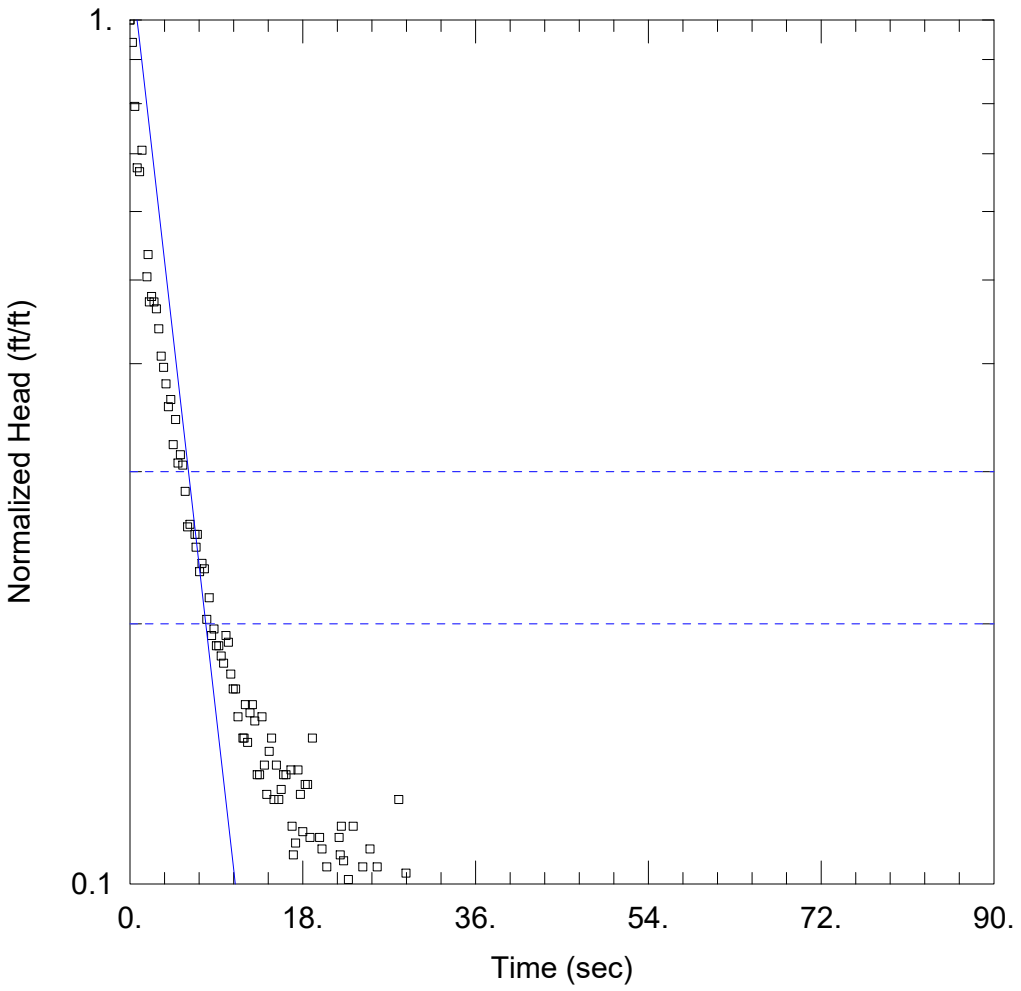
Saturated Thickness: 38.16 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B-120D)

Initial Displacement: 0.709 ft
Total Well Penetration Depth: 72.13 ft
Casing Radius: 0.081 ft
Static Water Column Height: 38.16 ft
Screen Length: 10. ft
Well Radius: 0.081 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.01495 cm/sec
y0 = 0.9366 ft



B-120D TEST 2 SLUG IN

Data Set: C:\...\B-120D SLUG IN (2).aqt
Date: 07/28/21 Time: 11:58:08

PROJECT INFORMATION

Company: Golder
Client: Southern Company
Project: 166849621
Location: McDonough
Test Well: B-120D
Test Date: 05/2021

