Prepared for

Georgia Power Company
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2019 ANNUAL GROUNDWATER MONITORING & CORRECTIVE ACTION REPORT

GEORGIA POWER COMPANY
PLANT HAMMOND ASH POND 3 (AP-3)

Prepared by

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Project Number GW6581

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CERTIFICATION STATEMENT

This *2019 Annual Groundwater Monitoring & Corrective Action Report, Georgia Power Company - Plant Hammond – Ash Pond 3 (AP-3)* 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 by a qualified groundwater scientist or engineer with Geosyntec Consultants.

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AP	ash pond
CCR	coal combustion residuals
CFR	Code of Federal Regulations
CFS	Civil Field Services
cm/sec	centimeters per second
DO	dissolved oxygen
ft AMSL	feet above mean sea level
ft/day	feet per day
ft/ft	feet per foot
GA EPD	Georgia Environmental Protection Division
GPC	Georgia Power Company
GWPS	Groundwater Protection Standard
HAR	Hydrogeologic Assessment Report
HDPE	high density polyethylene
K_h	horizontal hydraulic conductivity
mg/L	milligram per liter
NELAP	National Environmental Laboratory Accreditation Program
NTU	Nephelometric turbidity units
Pace Analytical	Pace Analytical Services, LLC.
PE	professional engineer
PL	prediction limit
QA/QC	Quality Assurance/Quality Control
SCS	Southern Company Services
SSI	statistically significant increase
s.u.	standard unit
TDS	total dissolved solids
USEPA	United States Environmental Protection Agency

1.0 INTRODUCTION

In accordance with the United States Environmental Protection Agency (USEPA) coal combustion residual (CCR) rule [40 Code of Federal Regulations (CFR) Part 257, Subpart D] and the Georgia Environmental Protection Division (GA EPD) Rules for Solid Waste Management 391-3-4-.10, Geosyntec Consultants has prepared this *2019 Annual Groundwater Monitoring & Corrective Action Report* to document groundwater monitoring activities conducted at Georgia Power Company (GPC) Plant Hammond (Site) Ash Pond 3 (AP-3).

Groundwater monitoring and reporting for the CCR unit is performed in accordance with the monitoring requirements of 40 CFR 257.90 through 257.91 and 257.93 through 257.94 of the Federal CCR rule, and GA EPD Rules for Solid Waste Management 391-3-4-.10(6). To specify groundwater monitoring requirements, GA EPD rule 391-3-4-.10(6)(a) incorporates by reference the USEPA CCR Rule. For ease of reference, the USEPA CCR rules are cited within this report.

AP-3 ceased receiving waste prior to the effective date of the CCR rule promulgated in April 2015. A notification of intent to initiate closure of the inactive CCR surface impoundment was certified on December 7, 2015, and posted to GPC's website. Groundwater monitoring and reporting for AP-3 are being completed in accordance with the alternate schedule in 40 CFR 257.100(e)(5) of the revised CCR rule (August 5, 2016).

This report documents groundwater monitoring activities completed in support of establishing the detection monitoring program for AP-3 and includes the required report components in accordance with 40 CFR 257.90(e).

1.1 Site Description and Background

Plant Hammond is located in Floyd County, Georgia, approximately 10 miles west of Rome and is bordered by Georgia Highway 20 (GA-20) on the north, the Coosa River on the south, Cabin Creek and industrial land on the east, and sparsely populated, forested, rural and industrial land on the west (**Figure 1**). The physical address of the plant is 5963 Alabama Highway, Rome, Georgia, 30165.

AP-3 is a 25-acre former ash pond that was constructed in 1973 and 1974. Ash sluicing and placement operations at AP-3 commenced in June 1977. In the early 1980's, AP-3 was converted into a dry ash disposal area and in the early 1990's the pond stopped receiving CCR materials.

Closure of AP-3 commenced in 2016. As part of closure, AP-3 was dewatered sufficiently to remove the free liquids. The CCR material remaining in AP-3 was graded and a final cover system installed. The final cover was constructed to control, minimize or eliminate, to the maximum extent feasible, the infiltration of liquids into the waste by providing sufficient grades and slopes to promote surface runoff from the unit. The final cover system consists of a 60-mil high density polyethylene (HDPE) liner, geocomposite drainage media, a minimum 18-inch thick protective soil cover, and a 6-inch thick vegetative layer. Final capping of the pond with a low-permeability cover system was completed in the second quarter of 2018.

1.2 Regional Geology & Hydrogeologic Setting

The following section summarizes the geologic and hydrogeologic conditions at the Site as described in the AP-3 Hydrogeologic Assessment Report (HAR) submitted to GA EPD as supporting documents for the closure permit application.

1.2.1 Regional and Site Geology

The Site is located in the Valley and Ridge Physiographic Province of northwest Georgia, which is characterized by Paleozoic sedimentary rocks that have been folded and faulted into the ridges and valleys that gave this region its name. Geologic mapping performed at the Site by Petrologic Solutions, Inc. under the direction of Golder (Golder, 2018) indicates that AP-3 is underlain by the middle units of the Cambrian age Conasauga Formation, consisting of mostly shaley limestone. Based on review of site-specific subsurface investigations, the bedrock at AP-3 was identified as limestone or shaley limestone. AP-3 is underlain primarily by five lithologic units; (i) fill material, (ii) terrace alluvium, (iii) residuum, (iv) highly weathered limestone bedrock, and (v) unweathered limestone bedrock.

Based on subsurface investigations the fill is composed of lean clay or gravelly lean clay with sand, sometimes identified by the presence of wood or roots. The terrace alluvium consists of unconsolidated sediments with high sand and gravel content associated with deposition from the Coosa River and Cabin Creek. Residual or native soils have been derived from the in-place weathering of the shaley limestone bedrock. The residuum is generally described as fat clay with typically only trace amounts of sand, and rarely gravel. Just below the residuum clay layer is a gradational zone of varying proportions of clayey residuum and sand, gravel, and cobble-sized angular pieces of partially weathered limestone, grading into a zone of fractured limestone, before grading into

unweathered, fresh limestone. The upper highly weathered zone appears more as residuum with various sized rock fragments. The lower zone becomes less clayey with depth and is estimated to be approximately 5 feet thick. Most of the limestone is described as medium to dark gray with a slabby or flaggy habit when broken in pieces by the sonic drilling. The limestone is very finely laminated with lighter and darker gray layers, and also contains interbeds of calcareous shale.

1.2.2 Hydrogeologic Setting

The uppermost aquifer at AP-3 is a regional groundwater aquifer that occurs in the terrace alluvium, residuum, and the weathered and fractured bedrock. The uppermost aquifer is considered to be unconfined; however, localized, semi-confined conditions may be encountered due to the low-permeability clayey nature of the residual soils, or as a result of perched groundwater or poorly interconnected fracture networks in the bedrock. Based on observations of soil types and horizontal conductivity values, the movement of groundwater in the soil, and to some degree the highly weathered bedrock zone, can be characterized as low-to moderate permeability, porous media flow. Groundwater flow in the more competent underlying bedrock is characterized as fracture flow, and flow direction within the area of AP-3 is generally from west to east.

1.3 Groundwater Monitoring Well Network

In accordance with 40 CFR 257.91, a groundwater monitoring system was installed at AP-3 that (1) consists of a sufficient number of wells, (2) is installed at appropriate locations and depths to yield groundwater samples from the uppermost aquifer, and (3) represents the groundwater quality both upgradient of the units (i.e., background conditions) and passing the waste boundary of the units. The number, spacing, and depths of the groundwater monitoring wells were selected based on the characterization of site-specific hydrogeologic conditions. The well network was certified by a professional engineer (PE) on April 17, 2019; the certification is maintained in the AP-3 Operating Records.

The certified compliance monitoring well network for AP-3 consists of four monitoring wells. A network of piezometers has been installed at the Site that are used to gauge water levels to define groundwater flow direction and gradients. The locations of the compliance monitoring well network and secondary groundwater level monitoring piezometers associated with AP-3 are shown on **Figure 2**; well construction details are listed in **Table 1**.

2.0 GROUNDWATER MONITORING ACTIVITIES

In accordance with 40 CFR 257.90(e), the following describes groundwater monitoring-related activities performed for AP-3 since August 2016 in support of establishing the detection monitoring program for the CCR unit in accordance with 40 CFR 257.94. All groundwater sampling was performed in accordance with 40 CFR 257.93.

2.1 Monitoring Well Installation and Maintenance

Five groundwater monitoring wells (HGWA-122, HGWC-120, HGWC-121, HGWC-121A, HGWC-124) and five groundwater level monitoring piezometers (MW-21, MW-23, MW-25, MW-26, MW-27) were installed at or near AP-3 between November 2014 and July 2017. Piezometers MW-25, MW-26, and MW-27 were abandoned June 9, 2015, and well HGWC-121 was abandoned on January 13, 2017, as part of the AP-3 closure activities. Well HGWC-121 was replaced with HGWC-121A on May 17, 2017. Details regarding the installation and abandonment of these wells and piezometers are presented in the *Well Design, Installation, and Development Report – Plant Hammond Ash Pond 3 (AP-3)* (Geosyntec, 2019). Well construction details for the current certified well network and supporting piezometers are presented in **Table 1**.

The well and piezometer networks are inspected during each groundwater monitoring event using GA EPD-based inspection criteria. Any issues identified with the wells (e.g., clogged weep holes within the outer protective casing, faded well identification signage, rusted locks and/or latches, etc.) are addressed before the following groundwater sampling event.

SCS Civil Field Services (CFS) installed a dedicated QED bladder pump with dedicated tubing in well HGWC-120 in April 2019.

2.2 Detection Monitoring Program

Pursuant to 40 CFR 257.94, GPC established a detection monitoring program for AP-3 which consisted of (i) collecting eight independent samples from the certified monitoring well network to establish a baseline dataset and (ii) conducting the initial semiannual detection monitoring sampling event. The detection monitoring event data are statistically compared against the background values in accordance with 40 CFR 257.93(h).

2.2.1 Background Monitoring

A minimum of eight independent samples were collected from each monitoring well within the well network and analyzed for Appendix III and IV constituents as part of the background monitoring period between August 2016 and October 2018 pursuant to 40 CFR 257.94(b). Pursuant to 40 CFR 257.90(e)(3), data reports for the background sampling events are included in **Appendix A**, Laboratory Analytical and Field Sampling Reports. The dates of the background sampling events are summarized in **Table 2**.

2.2.2 Initial Detection Monitoring

Following background monitoring (and prior to April 17, 2019), the initial detection monitoring event was completed by collecting an additional round of groundwater samples. Groundwater samples were collected from each monitoring well and analyzed for Appendix III constituents according to 40 CFR 257.94(a). Data reports for the initial detection monitoring event are included in **Appendix A**.

3.0 SAMPLING METHODOLOGY & ANALYSES

The following section presents a summary of the field sampling procedures that were used to collect groundwater samples at AP-3. Environmental Resources Management (ERM) of Atlanta, GA, completed the first six background sampling events (August 2016 to November 2017) and Geosyntec collected the remaining two background events and first detection monitoring event.

3.1 Groundwater Level Measurement

Prior to each sampling event, a synoptic round of depth-to-groundwater level measurements were recorded from the AP-3 wells and piezometers and used to calculate the groundwater elevations. The calculated groundwater elevations for the nine events are presented in **Table 3**. The groundwater elevations for the April 2019 event ranged from 580.29 feet above mean sea level (ft AMSL) in well MW-21 to 566.61 ft AMSL in well HGWC-120. The elevations reported for the April 2019 event are representative of the eight prior monitoring events.

The groundwater elevation data are used to generate a potentiometric surface contour map that depicts the groundwater elevation and inferred flow direction. The potentiometric surface map representing April 2019 data is provided on **Figure 3**. Groundwater in the AP-3 area flows under the influence of topography from slightly higher ground surface elevations on the western side of the Site towards lower elevations to the east of AP-3.

3.2 Groundwater Gradient and Flow Velocity

The representative groundwater hydraulic gradient within the uppermost aquifer beneath AP-3 was calculated using the April 2019 groundwater elevation data; the calculations are presented in **Table 4**. The representative gradient across AP-3 of 0.012 feet per foot (ft/ft) was measured along the direction of groundwater flow between identified potentiometric contour lines.

The approximate horizontal flow velocity associated with AP-3 groundwater was calculated using the following derivative of Darcy's Law.

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

where:

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

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

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

n_e = Effective porosity

Aquifer testing was conducted by LETCO in 1977, SCS in 2014, and Geosyntec in 2017 to evaluate hydraulic conditions in the vicinity of AP-3. Slug testing was performed to estimate the horizontal hydraulic conductivity (K_h) for units above the top of bedrock, while single packer testing was used to estimate the K_h for the bedrock intervals. Additional details are presented in the HAR.

The groundwater flow velocity calculation was performed using the geometric mean value for K_h of the residuum and highly weathered/fractured rock of 2.4×10^{-4} centimeters per second (cm/sec) or 0.67 feet per day (ft/day). An estimated effective porosity of 0.15 is used to represent average lithologic conditions at AP-3, derived based on review of literature, observed site lithology, and professional judgement. With these variables determined, and accounting for the hydraulic gradient discussed above, the groundwater flow velocity underneath AP-3 was calculated to be 0.054 ft/day.

3.3 Groundwater Sampling Procedures

Groundwater samples were collected from the compliance monitoring network using low-flow sampling procedures in accordance with 40 CFR 257.93(a). The wells were purged and sampled using a peristaltic pump equipped with new disposable polyethylene tubing. The exception are the samples collected from HGWC-120 during the April 2019 event. As noted in Section 2.1, SCS CFS installed a bladder pump with dedicated tubing in this well prior to the April 2019 event. A peristaltic pump was used to sample well HGWC-120 prior to April 2019. All non-disposable equipment was decontaminated before use and between well locations.

A SmarTroll (In-Situ field instrument) was used to monitor and record field water quality parameters listed below during well purging to verify stabilization prior to sampling. Turbidity was measured using a LaMotte 2020we® portable turbidimeter. Groundwater samples were collected when the following stabilization criteria were met:

- pH ± 0.1 Standard Units (s.u.).

- Conductivity ± 5%.
- ±0.2 milligrams per liter (mg/L) or ±10%, whichever is greater for dissolved oxygen (DO) > 0.5 mg/L. No criterion applies if DO < 0.5 mg/L, record only.
- Turbidity measured less than 10 nephelometric turbidity units (NTU).

Once stabilization was achieved, samples were collected into appropriately-preserved laboratory-supplied sample containers. Sample bottles were placed in ice-packed coolers and submitted to Pace Analytical Services, LLC. in Norcross, Georgia, following chain-of-custody protocol. The field sampling forms generated during the nine monitoring events are provided in **Appendix A**.

3.4 Laboratory Analyses

Laboratory analyses were performed by Pace Analytical Services, LLC. (Pace Analytical), which is accredited by the National Environmental Laboratory Accreditation Program (NELAP). Pace Analytical maintains a NELAP certification for the Appendix III and Appendix IV parameters analyzed for this project. Analytical methods used for groundwater sample analysis are listed in the analytical laboratory reports included in **Appendix A**.

The groundwater analytical results from the eight background sampling events and the initial detection monitoring program event are summarized in **Table 5**. The associated Pace Analytical laboratory reports are provided in **Appendix A**.

3.5 Quality Assurance & Quality Control Summary

Quality assurance/quality control (QA/QC) samples were collected during the groundwater monitoring events and included the following: field duplicates, equipment blanks, and field blank samples. QA/QC samples were collected in laboratory-provided bottles and submitted under the same chain of custody as the primary samples for analysis of the same parameters by Pace Analytical.

In addition to collecting QA/QC samples, the data were validated based on the pertinent methods referenced in the laboratory reports, professional and technical judgment and applicable federal guidance documents (USEPA, 2001, 2011, and 2017). Where necessary, the data were qualified with supporting documentation and justifications. The associated data validation report is provided in **Appendix A** with the laboratory reports.

4.0 STATISTICAL ANALYSIS

The following section summarizes the statistical analysis of Appendix III groundwater monitoring data performed pursuant to 40 CFR 257.93 following the PE-certified statistical method for AP-3.

4.1 Statistical Method

For the detection monitoring program, the following statistical methods were applied to evaluate the groundwater monitoring data:

- Interwell prediction limit (PL) method, combined with a 1-of-2 resample plan for boron, calcium, chloride, fluoride, sulfate, and total dissolved solids (TDS); and

- Intrawell PL method, combined with a 1-of-2 resample plan for pH.

Interwell PLs pool upgradient well data from well HGWA-122 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). Intrawell prediction limits use screened historical data within a given well to establish limits for parameters at that well. The most recent sample from the same well is compared to its respective background. An "initial exceedance" occurs when any downgradient well data exceed the PL.