AQUIFER DATA

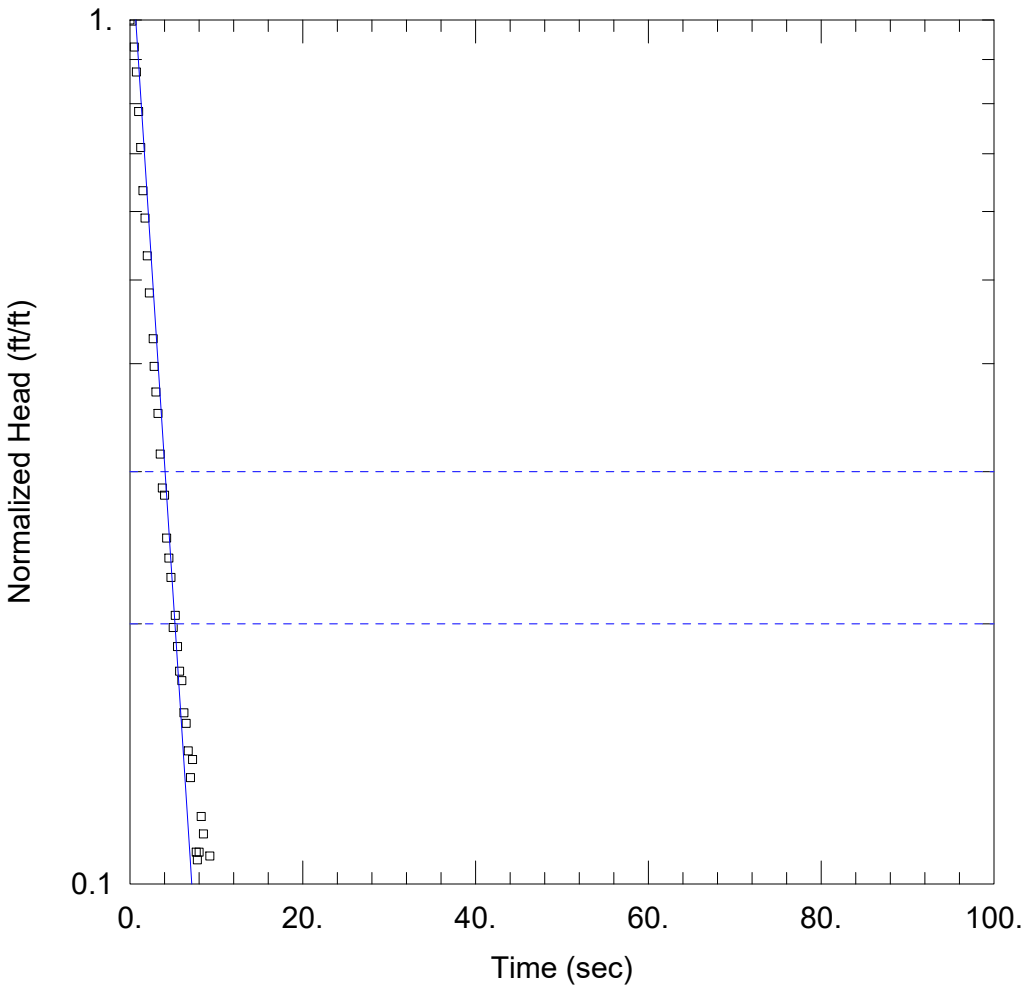
Saturated Thickness: 38.16 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B-120D)

Initial Displacement: 0.583 ft
Total Well Penetration Depth: 72.13 ft
Casing Radius: 0.081 ft
Static Water Column Height: 38.16 ft
Screen Length: 10. ft
Well Radius: 0.081 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.009578 cm/sec
y0 = 0.6895 ft



B-120D TEST 1 SLUG OUT

Data Set: C:\...\B-120D SLUG OUT (1).aqt
Date: 07/28/21 Time: 12:01:07

PROJECT INFORMATION

Company: Golder
Client: Southern Company
Project: 166849621
Location: McDonough
Test Well: B-120D
Test Date: 05/2021