If data from a detection monitoring sampling event initially exceed the PL, the resampling strategy will be used to verify the result. In resampling, independent resample(s) will be collected and evaluated within 90 days to determine whether the initial exceedance is verified. If the resample exceeds the PL, the initial exceedance is verified and an SSI of that Appendix III parameter is determined. When the resample result does not verify the initial result, the initial exceedance is considered an erroneous result and the resample value will replace the initial result.

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

- Statistical analyses are not performed on analytes containing 100% non-detects (USEPA, 2009).

- When data contain less than or equal to 15% non-detects in background, simple substitution of one-half the reporting limit is utilized in the statistical analysis.

The reporting limit utilized for non-detects is the practical quantitation limit (PQL) as reported by the laboratory.

- When data contain between 15-50% non-detects, a non-detect adjustment such as the Kaplan-Meier or Regression on Order Statistics (ROS) method for adjustment of the mean and standard deviation will be used prior to constructing a parametric PL.

- Nonparametric PLs are used on data containing greater than 50% non-detects.

The Sanitas™ groundwater statistical software was used to perform the statistical analyses. Sanitas™ is a decision-support software package, that incorporates the statistical tests required of Subtitle C and D facilities by USEPA regulations and guidance as recommended in the USEPA document *Statistical Analysis of Groundwater Data at RCRA Facilities Unified Guidance* (Unified Guidance) (USEPA, 2009).

Time series plots generated by Sanitas™ 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 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.

4.2 Statistical Analyses Results

Initial statistical analysis identified preliminary PL exceedances of Appendix III parameters. A resampling event was conducted June 17-18, 2019. The resampling data are presented on **Table 5** with the associated lab reports provided in **Appendix A**. **Table B-1** in **Appendix B** presents a summarized comparison of the PLs to the April detection monitoring data and June resampling data. The interwell PLs provided in this report evaluate the April 2019 data except in cases where resamples were collected due to initial exceedances. In those cases, the June 2019 data are used for comparison in the PLs.

Using the Tukey box plot method, three outliers were identified. A summary of the findings is included in **Appendix B**. Of the outliers identified by Tukey's method, only one outlier was flagged for TDS in upgradient well HGWA-122. All other values are similar to remaining measurements within a given well or neighboring wells.

Based on review of the Appendix III statistical analysis presented in **Appendix B**, the following parameters represent SSIs over background PLs:

- Boron: HGWC-120, HGWC-121A, HGWC-124;
- Calcium: HGWC-120, HGWC-121A, HGWC-124;
- Chloride: HGWC-121A;
- Fluoride: HGWC-120;
- Sulfate: HGWC-120, HGWC-121A, HGWC-124;
- TDS: HGWC-120, HGWC-121A.

4.3 Appendix IV Background Data

Pursuant to 40 CFR 257.95, Appendix IV groundwater quality data is statistically analyzed and compared to groundwater protection standards if assessment monitoring is implemented. GPC is currently performing detection monitoring per 40 CFR 257.94 at AP-3 and has not implemented assessment monitoring. Therefore, statistical analysis of the Appendix IV data has not been performed.

5.0 MONITORING PROGRAM STATUS

Groundwater monitoring at AP-3 is currently being conducted under a detection monitoring program. SSIs of Appendix III parameters have been determined via statistical evaluation. Pursuant to 40 CFR 257.94(e), within 90 days from the determining an SSI, GPC will either (1) prepare a demonstration that a source other than AP-3 was the cause, or (2) implement assessment monitoring per 40 CFR 257.95. GPC will address the reported SSIs in accordance with the requirements, and options, of 40 CFR 257.94(e)(1-3) and (f).

6.0 CONCLUSIONS & FUTURE ACTIONS

This *2019 Annual Groundwater Monitoring & Corrective Action Report* for GPC's Plant Hammond AP-3 was prepared to fulfill the requirements of USEPA's CCR Rule and GA EPD Rules for Solid Waste Management 391-3-4-.10. Statistical evaluations of the groundwater monitoring data identified SSIs of Appendix III groundwater monitoring parameters. In accordance with 40 CFR 257.94(e)(1,2), GPC will either initiate an assessment monitoring program or prepare an alternate source demonstration within 90 days of this report.

The second 2019 semiannual groundwater monitoring event is planned for the fall of 2019.

7.0 REFERENCES

Geosyntec Consultants, 2019. *Well Design, Installation, and Development Report – Plant Hammond Ash Pond 3 (AP-3).* April 2019

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TABLES

Table 1

Monitoring Well Network Summary

Plant Hammond AP-3, Floyd County, Georgia

Well ID	Hydraulic Location	Installation Date	Northing [(1)]	Easting [(1)]	Top of Casing Elevation (ft AMSL)	Top of Screen Elevation (ft AMSL)	Bottom of Screen Elevation (ft AMSL)	Well Depth (ft BTOC) [(2)]	Screen Interval Length
Compliance Monitoring Well									
HGWA-122	Upgradient	11/20/2014	1551251.86	1941888.49	588.05	569.93	559.93	28.52	10
HGWC-120	Downgradient	6/27/2016	1551067.08	1942925.07	605.92	548.37	538.37	67.55	10
HGWC-121A	Downgradient	5/17/2017	1550606.53	1943030.72	584.85	556.69	546.69	38.16	10
HGWC-124	Downgradient	11/13/2014	1551624.63	1942779.73	582.64	557.52	547.52	35.52	10
Groundwater Level Monitoring Piezometer									
MW-21	Downgradient	12/3/2014	1550268.83	1941809.72	586.39	570.01	560.01	26.78	10
MW-23	Downgradient	11/24/2014	1551642.86	1942496.25	585.09	562.48	552.48	33.01	10

Notes:

ft AMSL = feet above mean sea level

ft BTOC = feet below top of casing

(1) Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet.

(2) Total well depth accounts for sump if data provided on well construction logs.

Table 2
Groundwater Sampling Event Summary
Plant Hammond AP-3, Floyd County, Georgia

Well ID	Hydraulic Location	Aug 29-31, 2016	Oct 17, 20, 27, and Nov 7, 2016	Jan 13, 23, 25, and 27, 2017	May 22, 25, and Jun 3, 2017	Aug 9, 11, and Oct 2, 2017	Nov 13 and 15, 2017	Jun 4-5, 2018	Oct 1, 2, and 5, 2018	Apr 1-3, 2019	Jun 17-18, 2019	Status of Monitoring Well
Purpose of Sampling Event:		**Background**	**Background**	**Background**	**Background**	**Background**	**Background**	**Background**	**Background**	**Detection**	**Verification**	
HGWA-122	Upgradient	BG01	BG02	BG03	BG04	BG05	BG06	BG07	BG08	D01	V01	Detection
HGWC-120	Downgradient	BG01	BG02	BG03	BG04	BG05	BG06	BG07	BG08	D01	V01	Detection
HGWC-121 (1)	Downgradient	BG01	BG02	BG03	--	--	--	--	--	--	--	Abandoned
HGWC-121A (2)	Downgradient	--	--	--	BG04	BG05	BG06	BG07	BG08	D01	V01	Detection
HGWC-124	Downgradient	BG01	BG02	BG03	BG04	BG05	BG06	BG07	BG08	D01	V01	Detection

Notes:
-- = not available
BG## = Background monitoring event number
D## = Detection monitoring event number
V## = Verification event number
(1) Well abandoned on January 13, 2017, due to proximity to closure activities.
(2) Well installed May 17, 2017, as a replacement for HGWC-121.

Table 3

Summary of Groundwater Elevations

Plant Hammond AP-3, Floyd County, Georgia

Well ID	Top of Casing Elevation (ft AMSL) [1]	Aug 29, 2016 Groundwater Elevation (ft AMSL)	Oct 17, 2016 Groundwater Elevation (ft AMSL)	Jan 23, 2017 Groundwater Elevation (ft AMSL)	May 22, 2017 Groundwater Elevation (ft AMSL)	Aug 9, 2017 Groundwater Elevation (ft AMSL)	Nov 13, 2017 Groundwater Elevation (ft AMSL)	Jun 4, 2018 Groundwater Elevation (ft AMSL)	Oct 1, 2018 Groundwater Elevation (ft AMSL)	Apr 1, 2018 Groundwater Elevation (ft AMSL)
Compliance Monitoring Well										
HGWA-122	588.05	571.97	571.00	580.36	576.43	575.15	575.20	576.47	577.98	580.02
HGWC-120	605.92	565.52	565.05	568.96	566.32	544.33	565.47	568.12	566.07	566.61
HGWC-121[2]	584.00	566.96	566.33	--	--	--	--	--	--	--
HGWC-121A[3]	584.85	--	--	--	--	567.35	565.19	569.17	567.62	568.10
HGWC-124	582.64	564.57	564.08	574.54	566.76	566.84	566.68	569.19	568.66	569.14
Groundwater Level Monitoring Piezometer										
MW-21	586.39	576.05	575.28	583.02	579.47	579.35	578.45	578.88	579.96	580.29
MW-23	585.09	569.00	568.29	577.58	572.07	571.69	571.60	572.71	573.94	575.42

Notes:

-- = not available

ft AMSL = feet above mean sea level

(1) Survey data recorded March 14, 2018. Data for HGWC-121 based on historical records.

(2) Well abandoned on January 13, 2017, due to proximity to closure activities.

(3) Well installed May 17, 2017, as a replacement for HGWC-121.

Table 4

Groundwater Gradient and Flow Velocity Calculations

Plant Hammond AP-3, Floyd County, Georgia

Hydraulic Gradient - April 1, 2019 Data				Groundwater Flow Velocity		
h_1 (ft)	**h_2 (ft)**	**Δl (ft)**	**Δh/Δl (ft/ft)**	**K (ft/d)**	**n**	**V (ft/d) (1)**
578	568	850	0.012	0.67	0.15	0.054

Notes:

ft = feet

ft/d = feet per day

ft/ft = feet per foot

h_1, h_2 = groundwater elevation for identified location

Δh/Δl = hydraulic gradient

K = hydraulic conductivity

Δl = distance between identified location 1 and 2

n = effective porosity

V = groundwater flow velocity

(1) Groundwater flow velocity equation: $V = [K * (\Delta h/\Delta l)] / n$

Table 5

Summary of Groundwater Analytical Data

Plant Hammond AP-3, Floyd County, Georgia

	Well ID:	HGWA-122	HGWA-122	HGWA-122	HGWA-122	HGWA-122	HGWA-122	HGWA-122	HGWA-122	HGWA-122	HGWA-122
	Sample Date:	08/30/2016	10/20/2016	01/25/2017	05/25/2017	08/11/2017	11/15/2017	06/05/2018	10/02/2018	4/2/2019	6/18/2019
	Parameter[1,2]										
APPENDIX III	Boron	0.277	0.336	0.274	0.298	0.285	0.322	0.24	0.28	0.18	0.25
	Calcium	71.3	90.3	77.3	69.9	79.5	72.8	71.4	66.6	60.9	75.0
	Chloride	2.8	2.8	2.8	2.9	3.0	3.1	3.0	3.1	3.6	3.2
	Fluoride	ND (0.19 J)	ND (0.13 J)	ND (0.22 J)	ND (0.12 J)	ND (0.12 J)	ND (0.05 J)	ND (0.15 J)	ND (0.22 J)	ND (0.20 J)	ND (0.14 J)
	pH [3]	6.75	6.73	6.88	6.55	6.56	6.47	6.66	6.44	6.57	6.46
	Sulfate	49	49	48	48	47	49	48.9	48.6	39.6	44.5
	TDS	280	265	371	237	253	261	276	256	814	233
APPENDIX IV	Antimony	ND	ND	ND	ND	ND	ND	ND	ND	--	--
	Arsenic	ND	ND	ND	ND	ND	ND	ND	ND	--	--
	Barium	0.0463	0.0431	0.0429	0.0447	0.0451	0.0439	0.040	0.042	--	--
	Beryllium	ND	ND	ND	ND	ND	ND	ND	ND	--	--
	Cadmium	ND	ND	ND	ND	ND	ND	ND	ND	--	--
	Chromium	ND	ND	ND	ND (0.0006 J)	ND (0.0007 J)	ND (0.0006 J)	ND	ND	--	--
	Cobalt	ND	ND	ND	ND	ND	ND	ND	ND	--	--
	Fluoride	ND (0.19 J)	ND (0.13 J)	ND (0.22 J)	ND (0.12 J)	ND (0.12 J)	ND (0.05 J)	ND (0.15 J)	ND (0.22 J)	ND (0.20 J)	ND (0.14 J)
	Lead	ND	ND	ND	ND	ND (0.0001 J)	ND (0.0002 J)	ND	ND	--	--
	Lithium	ND	ND	ND	ND	ND	ND	ND	ND	--	--
	Mercury	ND (0.000043 JB)	ND	ND (0.000040 J)	ND (0.000070 J)	ND	ND	ND	ND	--	--
	Molybdenum	ND (0.0026 J)	ND (0.005 J)	ND (0.0054 J)	ND (0.0018 J)	ND (0.0029 J)	ND (0.0018 J)	ND (0.0028 J)	ND	--	--
	Comb. Radium 226/228	0.972 U	0.496 U	1.13 U	0.192 U	0.908 U	0.662 U	0.593 U	1.37	--	--
	Selenium	ND	ND	ND	ND	ND	ND	ND	ND (0.0015 J)	--	--
	Thallium	ND	ND	ND	ND	ND	ND	ND	ND	--	--

Notes:

-- = Parameter was not analyzed

J = Indicates the parameter was estimated and detected between the method detection limit (MDL) and the reporting limit (RL)

JB = Indicates the parameter was estimated and detected in an associated blank at a similar level.

ND = Indicates the parameter was not detected above the analytical MDL

TDS = Total dissolved solids

U = Indicates the parameter was not detected above the minimum detection concentration (MDC, specific to combined radium)

(1) Appendix III/IV parameter per 40 CFR 257 Subpart D. Parameters are reported in units of milligrams per liter (mg/L), except for pH reported as s.u. (standard units) and combined radium reported as picocuries per liter (pCi/L).

(2) Metals were analyzed by EPA Method 6020B, anions were analyzed by EPA Method 300.0, TDS was analyzed by SM2540C, and combined radium by EPA Methods 9315/9320.

(3) The pH value presented was recorded at the time of sample collection in the field.

Table 5

Summary of Groundwater Analytical Data

Plant Hammond AP-3, Floyd County, Georgia

	Well ID:	HGWC-120	HGWC-120	HGWC-120	HGWC-120	HGWC-120	HGWC-120	HGWC-120	HGWC-120	HGWC-120	HGWC-120
	Sample Date:	08/31/2016	10/26/2016	01/27/2017	05/25/2017	10/02/2017	11/15/2017	06/05/2018	10/02/2018	4/2/2019	6/17/2019
	Parameter[1,2]										
APPENDIX III	Boron	0.981	1.28	1.19	1.33	1.19	1.24	1.2	1.2	1.1	1.1
	Calcium	152	156	157	173	168	182	161	174	150	164
	Chloride	3.5	3.6	3.3	3.4	4.2	2.9	3.1	3.2	3.1	--
	Fluoride	0.65	0.60	1.2	1.4	1.0	1.3	0.48	0.34	0.47	1.2
	pH [3]	6.73	6.77	6.74	6.99	7.66	6.71	6.83	6.83	6.87	6.79
	Sulfate	290	280	290	280	300	300	273	328	256	243
	TDS	700	795	706	669	672	721	723	703	540	--
APPENDIX IV	Antimony	ND	ND	ND	ND	ND	ND	ND	ND	--	--
	Arsenic	ND	ND	ND	ND (0.0014 J)	ND (0.0007 J)	ND	ND (0.0010 J)	ND	--	--
	Barium	0.045	0.0462	0.0451	0.0488	0.0479	0.0510	0.051	0.059	--	--
	Beryllium	ND	ND	ND	ND	ND	ND	ND	ND	--	--
	Cadmium	ND	ND	ND	ND	ND	ND	ND	ND	--	--
	Chromium	ND	ND	ND	ND	ND	ND	ND	ND	--	--
	Cobalt	ND (0.0052 J)	ND (0.0041 J)	ND (0.0034 J)	ND (0.0035 J)	ND (0.0036 J)	ND (0.0032 J)	ND (0.0031 J)	ND (0.0025 J)	--	--
	Fluoride	0.65	0.60	1.2	1.4	1.0	1.3	0.48	0.34	0.47	1.2
	Lead	ND	ND (0.0002 J)	ND	ND (0.000090 J)	ND (0.00008 J)	ND	ND	ND	--	--
	Lithium	ND (0.0333 J)	ND (0.0352 J)	ND (0.0329 J)	ND (0.0347 J)	ND (0.0337 J)	ND (0.0347 J)	ND (0.033 J)	ND (0.031 J)	--	--
	Mercury	ND (0.000040 JB)	ND	ND	ND (0.000070 J)	ND	ND	ND	ND	--	--
	Molybdenum	0.0176	0.0187	0.0214	0.0231	0.0259	0.0281	0.033	0.036	--	--
	Comb. Radium 226/228	1.47	0.864 U	0.521 U	0.681 U	0.632 U	1.30 U	1.26	0.572 U	--	--
	Selenium	ND	ND	ND	ND	ND (0.0020 J)	ND	ND	ND	--	--
	Thallium	ND	ND	ND	ND	ND	ND	ND	ND	--	--

Notes:

-- = Parameter was not analyzed

J = Indicates the parameter was estimated and detected between the method detection limit (MDL) and the reporting limit (RL)

JB = Indicates the parameter was estimated and detected in an associated blank at a similar level.

ND = Indicates the parameter was not detected above the analytical MDL

TDS = Total dissolved solids

U = Indicates the parameter was not detected above the minimum detection concentration (MDC, specific to combined radium)

(1) Appendix III/IV parameter per 40 CFR 257 Subpart D. Parameters are reported in units of milligrams per liter (mg/L), except for pH reported as s.u. (standard units) and combined radium reported as picocuries per liter (pCi/L).

(2) Metals were analyzed by EPA Method 6020B, anions were analyzed by EPA Method 300.0, TDS was analyzed by SM2540C, and combined radium by EPA Methods 9315/9320.

(3) The pH value presented was recorded at the time of sample collection in the field.

Table 5

Summary of Groundwater Analytical Data

Plant Hammond AP-3, Floyd County, Georgia

	Well ID:	HGWC-121	HGWC-121	HGWC-121	HGWC-121A[4]	HGWC-121A	HGWC-121A	HGWC-121A	HGWC-121A	HGWC-121A	HGWC-121A
	Sample Date:	08/31/2016	11/07/2016	01/13/2017	06/03/2017	10/02/2017	11/15/2017	06/05/2018	10/05/2018	4/3/2019	6/17/2019
	Parameter [1,2]										
APPENDIX III	Boron	3.23	2.95	4.01	2.62	2.92	2.71	2.6	2.9	3.0	2.4
	Calcium	178	170	192	172	195	184	195	181	184	173
	Chloride	64	65	50	43	42	46	40.4	39.0	35.9	32.9
	Fluoride	ND (0.14 J)	ND (0.18 J)	ND (0.14 J)	ND (0.15 J)	1.2	0.60	ND (0.19 J)	ND (0.23 J)	ND (0.14 J)	--
	pH [3]	6.62	6.71	6.57	6.71	7.65	6.69	6.79	6.71	6.73	6.75
	Sulfate	280	300	270	270	330	280	241	271	230	219
	TDS	876	1000	827	846	884	838	823	813	785	751
APPENDIX IV	Antimony	ND	ND	ND	ND	ND	ND	ND	ND	--	--
	Arsenic	ND	ND	ND	ND (0.0010 J)	ND	ND	ND (0.0014 J)	ND	--	--
	Barium	0.0782	0.0764	0.0744	0.0933	0.0815	0.0807	0.078	0.074	--	--
	Beryllium	ND	ND	ND	ND	ND	ND	ND	ND	--	--
	Cadmium	ND	ND	ND	ND	ND	ND	ND	ND	--	--
	Chromium	ND	ND	ND	ND	ND	ND	ND	ND	--	--
	Cobalt	ND	ND	ND	ND (0.0005 J)	ND (0.0003 J)	ND (0.0003 J)	ND	ND	--	--
	Fluoride	ND (0.14 J)	ND (0.18 J)	ND (0.14 J)	ND (0.15 J)	1.2	0.60	ND (0.19 J)	ND (0.23 J)	ND (0.14 J)	--
	Lead	ND	ND	ND	ND (0.00007 J)	ND	ND	ND (0.00036 J)	ND	--	--
	Lithium	ND (0.0077 J)	ND (0.0089 J)	ND (0.0091 J)	ND (0.0104 J)	ND (0.0095 J)	ND (0.0086 J)	ND (0.0092 J)	ND (0.0091 J)	--	--
	Mercury	ND	ND	ND	ND	ND	ND	ND	ND	--	--
	Molybdenum	ND	ND	ND	ND	ND	ND	ND	ND	--	--
	Comb. Radium 226/228	1.57	0.739 U	0.744 U	0.000 U	0.680 U	0.911 U	0.948 U	1.17 U	--	--
	Selenium	ND	ND	ND (0.0011 J)	ND	ND	ND	ND	ND	--	--
	Thallium	ND	ND	ND	ND	ND	ND	ND	ND	--	--

Notes:

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J = Indicates the parameter was estimated and detected between the method detection limit (MDL) and the reporting limit (RL)

JB = Indicates the parameter was estimated and detected in an associated blank at a similar level.

ND = Indicates the parameter was not detected above the analytical MDL

TDS = Total dissolved solids

U = Indicates the parameter was not detected above the minimum detection concentration (MDC, specific to combined radium)

(1) Appendix III/IV parameter per 40 CFR 257 Subpart D. Parameters are reported in units of milligrams per liter (mg/L), except for pH reported as s.u. (standard units) and combined radium reported as picocuries per liter (pCi/L).

(2) Metals were analyzed by EPA Method 6020B, anions were analyzed by EPA Method 300.0, TDS was analyzed by SM2540C, and combined radium by EPA Methods 9315/9320.

(3) The pH value presented was recorded at the time of sample collection in the field.

(4) HGWC-121 was abandoned January 13, 2017, due to proximity to closure activities. It was replaced with well HGWC-121A on May 17, 2017.

Table 5

Summary of Groundwater Analytical Data

Plant Hammond AP-3, Floyd County, Georgia

	Well ID:	HGWC-124	HGWC-124	HGWC-124	HGWC-124	HGWC-124	HGWC-124	HGWC-124	HGWC-124	HGWC-124	HGWC-124
	Sample Date:	08/31/2016	10/26/2016	01/27/2017	05/25/2017	08/11/2017	11/15/2017	06/05/2018	10/02/2018	4/3/2019	6/18/2019
	Parameter [1,2]										
APPENDIX III	Boron	0.494	0.550	0.428	0.544	0.524	0.531	0.53	0.47	0.45	0.45
	Calcium	90.4	94.5	84.2	100	99.1	103	103	100	96.7	97.1
	Chloride	3	3.6	4.0	3.5	2.9	3.1	3.1	3.4	3.4	ND (2.3 J)
	Fluoride	ND (0.15 J)	0.30	0.30	ND (0.05 J)	ND (0.10 J)	ND	ND (0.078 J)	ND (0.078 J)	ND (0.089 J)	--
	pH [3]	6.99	7.06	7.13	7.1	7.02	7.04	7.17	7.08	7.14	7.11
	Sulfate	72	71	74	73	71	70	74.0	80.7	75.2	75.3
	TDS	379	409	370	351	322	350	360	363	369	323
APPENDIX IV	Antimony	ND	ND	ND	ND	ND	ND	ND	ND	--	--
	Arsenic	ND	ND	ND	ND (0.0006 J)	ND	ND	ND	ND	--	--
	Barium	0.0744	0.0735	0.0632	0.0773	0.0672	0.0707	0.070	0.067	--	--
	Beryllium	ND	ND	ND	ND	ND	ND	ND	ND	--	--
	Cadmium	ND	ND	ND	ND	ND	ND	ND	ND	--	--
	Chromium	ND	ND	ND	ND	ND	ND	ND	ND	--	--
	Cobalt	ND	ND	ND	ND	ND	ND	ND	ND	--	--
	Fluoride	ND (0.15 J)	0.30	0.30	ND (0.05 J)	ND (0.10 J)	ND	ND (0.078 J)	ND (0.078 J)	ND (0.089 J)	--
	Lead	ND	ND	ND	ND	ND (0.10 J)	ND	ND	ND	--	--
	Lithium	ND	ND	ND	ND (0.0011 J)	ND	ND	ND (0.0012 J)	ND (0.0012 J)	--	--
	Mercury	ND	ND	ND	ND (0.000051 J)	ND	ND	ND	ND	--	--
	Molybdenum	ND	ND	ND	ND (0.0009 J)	ND (0.0013 J)	ND (0.0012 J)	ND	ND	--	--
	Comb. Radium 226/228	1.22	0.637 U	0.795 U	0.896 U	0.828 U	0.478 U	0.947 U	0.617 U	--	--
	Selenium	ND	ND	ND	ND	ND	ND	ND	ND (0.0014 J)	--	--
	Thallium	ND	ND	ND	ND	ND	ND	ND	ND	--	--

Notes:

-- = Parameter was not analyzed

J = Indicates the parameter was estimated and detected between the method detection limit (MDL) and the reporting limit (RL)

JB = Indicates the parameter was estimated and detected in an associated blank at a similar level.

ND = Indicates the parameter was not detected above the analytical MDL

TDS = Total dissolved solids

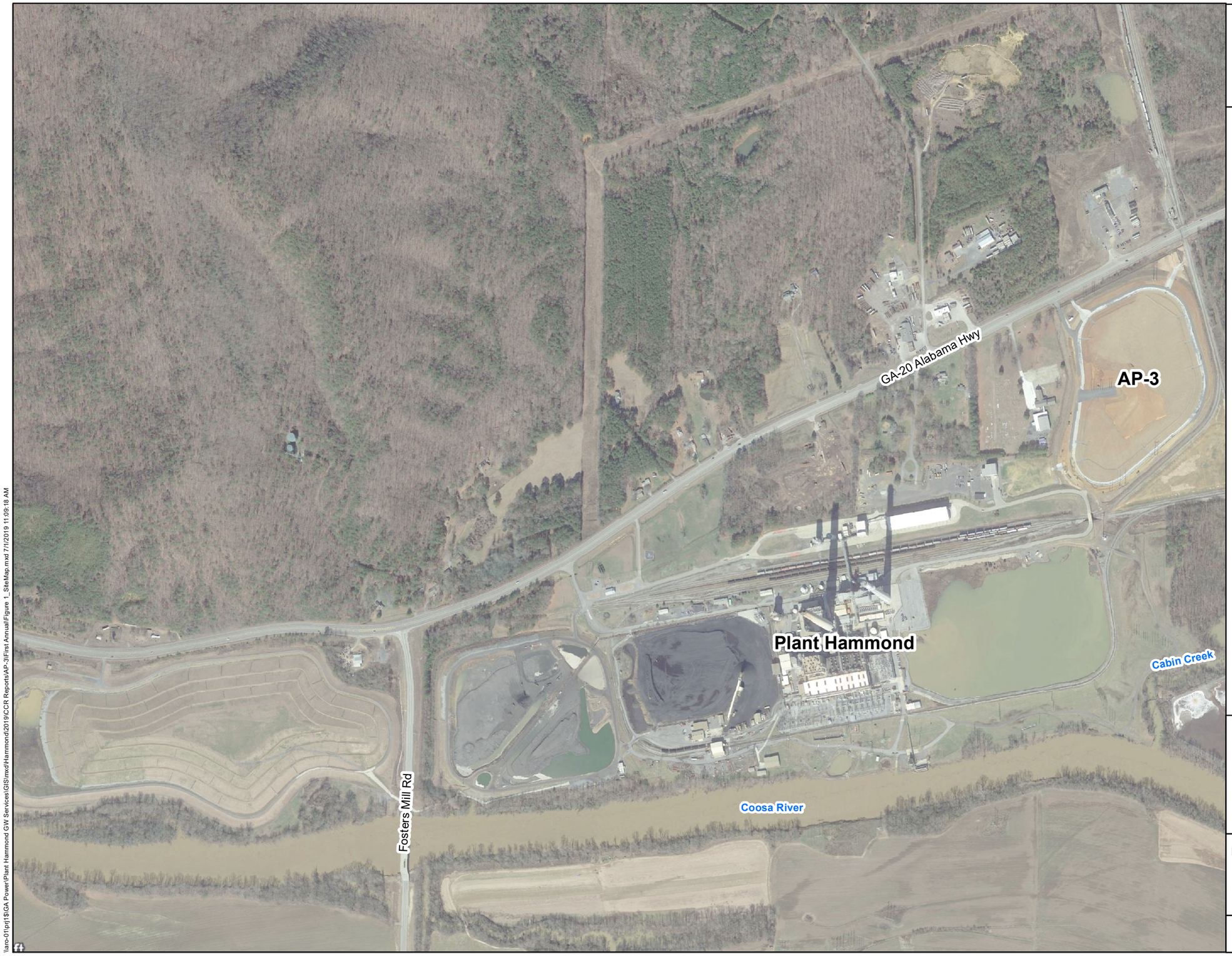
U = Indicates the parameter was not detected above the minimum detection concentration (MDC, specific to combined radium)

(1) Appendix III/IV parameter per 40 CFR 257 Subpart D. Parameters are reported in units of milligrams per liter (mg/L), except for pH reported as s.u. (standard units) and combined radium reported as picocuries per liter (pCi/L).

(2) Metals were analyzed by EPA Method 6020B, anions were analyzed by EPA Method 300.0, TDS was analyzed by SM2540C, and combined radium by EPA Methods 9315/9320.

(3) The pH value presented was recorded at the time of sample collection in the field.

FIGURES



N

Note:
1. Aerial photograph source: Google Earth Pro, February 2018.

0 330 660 1,320

SCALE IN FEET

SITE LOCATION MAP

GEORGIA POWER COMPANY
PLANT HAMMOND AP-3
FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

KENNESAW, GA | JULY 2019

FIGURE 1

\\aro-01\p\1$\GA Power\Plant Hammond GW Services\GIS\mxd\Hammond\2019\CCR Reports\AP-3\First Annual\Figure 1_SiteMap.mxd 7/1/2019 11:09:18 AM

N

LEGEND

- Compliance Monitoring Well
- Groundwater Level Monitoring Piezometer

Note:
1. Aerial photograph source: Google Earth Pro, February 2018.

0 100 200 400

SCALE IN FEET

MONITORING WELL NETWORK MAP

GEORGIA POWER COMPANY
PLANT HAMMOND AP-3
FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

KENNESAW, GA | JULY 2019

FIGURE 2

\\aro-01\pri1$\GA Power\Plant Hammond GW Services\GIS\mxd\Hammond\2019\CCR Reports\AP-3\First Annual\Figure 2_WellMap.mxd 7/1/2019 11:19:20 AM

N

LEGEND

- Compliance Monitoring Well
- Groundwater Level Monitoring Piezometer
- Groundwater Elevation Iso-Contour
- Approximate Groundwater Flow Direction

Notes:
1. Water level elevation recorded on April 1, 2019. Elevation provided in feet above mean sea level (ft AMSL), North American Vertical Datum (NAVD) 88.
2. Aerial photograph source: Google Earth Pro, February 2018.

0 100 200 400

SCALE IN FEET

POTENTIOMETRIC SURFACE CONTOUR MAP - APRIL 2019

GEORGIA POWER COMPANY
PLANT HAMMOND AP-3
FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

KENNESAW, GA | JULY 2019

FIGURE 3

N:\GA Power\Plant Hammond GW Services\GIS\mxd\Hammond\2019\CCR Reports\AP-3\First Annual\Figure 3_POT Map_April2019_AP3.mxd 7/1/2019 11:02:28 AM

APPENDIX A
Laboratory Analytical and Field Sampling Reports

Appendix A1: Laboratory Analytical Data Packages and Data Validation Reports

Appendix A2: Field Data Sheets

APPENDIX A1
Laboratory Analytical Data Packages and Data Validation Reports

Laboratory Reports

PACE ANALYTICAL SERVICES, INC.