AQUIFER DATA

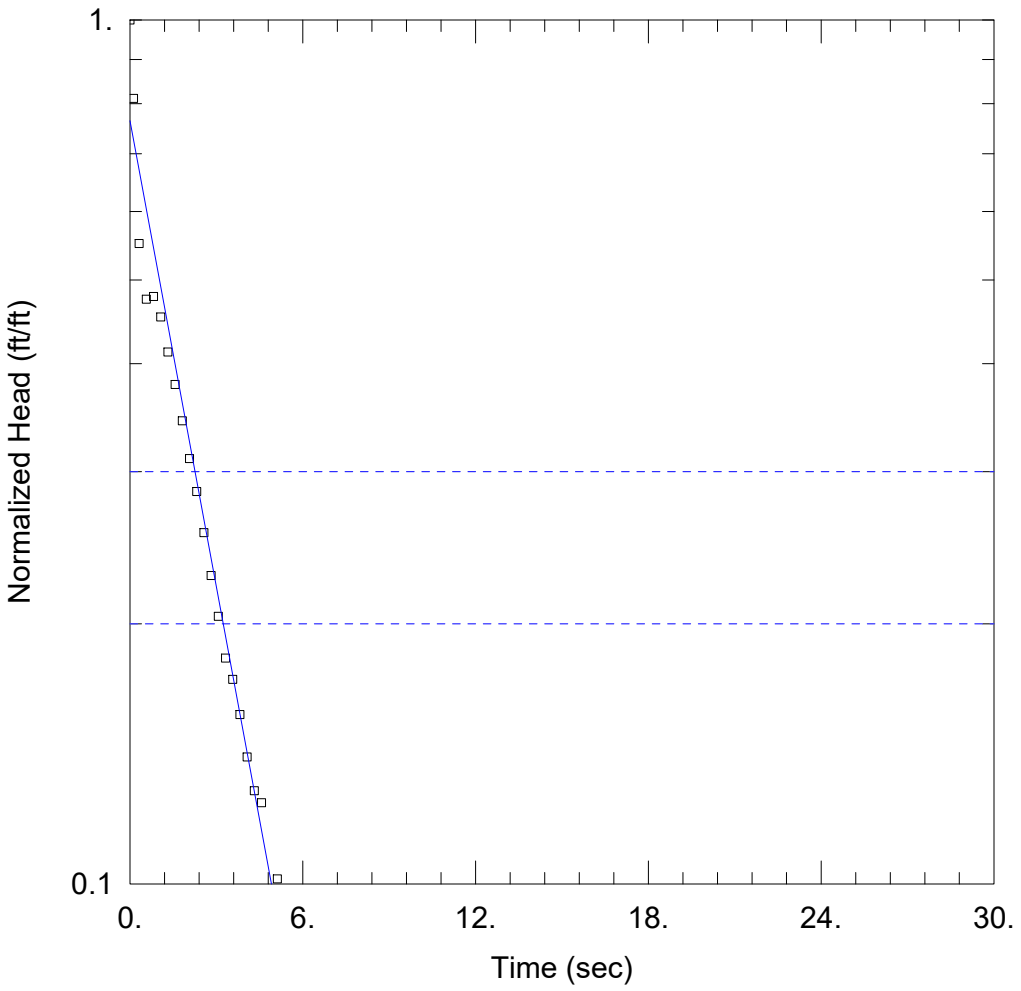
Saturated Thickness: 38.16 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B-120D)

Initial Displacement: -0.919 ft
Total Well Penetration Depth: 72.13 ft
Casing Radius: 0.081 ft
Static Water Column Height: 38.16 ft
Screen Length: 10. ft
Well Radius: 0.081 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0151 cm/sec
y0 = -1.165 ft



B-120D TEST 2 SLUG OUT

Data Set: C:\...\B-120D SLUG OUT (2).aqt
Date: 07/28/21 Time: 12:03:40

PROJECT INFORMATION

Company: Golder
Client: Southern Company
Project: 166849621
Location: McDonough
Test Well: B-120D
Test Date: 05/2021

AQUIFER DATA

Saturated Thickness: 38.16 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B-120D)

Initial Displacement: -1.49 ft Static Water Column Height: 38.16 ft
Total Well Penetration Depth: 72.13 ft Screen Length: 10. ft
Casing Radius: 0.081 ft Well Radius: 0.081 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 0.01762 cm/sec y0 = -1.139 ft

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