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

Laboratory Report

Prepared For:

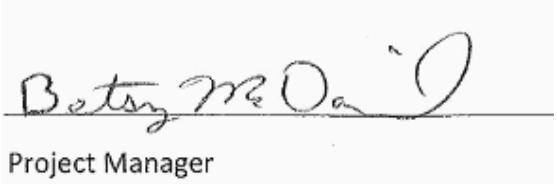
Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: **Mr. Joju Abraham**

Report Number: **AZH0983**
September 08, 2016
Project: CCR Event
Project #:Plant Hammond

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

Approved:



Project Manager

PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 08, 2016

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HGWA-111	AZH0983-01	Ground Water	08/30/16 13:16	08/31/16 13:00
HGWA-112	AZH0983-02	Ground Water	08/30/16 14:25	08/31/16 13:00
HGWA-113	AZH0983-03	Ground Water	08/30/16 15:45	08/31/16 13:00
HGWA-122	AZH0983-04	Ground Water	08/30/16 16:20	08/31/16 13:00

PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 08, 2016

Report No.: AZH0983
Client ID: HGWA-111
Date/Time Sampled: 8/30/2016 1:16:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZH0983-01
Date/Time Received: 8/31/2016 1:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	172	25	10	mg/L	SM 2540 C		1	09/01/16 12:00	09/01/16 12:00	6090007	JPT
Inorganic Anions											
Chloride	3.3	0.25	0.01	mg/L	EPA 300.0		1	09/01/16 10:00	09/02/16 12:02	6090013	RLC
Fluoride	0.07	0.30	0.02	mg/L	EPA 300.0	J	1	09/01/16 10:00	09/02/16 12:02	6090013	RLC
Sulfate	1.6	1.0	0.05	mg/L	EPA 300.0		1	09/01/16 10:00	09/02/16 12:02	6090013	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/02/16 10:10	09/03/16 13:15	6090039	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:09	6090039	CSW
Barium	0.0275	0.0100	0.0004	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:09	6090039	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/02/16 10:10	09/03/16 13:15	6090039	CSW
Boron	ND	0.100	0.0064	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:09	6090039	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/02/16 10:10	09/03/16 13:15	6090039	CSW
Calcium	40.3	2.50	0.155	mg/L	EPA 6020B		5	09/02/16 10:10	09/03/16 16:16	6090039	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:09	6090039	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:09	6090039	CSW
Lead	0.0001	0.0050	0.0001	mg/L	EPA 6020B	J	1	09/02/16 10:10	09/02/16 19:09	6090039	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:09	6090039	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:09	6090039	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:09	6090039	CSW
Lithium	0.0022	0.0500	0.0021	mg/L	EPA 6020B	J	1	09/02/16 10:10	09/02/16 19:09	6090039	CSW
Mercury	0.00004	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	09/02/16 08:45	09/02/16 13:18	6090041	MTC

PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 08, 2016

Report No.: AZH0983
Client ID: HGWA-112
Date/Time Sampled: 8/30/2016 2:25:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZH0983-02
Date/Time Received: 8/31/2016 1:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	76	25	10	mg/L	SM 2540 C		1	09/01/16 12:00	09/01/16 12:00	6090007	JPT
Inorganic Anions											
Chloride	5.4	0.25	0.01	mg/L	EPA 300.0		1	09/01/16 10:00	09/02/16 12:23	6090013	RLC
Fluoride	0.04	0.30	0.02	mg/L	EPA 300.0	J	1	09/01/16 10:00	09/02/16 12:23	6090013	RLC
Sulfate	0.63	1.0	0.05	mg/L	EPA 300.0	J	1	09/01/16 10:00	09/02/16 12:23	6090013	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/02/16 10:10	09/03/16 13:33	6090039	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:15	6090039	CSW
Barium	0.0269	0.0100	0.0004	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:15	6090039	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/02/16 10:10	09/03/16 13:33	6090039	CSW
Boron	ND	0.100	0.0064	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:15	6090039	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/02/16 10:10	09/03/16 13:33	6090039	CSW
Calcium	6.69	2.50	0.155	mg/L	EPA 6020B		5	09/02/16 10:10	09/03/16 16:22	6090039	CSW
Chromium	0.0038	0.0100	0.0009	mg/L	EPA 6020B	J	1	09/02/16 10:10	09/02/16 19:15	6090039	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:15	6090039	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:15	6090039	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:15	6090039	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:15	6090039	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:15	6090039	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:15	6090039	CSW
Mercury	0.000041	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	09/02/16 08:45	09/02/16 13:20	6090041	MTC

PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 08, 2016

Report No.: AZH0983
Client ID: HGWA-113
Date/Time Sampled: 8/30/2016 3:45:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZH0983-03
Date/Time Received: 8/31/2016 1:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	77	25	10	mg/L	SM 2540 C		1	09/02/16 10:45	09/02/16 10:45	6090046	JPT
Inorganic Anions											
Chloride	2.0	0.25	0.01	mg/L	EPA 300.0		1	09/01/16 10:00	09/02/16 12:45	6090013	RLC
Fluoride	0.20	0.30	0.02	mg/L	EPA 300.0	J	1	09/01/16 10:00	09/02/16 12:45	6090013	RLC
Sulfate	14	1.0	0.05	mg/L	EPA 300.0		1	09/01/16 10:00	09/02/16 12:45	6090013	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/02/16 10:10	09/03/16 13:37	6090039	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:21	6090039	CSW
Barium	0.0269	0.0100	0.0004	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:21	6090039	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/02/16 10:10	09/03/16 13:37	6090039	CSW
Boron	ND	0.100	0.0064	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:21	6090039	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/02/16 10:10	09/03/16 13:37	6090039	CSW
Calcium	6.72	2.50	0.155	mg/L	EPA 6020B		5	09/02/16 10:10	09/03/16 16:28	6090039	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:21	6090039	CSW
Cobalt	0.0006	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/02/16 10:10	09/02/16 19:21	6090039	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:21	6090039	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:21	6090039	CSW
Selenium	0.0027	0.0100	0.0010	mg/L	EPA 6020B	J	1	09/02/16 10:10	09/02/16 19:21	6090039	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:21	6090039	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:21	6090039	CSW
Mercury	0.00004	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	09/02/16 08:45	09/02/16 13:27	6090041	MTC

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 08, 2016

Report No.: AZH0983
Client ID: HGWA-122
Date/Time Sampled: 8/30/2016 4:20:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZH0983-04
Date/Time Received: 8/31/2016 1:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	280	25	10	mg/L	SM 2540 C		1	09/02/16 10:45	09/02/16 10:45	6090046	JPT
Inorganic Anions											
Chloride	2.8	0.25	0.01	mg/L	EPA 300.0		1	09/01/16 10:00	09/02/16 14:52	6090013	RLC
Fluoride	0.19	0.30	0.02	mg/L	EPA 300.0	J	1	09/01/16 10:00	09/02/16 14:52	6090013	RLC
Sulfate	49	1.0	0.05	mg/L	EPA 300.0		1	09/01/16 10:00	09/02/16 14:52	6090013	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/02/16 10:10	09/03/16 13:42	6090039	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:26	6090039	CSW
Barium	0.0463	0.0100	0.0004	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:26	6090039	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/02/16 10:10	09/03/16 13:42	6090039	CSW
Boron	0.277	0.100	0.0064	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:26	6090039	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/02/16 10:10	09/03/16 13:42	6090039	CSW
Calcium	71.3	5.00	0.311	mg/L	EPA 6020B		10	09/02/16 10:10	09/03/16 16:34	6090039	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:26	6090039	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:26	6090039	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:26	6090039	CSW
Molybdenum	0.0026	0.0100	0.0017	mg/L	EPA 6020B	J	1	09/02/16 10:10	09/02/16 19:26	6090039	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:26	6090039	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:26	6090039	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/02/16 10:10	09/02/16 19:26	6090039	CSW
Mercury	0.000043	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	09/02/16 08:45	09/02/16 13:30	6090041	MTC

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September 08, 2016

Report No.: AZH0983

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090007 - SM 2540 C											
Blank (6090007-BLK1)						Prepared & Analyzed: 09/01/16					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (6090007-BS1)						Prepared & Analyzed: 09/01/16					
Total Dissolved Solids	396	25	10	mg/L	400.00		99	84-108			
Duplicate (6090007-DUP1)		**Source: AZH0981-01**				Prepared & Analyzed: 09/01/16					
Total Dissolved Solids	127	25	10	mg/L		141			10	10	
Duplicate (6090007-DUP2)		**Source: AZH0981-05**				Prepared & Analyzed: 09/01/16					
Total Dissolved Solids	264	25	10	mg/L		254			4	10	
Batch 6090046 - SM 2540 C											
Blank (6090046-BLK1)						Prepared & Analyzed: 09/02/16					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (6090046-BS1)						Prepared & Analyzed: 09/02/16					
Total Dissolved Solids	390	25	10	mg/L	400.00		98	84-108			
Duplicate (6090046-DUP1)		**Source: AZH0947-02**				Prepared & Analyzed: 09/02/16					
Total Dissolved Solids	1930	25	10	mg/L		1910			1	10	

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Report No.: AZH0983

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090013 - EPA 300.0											
Blank (6090013-BLK1)						Prepared: 09/01/16 Analyzed: 09/02/16					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.02	mg/L							
Sulfate	ND	1.0	0.05	mg/L							
LCS (6090013-BS1)						Prepared: 09/01/16 Analyzed: 09/02/16					
Chloride	10.1	0.25	0.01	mg/L	10.010		101	90-110			
Fluoride	10.5	0.30	0.02	mg/L	10.010		105	90-110			
Sulfate	10.2	1.0	0.05	mg/L	10.010		102	90-110			
Matrix Spike (6090013-MS1)		**Source: AZH0961-03**				Prepared: 09/01/16 Analyzed: 09/02/16					
Chloride	31.1	0.25	0.01	mg/L	10.010	23.0	81	90-110			QM-05
Fluoride	13.8	0.30	0.02	mg/L	10.010	0.14	137	90-110			QM-05
Sulfate	157	1.0	0.05	mg/L	10.010	164	NR	90-110			QM-05
Matrix Spike (6090013-MS2)		**Source: AZH0983-03**				Prepared: 09/01/16 Analyzed: 09/02/16					
Chloride	12.3	0.25	0.01	mg/L	10.010	1.97	103	90-110			
Fluoride	10.9	0.30	0.02	mg/L	10.010	0.20	107	90-110			
Sulfate	22.6	1.0	0.05	mg/L	10.010	13.6	90	90-110			
Matrix Spike Dup (6090013-MSD1)		**Source: AZH0961-03**				Prepared: 09/01/16 Analyzed: 09/02/16					
Chloride	30.4	0.25	0.01	mg/L	10.010	23.0	74	90-110	2	15	QM-05
Fluoride	12.8	0.30	0.02	mg/L	10.010	0.14	126	90-110	8	15	QM-05
Sulfate	156	1.0	0.05	mg/L	10.010	164	NR	90-110	0.7	15	QM-05

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September 08, 2016

Report No.: AZH0983

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090039 - EPA 3005A											
Blank (6090039-BLK1)						Prepared: 09/02/16 Analyzed: 09/03/16					
Antimony	ND	0.0030	0.0008	mg/L							
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	ND	0.100	0.0064	mg/L							
Cadmium	ND	0.0005	0.00007	mg/L							
Calcium	ND	0.500	0.0311	mg/L							
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0050	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0050	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0050	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	ND	0.0100	0.0021	mg/L							
Lithium	ND	0.0500	0.0021	mg/L							
LCS (6090039-BS1)						Prepared & Analyzed: 09/02/16					
Antimony	0.107	0.0030	0.0008	mg/L	0.10000		107	80-120			
Arsenic	0.0988	0.0050	0.0016	mg/L	0.10000		99	80-120			
Barium	0.102	0.0100	0.0004	mg/L	0.10000		102	80-120			
Beryllium	0.0950	0.0030	0.00008	mg/L	0.10000		95	80-120			
Boron	0.984	0.100	0.0064	mg/L	1.0000		98	80-120			
Cadmium	0.0997	0.0010	0.00007	mg/L	0.10000		100	80-120			
Calcium	0.943	0.500	0.0311	mg/L	1.0000		94	80-120			
Chromium	0.102	0.0100	0.0009	mg/L	0.10000		102	80-120			
Cobalt	0.0962	0.0100	0.0005	mg/L	0.10000		96	80-120			
Copper	0.0964	0.0050	0.0005	mg/L	0.10000		96	80-120			
Lead	0.103	0.0050	0.0001	mg/L	0.10000		103	80-120			
Molybdenum	0.100	0.0100	0.0017	mg/L	0.10000		100	80-120			
Nickel	0.0973	0.0050	0.0006	mg/L	0.10000		97	80-120			
Selenium	0.0984	0.0100	0.0010	mg/L	0.10000		98	80-120			
Silver	0.0996	0.0050	0.0005	mg/L	0.10000		100	80-120			
Thallium	0.104	0.0010	0.0002	mg/L	0.10000		104	80-120			
Vanadium	0.0999	0.0100	0.0071	mg/L	0.10000		100	80-120			
Zinc	0.101	0.0100	0.0021	mg/L	0.10000		101	80-120			
Lithium	0.0964	0.0500	0.0021	mg/L	0.10000		96	80-120			

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September 08, 2016

Report No.: AZH0983

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090039 - EPA 3005A											
Matrix Spike (6090039-MS1)		**Source: AZI0015-01**			Prepared & Analyzed: 09/02/16						
Antimony	0.0992	0.0030	0.0008	mg/L	0.10000	ND	99	75-125			
Arsenic	0.313	0.0050	0.0016	mg/L	0.10000	0.212	101	75-125			
Barium	0.146	0.0100	0.0004	mg/L	0.10000	0.0498	96	75-125			
Beryllium	0.0763	0.0030	0.00008	mg/L	0.10000	ND	76	75-125			
Boron	1.22	0.100	0.0064	mg/L	1.0000	0.632	59	75-125			QM-02
Cadmium	0.0869	0.0010	0.00007	mg/L	0.10000	ND	87	75-125			
Calcium	81.8	5.00	0.311	mg/L	1.0000	82.8	NR	75-125			QM-02
Chromium	0.105	0.0100	0.0009	mg/L	0.10000	0.0010	104	75-125			
Cobalt	0.0941	0.0100	0.0005	mg/L	0.10000	ND	94	75-125			
Copper	0.0827	0.0050	0.0005	mg/L	0.10000	ND	83	75-125			
Lead	0.0884	0.0050	0.0001	mg/L	0.10000	ND	88	75-125			
Molybdenum	0.101	0.0100	0.0017	mg/L	0.10000	ND	101	75-125			
Nickel	0.0867	0.0050	0.0006	mg/L	0.10000	ND	87	75-125			
Selenium	0.0380	0.0100	0.0010	mg/L	0.10000	0.0015	36	75-125			QM-05
Silver	0.0820	0.0050	0.0005	mg/L	0.10000	ND	82	75-125			
Thallium	0.0908	0.0010	0.0002	mg/L	0.10000	ND	91	75-125			
Vanadium	0.113	0.0100	0.0071	mg/L	0.10000	ND	113	75-125			
Zinc	0.0878	0.0100	0.0021	mg/L	0.10000	ND	88	75-125			
Lithium	0.116	0.0500	0.0021	mg/L	0.10000	0.0389	77	75-125			
Matrix Spike Dup (6090039-MSD1)		**Source: AZI0015-01**			Prepared & Analyzed: 09/02/16						
Antimony	0.103	0.0030	0.0008	mg/L	0.10000	ND	103	75-125	4	20	
Arsenic	0.314	0.0050	0.0016	mg/L	0.10000	0.212	102	75-125	0.2	20	
Barium	0.154	0.0100	0.0004	mg/L	0.10000	0.0498	104	75-125	5	20	
Beryllium	0.0784	0.0030	0.00008	mg/L	0.10000	ND	78	75-125	3	20	
Boron	1.29	0.100	0.0064	mg/L	1.0000	0.632	66	75-125	6	20	QM-02
Cadmium	0.0882	0.0010	0.00007	mg/L	0.10000	ND	88	75-125	1	20	
Calcium	83.2	5.00	0.311	mg/L	1.0000	82.8	44	75-125	2	20	QM-02
Chromium	0.104	0.0100	0.0009	mg/L	0.10000	0.0010	103	75-125	0.3	20	
Cobalt	0.0918	0.0100	0.0005	mg/L	0.10000	ND	92	75-125	2	20	
Copper	0.0829	0.0050	0.0005	mg/L	0.10000	ND	83	75-125	0.3	20	
Lead	0.0885	0.0050	0.0001	mg/L	0.10000	ND	88	75-125	0.1	20	
Molybdenum	0.106	0.0100	0.0017	mg/L	0.10000	ND	106	75-125	4	20	
Nickel	0.0873	0.0050	0.0006	mg/L	0.10000	ND	87	75-125	0.7	20	
Selenium	0.0394	0.0100	0.0010	mg/L	0.10000	0.0015	38	75-125	4	20	QM-05
Silver	0.0858	0.0050	0.0005	mg/L	0.10000	ND	86	75-125	4	20	
Thallium	0.0923	0.0010	0.0002	mg/L	0.10000	ND	92	75-125	2	20	
Vanadium	0.113	0.0100	0.0071	mg/L	0.10000	ND	113	75-125	0.2	20	
Zinc	0.0872	0.0100	0.0021	mg/L	0.10000	ND	87	75-125	0.7	20	
Lithium	0.122	0.0500	0.0021	mg/L	0.10000	0.0389	83	75-125	5	20	

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Attention: Mr. Joju Abraham

September 08, 2016

Report No.: AZH0983

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090039 - EPA 3005A											
Post Spike (6090039-PS1)		**Source: AZI0015-01**				Prepared & Analyzed: 09/02/16					
Antimony	94.7			ug/L	100.00	0.0900	95	80-120			
Arsenic	300			ug/L	100.00	212	88	80-120			
Barium	148			ug/L	100.00	49.8	98	80-120			
Beryllium	79.2			ug/L	100.00	0.0500	79	80-120			QM-05
Boron	1270			ug/L	1000.0	632	63	80-120			QM-02
Cadmium	85.5			ug/L	100.00	0.0100	85	80-120			
Calcium	78800			ug/L	1000.0	82800	NR	80-120			QM-02
Chromium	96.6			ug/L	100.00	1.04	96	80-120			
Cobalt	90.7			ug/L	100.00	0.402	90	80-120			
Copper	80.9			ug/L	100.00	0.155	81	80-120			
Lead	88.7			ug/L	100.00	0.0713	89	80-120			
Molybdenum	102			ug/L	100.00	0.877	101	80-120			
Nickel	84.7			ug/L	100.00	0.391	84	80-120			
Selenium	92.6			ug/L	100.00	1.51	91	80-120			
Silver	82.9			ug/L	100.00	-0.0178	83	80-120			
Thallium	92.1			ug/L	100.00	-0.0163	92	80-120			
Vanadium	108			ug/L	100.00	4.05	104	80-120			
Zinc	86.1			ug/L	100.00	1.52	85	80-120			
Lithium	120			ug/L	100.00	38.9	81	80-120			
Batch 6090041 - EPA 7470A											
Blank (6090041-BLK1)						Prepared & Analyzed: 09/02/16					
Mercury	0.00004	0.00050	0.000041	mg/L							J
LCS (6090041-BS1)						Prepared & Analyzed: 09/02/16					
Mercury	0.00248	0.00050	0.000041	mg/L	2.5000E-3		99	80-120			

PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 08, 2016

Report No.: AZH0983

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090041 - EPA 7470A											
Matrix Spike (6090041-MS1)		**Source: AZH0981-01**				Prepared & Analyzed: 09/02/16					
Mercury	0.00254	0.00050	0.000041	mg/L	2.5000E-3	ND	102	75-125			
Matrix Spike Dup (6090041-MSD1)		**Source: AZH0981-01**				Prepared & Analyzed: 09/02/16					
Mercury	0.00251	0.00050	0.000041	mg/L	2.5000E-3	ND	101	75-125	1	20	
Post Spike (6090041-PS1)		**Source: AZH0981-01**				Prepared & Analyzed: 09/02/16					
Mercury	1.68			ug/L	1.6667	0.0265	99	80-120			

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 08, 2016

Legend

Definition of Laboratory Terms

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

Sample Information

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

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

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

Definition of Qualifiers

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

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

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

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

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

CHAIN OF CUSTODY RECORD

Pace Analytical®

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

CLIENT NAME: Georgia Power

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

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

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

PROJECT NAME/STATE: Plant Hammond AP 3&4

PROJECT #: Phase 2 - CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals App. III & IV (EPA 6020/7470)	Cl, F, SO_4, & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)							LAB ID NUMBER
CONTAINER TYPE:								P	P	P							
PRESERVATION:								3	7	3							
8/30/16	13:16	GW		X	HGWA-111	3		1	1	1							1
8/30/16	14:25	GW		X	HGWA-112	4		1	1	2							2
8/30/16	15:45	GW		X	HGWA-113	3		1	1	1							3
8/30/16	16:20	GW		X	HGWA-122	3		1	1	1							4

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

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

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

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE:
DATE/TIME: 8/30/2016

RELINQUISHED BY:
DATE/TIME: 8/31/16 1300

RECEIVED BY:
DATE/TIME:

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY LAB: MRatman
DATE/TIME: 8/31/16 1300

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

pH checked: Yes No NA
Ice: Yes No NA
Temperature: 2°C Min: 2°C Max:
Custody Seal: Intact Broken N/A
# of Coolers:
Cooler ID:

FOR LAB USE ONLY
LAB #: AZH0983
Entered into LIMS: ctly
Tracking #:

PACE ANALYTICAL SERVICES, INC.

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

LOG-IN CHECKLIST **Printed: 9/8/2016 2:58:07PM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 08/31/16 13:00

Work Order: AZH0983
Logged In By: Charles Hawks

OBSERVATIONS

#Samples: 4 **#Containers:** 13

Minimum Temp(C): 2.0 **Maximum Temp(C):** 2.0 **Custody Seal(s) Used:** N/A

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	NO
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

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

September 27, 2016

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: Plant Hammond AP 3&4
Pace Project No.: 30194831

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on September 01, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

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

CERTIFICATIONS

Project: Plant Hammond AP 3&4
Pace Project No.: 30194831

Pennsylvania Certification IDs

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

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

SAMPLE SUMMARY

Project: Plant Hammond AP 3&4
Pace Project No.: 30194831

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30194831001	**HGWA-111**	Water	08/30/16 13:16	09/01/16 10:00
30194831002	**HGWA-112**	Water	08/30/16 14:25	09/01/16 10:00
30194831003	**HGWA-113**	Water	08/30/16 15:45	09/01/16 10:00
30194831004	**HGWA-122**	Water	08/30/16 16:20	09/01/16 10:00

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

SAMPLE ANALYTE COUNT

Project: Plant Hammond AP 3&4
Pace Project No.: 30194831

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30194831001	**HGWA-111**	EPA 9315	WRR	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30194831002	**HGWA-112**	EPA 9315	WRR	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30194831003	**HGWA-113**	EPA 9315	WRR	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30194831004	**HGWA-122**	EPA 9315	WRR	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond AP 3&4
Pace Project No.: 30194831

Sample: HGWA-111 **Lab ID: 30194831001** Collected: 08/30/16 13:16 Received: 09/01/16 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.135 ± 0.181 (0.377) C:92% T:NA**	pCi/L	09/10/16 11:05	13982-63-3	
Radium-228	EPA 9320	**0.669 ± 0.406 (0.743) C:79% T:70%**	pCi/L	09/14/16 02:50	15262-20-1	
Total Radium	Total Radium Calculation	**0.804 ± 0.587 (1.12)**	pCi/L	09/20/16 10:15	7440-14-4	

Sample: HGWA-112 **Lab ID: 30194831002** Collected: 08/30/16 14:25 Received: 09/01/16 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.261 ± 0.233 (0.425) C:77% T:NA**	pCi/L	09/10/16 11:06	13982-63-3	
Radium-228	EPA 9320	**1.06 ± 0.568 (1.01) C:75% T:54%**	pCi/L	09/16/16 10:56	15262-20-1	
Total Radium	Total Radium Calculation	**1.32 ± 0.801 (1.44)**	pCi/L	09/20/16 10:15	7440-14-4	

Sample: HGWA-113 **Lab ID: 30194831003** Collected: 08/30/16 15:45 Received: 09/01/16 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**-0.0179 ± 0.162 (0.458) C:80% T:NA**	pCi/L	09/10/16 11:06	13982-63-3	
Radium-228	EPA 9320	**0.587 ± 0.503 (1.00) C:72% T:62%**	pCi/L	09/16/16 10:56	15262-20-1	
Total Radium	Total Radium Calculation	**0.587 ± 0.665 (1.46)**	pCi/L	09/20/16 10:15	7440-14-4	

Sample: HGWA-122 **Lab ID: 30194831004** Collected: 08/30/16 16:20 Received: 09/01/16 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0221 ± 0.261 (0.660) C:59% T:NA**	pCi/L	09/10/16 11:06	13982-63-3	
Radium-228	EPA 9320	**0.950 ± 0.407 (0.631) C:73% T:70%**	pCi/L	09/14/16 02:52	15262-20-1	
Total Radium	Total Radium Calculation	**0.972 ± 0.668 (1.29)**	pCi/L	09/20/16 10:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond AP 3&4
Pace Project No.: 30194831

QC Batch: 232325 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30194831001, 30194831002, 30194831003, 30194831004

METHOD BLANK: 1138696 Matrix: Water
Associated Lab Samples: 30194831001, 30194831002, 30194831003, 30194831004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.257 ± 0.225 (0.422) C:92% T:NA	pCi/L	09/10/16 11:08	

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

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond AP 3&4
Pace Project No.: 30194831

QC Batch: 232397 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30194831001, 30194831002, 30194831003, 30194831004

METHOD BLANK: 1138978 Matrix: Water
Associated Lab Samples: 30194831001, 30194831002, 30194831003, 30194831004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.619 ± 0.406 (0.768) C:79% T:72%	pCi/L	09/16/16 10:55	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: Plant Hammond AP 3&4
Pace Project No.: 30194831

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

SAMPLE QUALIFIERS

Sample: 30194831001

[1] The sampler's name and signature were not listed on the COC.

CHAIN OF CUSTODY RECORD

Pace Analytical®

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

CLIENT NAME: Georgia Power
CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 241 Ralph McGill Blvd SE B10185, Atlanta, GA 30308, 404-506-7239
REPORT TO: Joju Abraham
CC: Maria Padilla, Heath McCorkle
REQUESTED COMPLETION DATE:
PO #: laburch@southernco.com
PROJECT NAME/STATE: Plant Hammond AP 3&4
PROJECT #: Phase 2 - CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)	LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
CONTAINER TYPE:							P	P	P		
PRESERVATION:							3	7	3		
8/30/16	13:16	GW		X	HGWA-111	3	1	1	1		001
8/30/16	14:25	GW		X	HGWA-112	4	1	1	2		002
8/30/16	15:45	GW		X	HGWA-113	3	1	1	1		003
8/30/16	16:20	GW		X	HGWA-122	3	1	1	1		004

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

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

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

WO#:30194831
30194831

SAMPLED BY AND TITLE: DATE/TIME: 8/30/2016
RELINQUISHED BY: [signature] DATE/TIME: 8/31/16 1300
RECEIVED BY: DATE/TIME:
RELINQUISHED BY: DATE/TIME:
RECEIVED BY LAB: [signature] DATE/TIME: 08/31/16 1300
SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER (CLIENT) OTHER FS
pH checked: Yes No NA — Ice: (Yes) No NA
Temperature: 2°C Min: 2°C Max:
Custody Seal: Intact Broken Not Present (N/A)
# of Coolers
Cooler ID:

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

Recieved [signature]
date/time 9-1-16 1000

Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: Georgia Power Project # 30194831

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

Tracking #: _____

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

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

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

Temp should be above freezing to 6°C

Date and Initials of person examining contents: BLM 9-1-16

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4. not Signed or ~~Signed~~ Printed
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:		✓		
Containers Intact:	✓			11.
Filtered volume received for Dissolved tests			✓	12.
All containers needing preservation have been checked.	✓			13. ~~Yellow~~ 2 pH
All containers needing preservation are found to be in compliance with EPA recommendation.	✓			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed: BLM Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	14.
Trip Blank Present:			✓	15.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: BLM Date: 9-1-16

Client Notification/ Resolution:

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

Comments/ Resolution: _____

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

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

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-228
Analyst:	JLW
Date:	9/14/2016
Worklist:	31282
Matrix:	DW

Method Blank Assessment	
MB Sample ID	1138978
MB concentration:	0.619
M/B Counting Uncertainty:	0.390
MB MDC:	0.768
MB Numerical Performance Indicator:	3.11
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS31282	LCSD31282
Count Date:	9/16/2016	
Spike I.D.:	16-025	
Spike Concentration (pCi/mL):	25.659	
Volume Used (mL):	0.30	
Aliquot Volume (L, g, F):	0.806	
Target Conc. (pCi/L, g, F):	9.546	
Uncertainty (Calculated):	0.687	
Result (pCi/L, g, F):	9.811	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.983	
Numerical Performance Indicator:	0.43	
Percent Recovery:	102.78%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Sample Matrix Spike Control Assessment	
Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30194831002	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30194831002DUP	
Sample Result (pCi/L, g, F):	1.058	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.535	
Sample Duplicate Result (pCi/L, g, F):	0.953	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.486	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	0.285	30194831002
Duplicate RPD:	10.46%	30194831002DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

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

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

Comments:

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-226
Analyst:	WRR
Date:	9/9/2016
Worklist:	31262
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment

MB Sample ID	1138696
MB concentration:	0.257
M/B Counting Uncertainty:	0.222
MB MDC:	0.422
MB Numerical Performance Indicator:	2.27
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment

	LCSD (Y or N)?	N
	LCS31262	LCSD31262
Count Date:	9/10/2016	
Spike I.D.:	16-026	
Spike Concentration (pCi/mL):	44.678	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.500	
Target Conc. (pCi/L, g, F):	8.928	
Uncertainty (Calculated):	0.420	
Result (pCi/L, g, F):	7.038	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.942	
Numerical Performance Indicator:	-3.59	
Percent Recovery:	78.83%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Sample Matrix Spike Control Assessment

Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment

Sample I.D.:	30194831002	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30194831002DUP	
Sample Result (pCi/L, g, F):	0.261	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.230	
Sample Duplicate Result (pCi/L, g, F):	0.024	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.254	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	1.357	30194831002
Duplicate RPD:	166.19%	30194831002DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

Matrix Spike/Matrix Spike Duplicate Sample Assessment

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

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

Comments:

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

PACE ANALYTICAL SERVICES, INC.

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

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: **Mr. Joju Abraham**

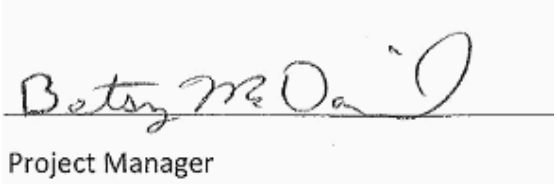
Report Number: **AZI0019**
September 09, 2016

Project: CCR Event

Project #:Plant Hammond

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

Approved:



Project Manager

PACE ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
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(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 09, 2016

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HGWC-117	AZI0019-01	Ground Water	08/31/16 10:40	09/01/16 09:25
HGWC-124	AZI0019-02	Ground Water	08/31/16 10:55	09/01/16 09:25
HGWC-118	AZI0019-03	Ground Water	08/31/16 11:25	09/01/16 09:25
HGWC-101	AZI0019-04	Ground Water	08/31/16 12:23	09/01/16 09:25
HGWC-103	AZI0019-05	Ground Water	08/31/16 12:55	09/01/16 09:25
HGWC-120	AZI0019-06	Ground Water	08/31/16 13:10	09/01/16 09:25
FB-1	AZI0019-07	DI Water	08/31/16 13:40	09/01/16 09:25
HGWC-105	AZI0019-08	Ground Water	08/31/16 14:15	09/01/16 09:25
HGWC-107	AZI0019-09	Ground Water	08/31/16 14:42	09/01/16 09:25
HGWC-121	AZI0019-10	Ground Water	08/31/16 15:10	09/01/16 09:25
HGWC-109	AZI0019-11	Ground Water	08/31/16 15:24	09/01/16 09:25
FERB-1	AZI0019-12	DI Water	08/31/16 16:15	09/01/16 09:25
Dup-1	AZI0019-13	Ground Water	08/31/16 00:00	09/01/16 09:25

PACE ANALYTICAL SERVICES, INC.

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

Attention: Mr. Joju Abraham

September 09, 2016

Report No.: AZI0019
Client ID: HGWC-117
Date/Time Sampled: 8/31/2016 10:40:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0019-01
Date/Time Received: 9/1/2016 9:25:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	381	25	10	mg/L	SM 2540 C		1	09/06/16 18:00	09/06/16 18:00	6090101	JPT
Inorganic Anions											
Chloride	7.1	0.25	0.01	mg/L	EPA 300.0		1	09/03/16 09:59	09/03/16 23:32	6090083	RLC
Fluoride	0.09	0.30	0.02	mg/L	EPA 300.0	J	1	09/03/16 09:59	09/03/16 23:32	6090083	RLC
Sulfate	150	10	0.51	mg/L	EPA 300.0		10	09/03/16 09:59	09/05/16 12:27	6090083	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 17:26	6090063	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:10	6090063	CSW
Barium	0.0547	0.0100	0.0004	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:10	6090063	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:10	6090063	CSW
Boron	0.821	0.100	0.0064	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:10	6090063	CSW
Cadmium	0.0008	0.0010	0.00007	mg/L	EPA 6020B	J	1	09/02/16 12:40	09/02/16 23:10	6090063	CSW
Calcium	63.4	5.00	0.311	mg/L	EPA 6020B		10	09/02/16 12:40	09/06/16 15:45	6090063	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:10	6090063	CSW
Cobalt	0.0035	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/02/16 12:40	09/02/16 23:10	6090063	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:10	6090063	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:10	6090063	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:10	6090063	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:10	6090063	CSW
Lithium	0.0024	0.0500	0.0021	mg/L	EPA 6020B	J	1	09/02/16 12:40	09/02/16 23:10	6090063	CSW
Mercury	0.00007	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	09/02/16 08:45	09/02/16 14:36	6090042	MTC

PACE ANALYTICAL SERVICES, INC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 09, 2016

Report No.: AZI0019
Client ID: HGWC-124
Date/Time Sampled: 8/31/2016 10:55:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0019-02
Date/Time Received: 9/1/2016 9:25:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	379	25	10	mg/L	SM 2540 C		1	09/06/16 18:00	09/06/16 18:00	6090101	JPT
Inorganic Anions											
Chloride	3.0	0.25	0.01	mg/L	EPA 300.0		1	09/03/16 09:59	09/03/16 23:52	6090083	RLC
Fluoride	0.15	0.30	0.02	mg/L	EPA 300.0	J	1	09/03/16 09:59	09/03/16 23:52	6090083	RLC
Sulfate	72	5.0	0.26	mg/L	EPA 300.0		5	09/03/16 09:59	09/05/16 12:47	6090083	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 17:32	6090063	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:16	6090063	CSW
Barium	0.0744	0.0100	0.0004	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:16	6090063	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:16	6090063	CSW
Boron	0.494	0.100	0.0064	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:16	6090063	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:16	6090063	CSW
Calcium	90.4	5.00	0.311	mg/L	EPA 6020B		10	09/02/16 12:40	09/06/16 15:51	6090063	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:16	6090063	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:16	6090063	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:16	6090063	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:16	6090063	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:16	6090063	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:16	6090063	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:16	6090063	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/02/16 08:45	09/02/16 14:43	6090042	MTC

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 09, 2016

Report No.: AZI0019
Client ID: HGWC-118
Date/Time Sampled: 8/31/2016 11:25:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0019-03
Date/Time Received: 9/1/2016 9:25:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	373	25	10	mg/L	SM 2540 C		1	09/07/16 14:20	09/07/16 14:20	6090156	JPT
Inorganic Anions											
Chloride	4.5	0.25	0.01	mg/L	EPA 300.0		1	09/03/16 09:59	09/04/16 00:13	6090083	RLC
Fluoride	0.18	0.30	0.02	mg/L	EPA 300.0	J	1	09/03/16 09:59	09/04/16 00:13	6090083	RLC
Sulfate	88	5.0	0.26	mg/L	EPA 300.0		5	09/03/16 09:59	09/05/16 13:08	6090083	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 17:37	6090063	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:22	6090063	CSW
Barium	0.0595	0.0100	0.0004	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:22	6090063	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:22	6090063	CSW
Boron	0.681	0.100	0.0064	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:22	6090063	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:22	6090063	CSW
Calcium	79.3	5.00	0.311	mg/L	EPA 6020B		10	09/02/16 12:40	09/06/16 16:10	6090063	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:22	6090063	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:22	6090063	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:22	6090063	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:22	6090063	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:22	6090063	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:22	6090063	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:22	6090063	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/02/16 08:45	09/02/16 14:46	6090042	MTC

PACE ANALYTICAL SERVICES, INC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 09, 2016

Report No.: AZI0019
Client ID: HGWC-101
Date/Time Sampled: 8/31/2016 12:23:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0019-04
Date/Time Received: 9/1/2016 9:25:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	278	25	10	mg/L	SM 2540 C		1	09/06/16 19:00	09/06/16 19:00	6090102	JPT
Inorganic Anions											
Chloride	5.7	0.25	0.01	mg/L	EPA 300.0		1	09/03/16 09:59	09/04/16 00:33	6090083	RLC
Fluoride	0.05	0.30	0.02	mg/L	EPA 300.0	J	1	09/03/16 09:59	09/04/16 00:33	6090083	RLC
Sulfate	110	10	0.51	mg/L	EPA 300.0		10	09/03/16 09:59	09/05/16 13:29	6090083	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 17:42	6090063	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:27	6090063	CSW
Barium	0.0527	0.0100	0.0004	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:27	6090063	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:27	6090063	CSW
Boron	0.0724	0.100	0.0064	mg/L	EPA 6020B	J	1	09/02/16 12:40	09/02/16 23:27	6090063	CSW
Cadmium	0.0002	0.0010	0.00007	mg/L	EPA 6020B	J	1	09/02/16 12:40	09/02/16 23:27	6090063	CSW
Calcium	19.4	2.50	0.155	mg/L	EPA 6020B		5	09/02/16 12:40	09/06/16 16:16	6090063	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:27	6090063	CSW
Cobalt	0.0033	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/02/16 12:40	09/02/16 23:27	6090063	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:27	6090063	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:27	6090063	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:27	6090063	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:27	6090063	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:27	6090063	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/02/16 08:45	09/02/16 14:48	6090042	MTC

PACE ANALYTICAL SERVICES, INC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 09, 2016

Report No.: AZI0019
Client ID: HGWC-103
Date/Time Sampled: 8/31/2016 12:55:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0019-05
Date/Time Received: 9/1/2016 9:25:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	483	25	10	mg/L	SM 2540 C		1	09/06/16 19:00	09/06/16 19:00	6090102	JPT
Inorganic Anions											
Chloride	5.2	0.25	0.01	mg/L	EPA 300.0		1	09/03/16 09:59	09/04/16 00:54	6090083	RLC
Fluoride	0.06	0.30	0.02	mg/L	EPA 300.0	J	1	09/03/16 09:59	09/04/16 00:54	6090083	RLC
Sulfate	280	20	1.0	mg/L	EPA 300.0		20	09/03/16 09:59	09/05/16 13:49	6090083	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 17:48	6090063	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:33	6090063	CSW
Barium	0.0450	0.0100	0.0004	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:33	6090063	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:33	6090063	CSW
Boron	2.22	1.00	0.0642	mg/L	EPA 6020B		10	09/02/16 12:40	09/06/16 16:22	6090063	CSW
Cadmium	0.0006	0.0010	0.00007	mg/L	EPA 6020B	J	1	09/02/16 12:40	09/02/16 23:33	6090063	CSW
Calcium	70.4	5.00	0.311	mg/L	EPA 6020B		10	09/02/16 12:40	09/06/16 16:22	6090063	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:33	6090063	CSW
Cobalt	0.0018	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/02/16 12:40	09/02/16 23:33	6090063	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:33	6090063	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:33	6090063	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:33	6090063	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:33	6090063	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:33	6090063	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/02/16 08:45	09/02/16 14:50	6090042	MTC

PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 09, 2016

Report No.: AZI0019
Client ID: HGWC-120
Date/Time Sampled: 8/31/2016 1:10:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0019-06
Date/Time Received: 9/1/2016 9:25:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	700	25	10	mg/L	SM 2540 C		1	09/06/16 19:00	09/06/16 19:00	6090102	JPT
Inorganic Anions											
Chloride	3.5	0.25	0.01	mg/L	EPA 300.0		1	09/03/16 09:59	09/04/16 01:15	6090083	RLC
Fluoride	0.65	0.30	0.02	mg/L	EPA 300.0		1	09/03/16 09:59	09/04/16 01:15	6090083	RLC
Sulfate	290	20	1.0	mg/L	EPA 300.0		20	09/03/16 09:59	09/05/16 14:10	6090083	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 17:53	6090063	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:39	6090063	CSW
Barium	0.0450	0.0100	0.0004	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:39	6090063	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:39	6090063	CSW
Boron	0.981	0.100	0.0064	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:39	6090063	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:39	6090063	CSW
Calcium	152	25.0	1.55	mg/L	EPA 6020B		50	09/02/16 12:40	09/06/16 16:27	6090063	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:39	6090063	CSW
Cobalt	0.0052	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/02/16 12:40	09/02/16 23:39	6090063	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:39	6090063	CSW
Molybdenum	0.0176	0.0100	0.0017	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:39	6090063	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:39	6090063	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:39	6090063	CSW
Lithium	0.0333	0.0500	0.0021	mg/L	EPA 6020B	J	1	09/02/16 12:40	09/02/16 23:39	6090063	CSW
Mercury	0.00004	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	09/02/16 08:45	09/02/16 14:53	6090042	MTC

PACE ANALYTICAL SERVICES, INC.

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110 Technology Parkway, Peachtree Corners, GA 30092
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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 09, 2016

Report No.: AZI0019
Client ID: FB-1
Date/Time Sampled: 8/31/2016 1:40:00PM
Matrix: DI Water

Project: CCR Event
Lab Number ID: AZI0019-07
Date/Time Received: 9/1/2016 9:25:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	09/06/16 19:00	09/06/16 19:00	6090102	JPT
Inorganic Anions											
Chloride	0.08	0.25	0.01	mg/L	EPA 300.0	J	1	09/03/16 09:59	09/04/16 02:17	6090083	RLC
Fluoride	0.05	0.30	0.02	mg/L	EPA 300.0	J	1	09/03/16 09:59	09/04/16 02:17	6090083	RLC
Sulfate	0.11	1.0	0.05	mg/L	EPA 300.0	J	1	09/03/16 09:59	09/04/16 02:17	6090083	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 17:58	6090063	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:56	6090063	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:56	6090063	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:56	6090063	CSW
Boron	ND	0.100	0.0064	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:56	6090063	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:56	6090063	CSW
Calcium	0.0551	0.500	0.0311	mg/L	EPA 6020B	J	1	09/02/16 12:40	09/02/16 23:56	6090063	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:56	6090063	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:56	6090063	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:56	6090063	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:56	6090063	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:56	6090063	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:56	6090063	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/02/16 12:40	09/02/16 23:56	6090063	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 09:10	09/06/16 14:18	6090077	MTC

PACE ANALYTICAL SERVICES, INC.

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

Attention: Mr. Joju Abraham

September 09, 2016

Report No.: AZI0019
Client ID: HGWC-105
Date/Time Sampled: 8/31/2016 2:15:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0019-08
Date/Time Received: 9/1/2016 9:25:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	389	25	10	mg/L	SM 2540 C		1	09/06/16 19:00	09/06/16 19:00	6090102	JPT
Inorganic Anions											
Chloride	3.0	0.25	0.01	mg/L	EPA 300.0		1	09/03/16 09:59	09/04/16 02:37	6090083	RLC
Fluoride	0.15	0.30	0.02	mg/L	EPA 300.0	J	1	09/03/16 09:59	09/04/16 02:37	6090083	RLC
Sulfate	190	10	0.51	mg/L	EPA 300.0		10	09/03/16 09:59	09/05/16 14:31	6090083	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 18:03	6090063	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:02	6090063	CSW
Barium	0.0670	0.0100	0.0004	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:02	6090063	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:02	6090063	CSW
Boron	1.14	0.100	0.0064	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:02	6090063	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:02	6090063	CSW
Calcium	74.2	5.00	0.311	mg/L	EPA 6020B		10	09/02/16 12:40	09/06/16 17:07	6090063	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:02	6090063	CSW
Cobalt	0.0014	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/02/16 12:40	09/03/16 00:02	6090063	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:02	6090063	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:02	6090063	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:02	6090063	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:02	6090063	CSW
Lithium	0.0034	0.0500	0.0021	mg/L	EPA 6020B	J	1	09/02/16 12:40	09/03/16 00:02	6090063	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 09:10	09/06/16 14:20	6090077	MTC

PACE ANALYTICAL SERVICES, INC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 09, 2016

Report No.: AZI0019
Client ID: HGWC-107
Date/Time Sampled: 8/31/2016 2:42:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0019-09
Date/Time Received: 9/1/2016 9:25:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	235	25	10	mg/L	SM 2540 C		1	09/06/16 19:00	09/06/16 19:00	6090102	JPT
Inorganic Anions											
Chloride	3.2	0.25	0.01	mg/L	EPA 300.0		1	09/03/16 09:59	09/04/16 04:23	6090083	RLC
Fluoride	0.08	0.30	0.02	mg/L	EPA 300.0	J	1	09/03/16 09:59	09/04/16 04:23	6090083	RLC
Sulfate	130	5.0	0.26	mg/L	EPA 300.0		5	09/03/16 09:59	09/05/16 14:51	6090083	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 18:09	6090063	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:07	6090063	CSW
Barium	0.0391	0.0100	0.0004	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:07	6090063	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:07	6090063	CSW
Boron	0.651	0.100	0.0064	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:07	6090063	CSW
Cadmium	0.0001	0.0010	0.00007	mg/L	EPA 6020B	J	1	09/02/16 12:40	09/03/16 00:07	6090063	CSW
Calcium	44.7	2.50	0.155	mg/L	EPA 6020B		5	09/02/16 12:40	09/06/16 16:39	6090063	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:07	6090063	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:07	6090063	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:07	6090063	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:07	6090063	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:07	6090063	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:07	6090063	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:07	6090063	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 09:10	09/06/16 14:23	6090077	MTC

PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 09, 2016

Report No.: AZI0019
Client ID: HGWC-121
Date/Time Sampled: 8/31/2016 3:10:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0019-10
Date/Time Received: 9/1/2016 9:25:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	876	25	10	mg/L	SM 2540 C		1	09/06/16 19:00	09/06/16 19:00	6090102	JPT
Inorganic Anions											
Chloride	64	2.5	0.14	mg/L	EPA 300.0		10	09/03/16 09:59	09/05/16 15:12	6090083	RLC
Fluoride	0.14	0.30	0.02	mg/L	EPA 300.0	J	1	09/03/16 09:59	09/04/16 04:45	6090083	RLC
Sulfate	280	10	0.51	mg/L	EPA 300.0		10	09/03/16 09:59	09/05/16 15:12	6090083	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 18:14	6090063	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:13	6090063	CSW
Barium	0.0782	0.0100	0.0004	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:13	6090063	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:13	6090063	CSW
Boron	3.23	2.00	0.321	mg/L	EPA 6020B		50	09/02/16 12:40	09/06/16 16:44	6090063	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:13	6090063	CSW
Calcium	178	25.0	1.55	mg/L	EPA 6020B		50	09/02/16 12:40	09/06/16 16:44	6090063	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:13	6090063	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:13	6090063	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:13	6090063	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:13	6090063	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:13	6090063	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:13	6090063	CSW
Lithium	0.0077	0.0500	0.0021	mg/L	EPA 6020B	J	1	09/02/16 12:40	09/03/16 00:13	6090063	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 09:10	09/06/16 14:25	6090077	MTC

PACE ANALYTICAL SERVICES, INC.

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

Attention: Mr. Joju Abraham

September 09, 2016

Report No.: AZI0019
Client ID: HGWC-109
Date/Time Sampled: 8/31/2016 3:24:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0019-11
Date/Time Received: 9/1/2016 9:25:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	182	25	10	mg/L	SM 2540 C		1	09/06/16 19:00	09/06/16 19:00	6090102	JPT
Inorganic Anions											
Chloride	5.0	0.25	0.01	mg/L	EPA 300.0		1	09/03/16 09:59	09/04/16 05:06	6090083	RLC
Fluoride	0.12	0.30	0.02	mg/L	EPA 300.0	J	1	09/03/16 09:59	09/04/16 05:06	6090083	RLC
Sulfate	36	1.0	0.05	mg/L	EPA 300.0		1	09/03/16 09:59	09/04/16 05:06	6090083	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 18:30	6090063	CSW
Arsenic	0.0045	0.0050	0.0016	mg/L	EPA 6020B	J	1	09/02/16 12:40	09/03/16 00:19	6090063	CSW
Barium	0.0883	0.0100	0.0004	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:19	6090063	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:19	6090063	CSW
Boron	0.402	0.100	0.0064	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:19	6090063	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:19	6090063	CSW
Calcium	35.1	2.50	0.155	mg/L	EPA 6020B		5	09/02/16 12:40	09/06/16 16:50	6090063	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:19	6090063	CSW
Cobalt	0.0023	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/02/16 12:40	09/03/16 00:19	6090063	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:19	6090063	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:19	6090063	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:19	6090063	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:19	6090063	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/02/16 12:40	09/03/16 00:19	6090063	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 09:10	09/06/16 14:27	6090077	MTC

PACE ANALYTICAL SERVICES, INC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 09, 2016

Report No.: AZI0019
Client ID: FERB-1
Date/Time Sampled: 8/31/2016 4:15:00PM
Matrix: DI Water

Project: CCR Event
Lab Number ID: AZI0019-12
Date/Time Received: 9/1/2016 9:25:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	09/06/16 19:00	09/06/16 19:00	6090102	JPT
Inorganic Anions											
Chloride	0.06	0.25	0.01	mg/L	EPA 300.0	J	1	09/03/16 09:59	09/04/16 05:27	6090083	RLC
Fluoride	ND	0.30	0.02	mg/L	EPA 300.0		1	09/03/16 09:59	09/04/16 05:27	6090083	RLC
Sulfate	ND	1.0	0.05	mg/L	EPA 300.0		1	09/03/16 09:59	09/04/16 05:27	6090083	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 18:15	6090081	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 18:15	6090081	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 18:15	6090081	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 18:15	6090081	CSW
Boron	0.105	0.100	0.0064	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 18:15	6090081	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 18:15	6090081	CSW
Calcium	0.0523	0.500	0.0311	mg/L	EPA 6020B	J	1	09/06/16 09:45	09/06/16 18:15	6090081	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 18:15	6090081	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 18:15	6090081	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 18:15	6090081	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 18:15	6090081	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 18:15	6090081	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 18:15	6090081	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 18:15	6090081	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 09:10	09/06/16 14:34	6090077	MTC

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 09, 2016

Report No.: AZI0019
Client ID: Dup-1
Date/Time Sampled: 8/31/2016 12:00:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZI0019-13
Date/Time Received: 9/1/2016 9:25:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	476	25	10	mg/L	SM 2540 C		1	09/06/16 19:00	09/06/16 19:00	6090102	JPT
Inorganic Anions											
Chloride	5.3	0.25	0.01	mg/L	EPA 300.0		1	09/03/16 09:59	09/04/16 10:45	6090083	RLC
Fluoride	0.07	0.30	0.02	mg/L	EPA 300.0	J	1	09/03/16 09:59	09/04/16 10:45	6090083	RLC
Sulfate	280	10	0.51	mg/L	EPA 300.0		10	09/03/16 09:59	09/05/16 16:55	6090083	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 18:21	6090081	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 18:21	6090081	CSW
Barium	0.0441	0.0100	0.0004	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 18:21	6090081	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/06/16 09:45	09/07/16 17:42	6090081	CSW
Boron	2.12	0.500	0.0321	mg/L	EPA 6020B		5	09/06/16 09:45	09/08/16 13:21	6090081	CSW
Cadmium	0.0006	0.0010	0.00007	mg/L	EPA 6020B	J	1	09/06/16 09:45	09/06/16 18:21	6090081	CSW
Calcium	65.2	5.00	0.311	mg/L	EPA 6020B		10	09/06/16 09:45	09/08/16 15:43	6090081	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 18:21	6090081	CSW
Cobalt	0.0018	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/06/16 09:45	09/06/16 18:21	6090081	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 18:21	6090081	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 18:21	6090081	CSW
Selenium	0.0011	0.0100	0.0010	mg/L	EPA 6020B	J	1	09/06/16 09:45	09/06/16 18:21	6090081	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/06/16 09:45	09/06/16 18:21	6090081	CSW
Lithium	ND	0.0500	0.0103	mg/L	EPA 6020B		5	09/06/16 09:45	09/08/16 13:21	6090081	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 09:10	09/06/16 14:37	6090077	MTC

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General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090101 - SM 2540 C											
Blank (6090101-BLK1)						Prepared & Analyzed: 09/06/16					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (6090101-BS1)						Prepared & Analyzed: 09/06/16					
Total Dissolved Solids	393	25	10	mg/L	400.00		98	84-108			
Duplicate (6090101-DUP1)			**Source: AZI0015-02**			Prepared & Analyzed: 09/06/16					
Total Dissolved Solids	3870	25	10	mg/L		3860			0.2	10	
Duplicate (6090101-DUP2)			**Source: AZI0018-04**			Prepared & Analyzed: 09/06/16					
Total Dissolved Solids	80	25	10	mg/L		122			42	10	QR-03
Batch 6090102 - SM 2540 C											
Blank (6090102-BLK1)						Prepared & Analyzed: 09/06/16					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (6090102-BS1)						Prepared & Analyzed: 09/06/16					
Total Dissolved Solids	398	25	10	mg/L	400.00		100	84-108			
Duplicate (6090102-DUP1)			**Source: AZI0019-08**			Prepared & Analyzed: 09/06/16					
Total Dissolved Solids	366	25	10	mg/L		389			6	10	
Duplicate (6090102-DUP2)			**Source: AZI0022-01**			Prepared & Analyzed: 09/06/16					
Total Dissolved Solids	3490	25	10	mg/L		3460			0.9	10	
Batch 6090156 - SM 2540 C											
Blank (6090156-BLK1)						Prepared & Analyzed: 09/07/16					
Total Dissolved Solids	ND	25	10	mg/L							

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General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090156 - SM 2540 C											
LCS (6090156-BS1)						Prepared & Analyzed: 09/07/16					
Total Dissolved Solids	398	25	10	mg/L	400.00		100	84-108			
Duplicate (6090156-DUP1)			**Source: AZI0050-01**			Prepared & Analyzed: 09/07/16					
Total Dissolved Solids	4530	25	10	mg/L		4540			0.3	10	

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Report No.: AZI0019

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090083 - EPA 300.0											
Blank (6090083-BLK1)						Prepared & Analyzed: 09/03/16					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.02	mg/L							
Sulfate	ND	1.0	0.05	mg/L							
LCS (6090083-BS1)						Prepared & Analyzed: 09/03/16					
Chloride	10.1	0.25	0.01	mg/L	10.010		100	90-110			
Fluoride	10.3	0.30	0.02	mg/L	10.010		103	90-110			
Sulfate	10.2	1.0	0.05	mg/L	10.010		101	90-110			
Matrix Spike (6090083-MS1)		**Source: AZI0019-06**				Prepared: 09/03/16 Analyzed: 09/04/16					
Chloride	13.6	0.25	0.01	mg/L	10.010	3.52	100	90-110			
Fluoride	10.9	0.30	0.02	mg/L	10.010	0.65	103	90-110			
Sulfate	207	1.0	0.05	mg/L	10.010	217	NR	90-110			QM-02
Matrix Spike (6090083-MS2)		**Source: AZI0020-02**				Prepared: 09/03/16 Analyzed: 09/04/16					
Chloride	17.1	0.25	0.01	mg/L	10.010	6.74	103	90-110			
Fluoride	11.1	0.30	0.02	mg/L	10.010	0.07	110	90-110			
Sulfate	85.3	1.0	0.05	mg/L	10.010	84.2	11	90-110			QM-05
Matrix Spike Dup (6090083-MSD1)		**Source: AZI0019-06**				Prepared: 09/03/16 Analyzed: 09/04/16					
Chloride	13.7	0.25	0.01	mg/L	10.010	3.52	101	90-110	0.6	15	
Fluoride	11.0	0.30	0.02	mg/L	10.010	0.65	103	90-110	0.8	15	
Sulfate	207	1.0	0.05	mg/L	10.010	217	NR	90-110	0.09	15	QM-02

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090042 - EPA 7470A											
Blank (6090042-BLK1)						Prepared & Analyzed: 09/02/16					
Mercury	0.00004	0.00050	0.000041	mg/L							J
LCS (6090042-BS1)						Prepared & Analyzed: 09/02/16					
Mercury	0.00245	0.00050	0.000041	mg/L	2.5000E-3		98	80-120			
Matrix Spike (6090042-MS1)		**Source: AZI0015-02**				Prepared & Analyzed: 09/02/16					
Mercury	0.00218	0.00050	0.000041	mg/L	2.5000E-3	ND	87	75-125			
Matrix Spike Dup (6090042-MSD1)		**Source: AZI0015-02**				Prepared & Analyzed: 09/02/16					
Mercury	0.00215	0.00050	0.000041	mg/L	2.5000E-3	ND	86	75-125	1	20	
Post Spike (6090042-PS1)		**Source: AZI0015-02**				Prepared & Analyzed: 09/02/16					
Mercury	1.58			ug/L	1.6667	0.0259	93	80-120			
Batch 6090063 - EPA 3005A											
Blank (6090063-BLK1)						Prepared: 09/02/16 Analyzed: 09/03/16					
Antimony	ND	0.0030	0.0008	mg/L							
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	ND	0.100	0.0064	mg/L							
Cadmium	ND	0.0010	0.00007	mg/L							
Calcium	ND	0.500	0.0311	mg/L							
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0050	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0050	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0050	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	ND	0.0100	0.0021	mg/L							
Lithium	ND	0.0500	0.0021	mg/L							

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September 09, 2016

Report No.: AZI0019

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090063 - EPA 3005A											
LCS (6090063-BS1)						Prepared & Analyzed: 09/02/16					
Antimony	0.106	0.0030	0.0008	mg/L	0.10000		106	80-120			
Arsenic	0.0977	0.0050	0.0016	mg/L	0.10000		98	80-120			
Barium	0.0953	0.0100	0.0004	mg/L	0.10000		95	80-120			
Beryllium	0.0878	0.0030	0.00008	mg/L	0.10000		88	80-120			
Boron	0.901	0.100	0.0064	mg/L	1.0000		90	80-120			
Cadmium	0.0994	0.0010	0.00007	mg/L	0.10000		99	80-120			
Calcium	0.963	0.500	0.0311	mg/L	1.0000		96	80-120			
Chromium	0.0995	0.0100	0.0009	mg/L	0.10000		99	80-120			
Cobalt	0.0958	0.0100	0.0005	mg/L	0.10000		96	80-120			
Copper	0.0944	0.0050	0.0005	mg/L	0.10000		94	80-120			
Lead	0.0976	0.0050	0.0001	mg/L	0.10000		98	80-120			
Molybdenum	0.0993	0.0100	0.0017	mg/L	0.10000		99	80-120			
Nickel	0.0949	0.0050	0.0006	mg/L	0.10000		95	80-120			
Selenium	0.101	0.0100	0.0010	mg/L	0.10000		101	80-120			
Silver	0.100	0.0050	0.0005	mg/L	0.10000		100	80-120			
Thallium	0.0979	0.0010	0.0002	mg/L	0.10000		98	80-120			
Vanadium	0.0982	0.0100	0.0071	mg/L	0.10000		98	80-120			
Zinc	0.0982	0.0100	0.0021	mg/L	0.10000		98	80-120			
Lithium	0.0890	0.0500	0.0021	mg/L	0.10000		89	80-120			
Matrix Spike (6090063-MS1)		**Source: AZI0015-03**				Prepared & Analyzed: 09/02/16					
Antimony	0.104	0.0030	0.0008	mg/L	0.10000	ND	104	75-125			
Arsenic	0.101	0.0050	0.0016	mg/L	0.10000	ND	101	75-125			
Barium	0.130	0.0100	0.0004	mg/L	0.10000	0.0289	101	75-125			
Beryllium	0.0763	0.0030	0.00008	mg/L	0.10000	ND	76	75-125			
Boron	1.20	0.100	0.0064	mg/L	1.0000	0.560	64	75-125			QM-02
Cadmium	0.0936	0.0010	0.00007	mg/L	0.10000	ND	94	75-125			
Calcium	64.9	5.00	0.311	mg/L	1.0000	65.0	NR	75-125			QM-02
Chromium	0.108	0.0100	0.0009	mg/L	0.10000	0.0013	107	75-125			
Cobalt	0.0979	0.0100	0.0005	mg/L	0.10000	ND	98	75-125			
Copper	0.0877	0.0050	0.0005	mg/L	0.10000	ND	88	75-125			
Lead	0.0905	0.0050	0.0001	mg/L	0.10000	ND	90	75-125			
Molybdenum	0.109	0.0100	0.0017	mg/L	0.10000	ND	109	75-125			
Nickel	0.0920	0.0050	0.0006	mg/L	0.10000	ND	92	75-125			
Selenium	0.0440	0.0100	0.0010	mg/L	0.10000	0.0020	42	75-125			QM-05
Silver	0.0878	0.0050	0.0005	mg/L	0.10000	ND	88	75-125			
Thallium	0.0940	0.0010	0.0002	mg/L	0.10000	ND	94	75-125			
Vanadium	0.122	0.0100	0.0071	mg/L	0.10000	ND	122	75-125			
Zinc	0.0911	0.0100	0.0021	mg/L	0.10000	ND	91	75-125			
Lithium	0.103	0.0500	0.0021	mg/L	0.10000	0.0219	81	75-125			

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September 09, 2016

Report No.: AZI0019

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090063 - EPA 3005A											
Matrix Spike Dup (6090063-MSD1)		**Source: AZI0015-03**			Prepared & Analyzed: 09/02/16						
Antimony	0.102	0.0030	0.0008	mg/L	0.10000	ND	102	75-125	2	20	
Arsenic	0.100	0.0050	0.0016	mg/L	0.10000	ND	100	75-125	0.5	20	
Barium	0.127	0.0100	0.0004	mg/L	0.10000	0.0289	98	75-125	2	20	
Beryllium	0.0745	0.0030	0.00008	mg/L	0.10000	ND	74	75-125	2	20	QM-05
Boron	1.15	0.100	0.0064	mg/L	1.0000	0.560	59	75-125	5	20	QM-02
Cadmium	0.0896	0.0010	0.00007	mg/L	0.10000	ND	90	75-125	4	20	
Calcium	58.7	5.00	0.311	mg/L	1.0000	65.0	NR	75-125	10	20	QM-02
Chromium	0.108	0.0100	0.0009	mg/L	0.10000	0.0013	106	75-125	0.2	20	
Cobalt	0.0961	0.0100	0.0005	mg/L	0.10000	ND	96	75-125	2	20	
Copper	0.0884	0.0050	0.0005	mg/L	0.10000	ND	88	75-125	0.8	20	
Lead	0.0869	0.0050	0.0001	mg/L	0.10000	ND	87	75-125	4	20	
Molybdenum	0.104	0.0100	0.0017	mg/L	0.10000	ND	104	75-125	4	20	
Nickel	0.0900	0.0050	0.0006	mg/L	0.10000	ND	90	75-125	2	20	
Selenium	0.0527	0.0100	0.0010	mg/L	0.10000	0.0020	51	75-125	18	20	QM-05
Silver	0.0855	0.0050	0.0005	mg/L	0.10000	ND	85	75-125	3	20	
Thallium	0.0894	0.0010	0.0002	mg/L	0.10000	ND	89	75-125	5	20	
Vanadium	0.118	0.0100	0.0071	mg/L	0.10000	ND	118	75-125	3	20	
Zinc	0.0920	0.0100	0.0021	mg/L	0.10000	ND	92	75-125	1	20	
Lithium	0.0984	0.0500	0.0021	mg/L	0.10000	0.0219	77	75-125	4	20	
Post Spike (6090063-PS1)		**Source: AZI0015-03**			Prepared & Analyzed: 09/02/16						
Antimony	98.9			ug/L	100.00	0.0800	99	80-120			
Arsenic	101			ug/L	100.00	1.53	99	80-120			
Barium	127			ug/L	100.00	28.9	98	80-120			
Beryllium	74.5			ug/L	100.00	0.0207	74	80-120			QM-05
Boron	1160			ug/L	1000.0	560	60	80-120			QM-02
Cadmium	92.6			ug/L	100.00	0.0183	93	80-120			
Calcium	61300			ug/L	1000.0	65000	NR	80-120			QM-02
Chromium	104			ug/L	100.00	1.25	102	80-120			
Cobalt	95.2			ug/L	100.00	0.401	95	80-120			
Copper	85.0			ug/L	100.00	0.195	85	80-120			
Lead	87.6			ug/L	100.00	0.0431	88	80-120			
Molybdenum	108			ug/L	100.00	0.480	108	80-120			
Nickel	92.6			ug/L	100.00	0.329	92	80-120			
Selenium	99.2			ug/L	100.00	2.03	97	80-120			
Silver	87.8			ug/L	100.00	0.0021	88	80-120			
Thallium	91.5			ug/L	100.00	0.0702	91	80-120			
Vanadium	115			ug/L	100.00	6.20	109	80-120			
Zinc	91.9			ug/L	100.00	1.01	91	80-120			
Lithium	102			ug/L	100.00	21.9	80	80-120			

PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 09, 2016

Report No.: AZI0019

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090077 - EPA 7470A											
Blank (6090077-BLK1)						Prepared & Analyzed: 09/06/16					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (6090077-BS1)						Prepared & Analyzed: 09/06/16					
Mercury	0.00240	0.00050	0.000041	mg/L	2.5000E-3		96	80-120			
Matrix Spike (6090077-MS1)		**Source: AZI0021-02**				Prepared & Analyzed: 09/06/16					
Mercury	0.00235	0.00050	0.000041	mg/L	2.5000E-3	ND	94	75-125			
Matrix Spike Dup (6090077-MSD1)		**Source: AZI0021-02**				Prepared & Analyzed: 09/06/16					
Mercury	0.00234	0.00050	0.000041	mg/L	2.5000E-3	ND	93	75-125	0.5	20	
Post Spike (6090077-PS1)		**Source: AZI0021-02**				Prepared & Analyzed: 09/06/16					
Mercury	1.67			ug/L	1.6667	0.00498	100	80-120			
Batch 6090081 - EPA 3005A											
Blank (6090081-BLK1)						Prepared & Analyzed: 09/06/16					
Antimony	ND	0.0030	0.0008	mg/L							
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	ND	0.100	0.0064	mg/L							
Cadmium	ND	0.0010	0.00007	mg/L							
Calcium	ND	0.500	0.0311	mg/L							
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0050	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0050	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0050	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	ND	0.0100	0.0021	mg/L							
Lithium	ND	0.0500	0.0021	mg/L							

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 09, 2016

Report No.: AZI0019

Metals, Total - Quality Control

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

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(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 09, 2016

Report No.: AZI0019

Metals, Total - Quality Control

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

PACE ANALYTICAL SERVICES, INC.

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(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 09, 2016

Legend

Definition of Laboratory Terms

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

Sample Information

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

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

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

Definition of Qualifiers

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

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

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

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

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

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

CHAIN OF CUSTODY RECORD

Pace Analytical®

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

CLIENT NAME: Georgia Power

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

REPORT TO: Joju Abraham

CC: Maria Padilla, Heath McCorkle

REQUESTED COMPLETION DATE:

PO #: laburch@southernco.com

PROJECT NAME/STATE: Plant Hammond AP 3&4

PROJECT #: Phase 2 - CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)	LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
					CONTAINER TYPE:		P	P	P		
					PRESERVATION:		3	7	3		
8/31/16	10:40	GW		X	HGWC-117	3	1	1	1	1	
8/31/16	10:55	GW		X	HGWC-124	3	1	1	1	2	
8/31/16	11:25	GW		X	HGWC-118	3	1	1	1	3	
8/31/16	12:23	GW		X	HGWC-101	3	1	1	1	4	
8/31/16	12:55	GW		X	HGWC-103	3	1	1	1	5	
8/31/16	13:10	GW		X	HGWC-120	3	1	1	1	6	
8/31/16	13:40	W		X	FB-1	3	1	1	1	7	
8/31/16	14:15	GW		X	HGWC-105	3	1	1	1	8	
8/31/16	14:42	GW		X	HGWC-107	3	1	1	1	9	
8/31/16	15:10	GW		X	HGWC-121	3	1	1	1	10	
8/31/16	15:24	GW		X	HGWC-109	3	1	1	1	11	
8/31/16	16:15	W		X	FERB-1	3	1	1	1	12	

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

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

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

SAMPLED BY AND TITLE: ERM-M.R., M.T.; ENSTAVICES-T.W.

DATE/TIME: 8/31/16 17:00

RELINQUISHED BY:

DATE/TIME: 9/1/2016 07:11

RECEIVED BY:

DATE/TIME: 9/1/16 7:11

RELINQUISHED BY:

DATE/TIME:

RECEIVED BY LAB:

DATE/TIME: 09/01/16 0925

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

pH checked: Yes No NA

Ice: Yes No NA

Temperature: 2° Min: 2° Max:

Custody Seal: Intact Broken Not Present

# of Coolers:

Cooler ID:

FOR LAB USE ONLY

LAB #: AZI0019

Entered into LIMS: MR

Tracking #:

CHAIN OF CUSTODY RECORD

Pace Analytical®

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(770) 734-4200 : FAX (770) 734-4201 : www.asi-lab.com

CLIENT NAME: Georgia Power

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

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

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

PROJECT NAME/STATE: Plant Hammond AP 3&4

PROJECT #: Phase 2 - CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals App. III & IV (EPA 6020/7470)	Cl, F, SO4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)	LAB ID NUMBER
					CONTAINER TYPE		P	P	P	
					PRESERVATION		3	7	3	
8/31/16	—	GW		X	DUP-1	3	1	1	1	13

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

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

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: ERM-M.R. DATE/TIME: 8/31/16 17:00

RELINQUISHED BY: DATE/TIME: 9/1/2016 07:11

RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME:

RECEIVED BY LAB: DATE/TIME: 09/01/16 0925

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

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

FOR LAB USE ONLY
LAB #: AZI0019
Entered into LIMS: MR
Tracking #:

PACE ANALYTICAL SERVICES, INC.

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

LOG-IN CHECKLIST **Printed: 9/9/2016 5:55:12PM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 09/01/16 09:25

Work Order: AZI0019
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 13 **#Containers:** 39

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

CHECKLIST ITEMS

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

Comments:

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

October 04, 2016

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: Plant Hammond AP 3&4
Pace Project No.: 30195007

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

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

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

CERTIFICATIONS

Project: Plant Hammond AP 3&4
Pace Project No.: 30195007

Pennsylvania Certification IDs

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

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Greensburg, PA 15601
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SAMPLE SUMMARY

Project: Plant Hammond AP 3&4
Pace Project No.: 30195007

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30195007001	**HGWC-117**	Water	08/31/16 10:40	09/02/16 10:20
30195007002	**HGWC-124**	Water	08/31/16 10:55	09/02/16 10:20
30195007004	**HGWC-101**	Water	08/31/16 12:23	09/02/16 10:20
30195007005	**HGWC-120**	Water	08/31/16 13:10	09/02/16 10:20
30195007006	**FB-1**	Water	08/31/16 13:40	09/02/16 10:20
30195007007	**HGWC-105**	Water	08/31/16 14:15	09/02/16 10:20
30195007008	**HGWC-107**	Water	08/31/16 14:42	09/02/16 10:20
30195007009	**HGWC-121**	Water	08/31/16 15:10	09/02/16 10:20
30195007010	**HGWC-109**	Water	08/31/16 15:24	09/02/16 10:20
30195007011	**FERB-1**	Water	08/31/16 16:15	09/02/16 10:20
30195007012	**DUP-1**	Water	08/31/16 00:01	09/02/16 10:20
30195007013	**HGWC-103**	Water	08/31/16 12:55	09/02/16 10:20

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SAMPLE ANALYTE COUNT

Project: Plant Hammond AP 3&4
Pace Project No.: 30195007

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30195007001	**HGWC-117**	EPA 9315	WRR	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30195007002	**HGWC-124**	EPA 9315	WRR	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30195007004	**HGWC-101**	EPA 9315	WRR	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30195007005	**HGWC-120**	EPA 9315	WRR	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30195007006	**FB-1**	EPA 9315	WRR	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30195007007	**HGWC-105**	EPA 9315	WRR	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30195007008	**HGWC-107**	EPA 9315	WRR	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30195007009	**HGWC-121**	EPA 9315	WRR	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30195007010	**HGWC-109**	EPA 9315	WRR	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30195007011	**FERB-1**	EPA 9315	WRR	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30195007012	**DUP-1**	EPA 9315	WRR	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30195007013	**HGWC-103**	EPA 9315	WRR	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1

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PROJECT NARRATIVE

Project: Plant Hammond AP 3&4
Pace Project No.: 30195007

Date: October 04, 2016

Sample 30195007003 could not be analyzed due to the low volume received.

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PROJECT NARRATIVE

Project: Plant Hammond AP 3&4
Pace Project No.: 30195007

Method: **EPA 9315**
Description: 9315 Total Radium
Client: Pace Analytical Services, Inc. Atlanta
Date: October 04, 2016

General Information:
12 samples were analyzed for EPA 9315. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Plant Hammond AP 3&4
Pace Project No.: 30195007

Method: **EPA 9320**
Description: 9320 Radium 228
Client: Pace Analytical Services, Inc. Atlanta
Date: October 04, 2016

General Information:
12 samples were analyzed for EPA 9320. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Plant Hammond AP 3&4
Pace Project No.: 30195007

Method: **Total Radium Calculation**
Description: Total Radium 228+226
Client: Pace Analytical Services, Inc. Atlanta
Date: October 04, 2016

General Information:
12 samples were analyzed for Total Radium Calculation. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond AP 3&4
Pace Project No.: 30195007

Sample: HGWC-117 **Lab ID: 30195007001** Collected: 08/31/16 10:40 Received: 09/02/16 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.123 ± 0.160 (0.336) C:91% T:NA**	pCi/L	09/14/16 11:31	13982-63-3	
Radium-228	EPA 9320	**0.996 ± 0.441 (0.732) C:75% T:77%**	pCi/L	09/23/16 01:43	15262-20-1	
Total Radium	Total Radium Calculation	**1.12 ± 0.601 (1.07)**	pCi/L	09/23/16 13:04	7440-14-4	

Sample: HGWC-124 **Lab ID: 30195007002** Collected: 08/31/16 10:55 Received: 09/02/16 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0330 ± 0.112 (0.265) C:87% T:NA**	pCi/L	09/14/16 11:31	13982-63-3	
Radium-228	EPA 9320	**1.19 ± 0.502 (0.814) C:70% T:73%**	pCi/L	09/23/16 01:43	15262-20-1	
Total Radium	Total Radium Calculation	**1.22 ± 0.614 (1.08)**	pCi/L	09/23/16 13:04	7440-14-4	

Sample: HGWC-101 **Lab ID: 30195007004** Collected: 08/31/16 12:23 Received: 09/02/16 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.233 ± 0.169 (0.299) C:86% T:NA**	pCi/L	09/14/16 11:32	13982-63-3	
Radium-228	EPA 9320	**0.388 ± 0.392 (0.791) C:69% T:80%**	pCi/L	09/23/16 01:43	15262-20-1	
Total Radium	Total Radium Calculation	**0.621 ± 0.561 (1.09)**	pCi/L	09/23/16 13:04	7440-14-4	

Sample: HGWC-120 **Lab ID: 30195007005** Collected: 08/31/16 13:10 Received: 09/02/16 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.274 ± 0.161 (0.252) C:82% T:NA**	pCi/L	09/14/16 11:32	13982-63-3	
Radium-228	EPA 9320	**1.20 ± 0.453 (0.693) C:80% T:76%**	pCi/L	09/23/16 01:43	15262-20-1	
Total Radium	Total Radium Calculation	**1.47 ± 0.614 (0.945)**	pCi/L	09/23/16 13:04	7440-14-4	

Sample: FB-1 **Lab ID: 30195007006** Collected: 08/31/16 13:40 Received: 09/02/16 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0276 ± 0.158 (0.381) C:62% T:NA**	pCi/L	09/14/16 11:32	13982-63-3	
Radium-228	EPA 9320	**0.774 ± 0.452 (0.823) C:70% T:72%**	pCi/L	09/23/16 01:56	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond AP 3&4
Pace Project No.: 30195007

Sample: FB-1 **Lab ID: 30195007006** Collected: 08/31/16 13:40 Received: 09/02/16 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	**0.802 ± 0.610 (1.20)**	pCi/L	09/23/16 13:04	7440-14-4	

Sample: HGWC-105 **Lab ID: 30195007007** Collected: 08/31/16 14:15 Received: 09/02/16 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.108 ± 0.114 (0.223) C:91% T:NA**	pCi/L	09/14/16 11:32	13982-63-3	
Radium-228	EPA 9320	**0.798 ± 0.421 (0.749) C:71% T:82%**	pCi/L	09/23/16 01:43	15262-20-1	
Total Radium	Total Radium Calculation	**0.906 ± 0.535 (0.972)**	pCi/L	09/23/16 13:04	7440-14-4	

Sample: HGWC-107 **Lab ID: 30195007008** Collected: 08/31/16 14:42 Received: 09/02/16 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.106 ± 0.147 (0.313) C:86% T:NA**	pCi/L	09/16/16 08:18	13982-63-3	
Radium-228	EPA 9320	**1.09 ± 0.506 (0.874) C:79% T:70%**	pCi/L	09/23/16 01:43	15262-20-1	
Total Radium	Total Radium Calculation	**1.20 ± 0.653 (1.19)**	pCi/L	10/04/16 11:22	7440-14-4	

Sample: HGWC-121 **Lab ID: 30195007009** Collected: 08/31/16 15:10 Received: 09/02/16 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.252 ± 0.138 (0.215) C:91% T:NA**	pCi/L	09/16/16 08:18	13982-63-3	
Radium-228	EPA 9320	**1.32 ± 0.447 (0.634) C:79% T:85%**	pCi/L	09/23/16 01:43	15262-20-1	
Total Radium	Total Radium Calculation	**1.57 ± 0.585 (0.849)**	pCi/L	10/04/16 11:22	7440-14-4	

Sample: HGWC-109 **Lab ID: 30195007010** Collected: 08/31/16 15:24 Received: 09/02/16 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.146 ± 0.120 (0.223) C:90% T:NA**	pCi/L	09/16/16 08:18	13982-63-3	
Radium-228	EPA 9320	**0.880 ± 0.389 (0.638) C:77% T:82%**	pCi/L	09/23/16 01:56	15262-20-1	
Total Radium	Total Radium Calculation	**1.03 ± 0.509 (0.861)**	pCi/L	10/04/16 11:22	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond AP 3&4
Pace Project No.: 30195007

Sample: FERB-1 **Lab ID: 30195007011** Collected: 08/31/16 16:15 Received: 09/02/16 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0663 ± 0.118 (0.259) C:86% T:NA**	pCi/L	09/16/16 08:18	13982-63-3	
Radium-228	EPA 9320	**0.956 ± 0.426 (0.704) C:78% T:74%**	pCi/L	09/23/16 01:44	15262-20-1	
Total Radium	Total Radium Calculation	**1.02 ± 0.544 (0.963)**	pCi/L	10/04/16 11:22	7440-14-4	

Sample: DUP-1 **Lab ID: 30195007012** Collected: 08/31/16 00:01 Received: 09/02/16 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.185 ± 0.117 (0.188) C:89% T:NA**	pCi/L	09/16/16 08:18	13982-63-3	
Radium-228	EPA 9320	**1.42 ± 0.459 (0.593) C:77% T:76%**	pCi/L	09/23/16 01:57	15262-20-1	
Total Radium	Total Radium Calculation	**1.61 ± 0.576 (0.781)**	pCi/L	10/04/16 11:22	7440-14-4	

Sample: HGWC-103 **Lab ID: 30195007013** Collected: 08/31/16 12:55 Received: 09/02/16 10:20 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0844 ± 0.105 (0.216) C:88% T:NA**	pCi/L	09/16/16 08:19	13982-63-3	
Radium-228	EPA 9320	**1.54 ± 0.475 (0.584) C:75% T:77%**	pCi/L	09/23/16 01:45	15262-20-1	
Total Radium	Total Radium Calculation	**1.62 ± 0.580 (0.800)**	pCi/L	10/03/16 15:46	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond AP 3&4
Pace Project No.: 30195007

QC Batch: 232409 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30195007001, 30195007002, 30195007004, 30195007005, 30195007006, 30195007007

METHOD BLANK: 1138994 Matrix: Water
Associated Lab Samples: 30195007001, 30195007002, 30195007004, 30195007005, 30195007006, 30195007007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.716 ± 0.356 (0.609) C:84% T:86%	pCi/L	09/22/16 21:46	

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.

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond AP 3&4
Pace Project No.: 30195007

QC Batch: 232977 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30195007008, 30195007009, 30195007010, 30195007011, 30195007012, 30195007013

METHOD BLANK: 1141794 Matrix: Water
Associated Lab Samples: 30195007008, 30195007009, 30195007010, 30195007011, 30195007012, 30195007013

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

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

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond AP 3&4
Pace Project No.: 30195007

QC Batch: 232983 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30195007008, 30195007009, 30195007010, 30195007011, 30195007012, 30195007013

METHOD BLANK: 1141811 Matrix: Water
Associated Lab Samples: 30195007008, 30195007009, 30195007010, 30195007011, 30195007012, 30195007013

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

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

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond AP 3&4
Pace Project No.: 30195007

QC Batch: 232408 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30195007001, 30195007002, 30195007004, 30195007005, 30195007006, 30195007007

METHOD BLANK: 1138993 Matrix: Water
Associated Lab Samples: 30195007001, 30195007002, 30195007004, 30195007005, 30195007006, 30195007007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0402 ± 0.0839 (0.189) C:94% T:NA	pCi/L	09/14/16 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.

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QUALIFIERS

Project: Plant Hammond AP 3&4
Pace Project No.: 30195007

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

WO#: 30195007

CHAIN OF CUSTODY RECORD

Pace Analytical®

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

CLIENT NAME: Georgia Power

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

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

PROJECT NAME/STATE: Plant Hammond AP 3&4

PROJECT #: Phase 2 - CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)	LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
					CONTAINER TYPE:	P	P	P			
					PRESERVATION:	3	7	3			
8/31/16	10:40	GW		X	HGWC-117	3	1	1	1		001
8/31/16	10:55	GW		X	HGWC-124	3	1	1	1		002
8/31/16	11:25	GW		X	HGWC-118	3	1	1	1		003
8/31/16	12:23	GW		X	HGWC-101	3	1	1	1		004
8/31/16	12:55	GW		X	HGWC-103	3	1	1	1		005 013
8/31/16	13:10	GW		X	HGWC-120	3	1	1	1		006 005
8/31/16	13:40	W		X	FB-1	3	1	1	1		007 006
8/31/16	14:15	GW		X	HGWC-105	3	1	1	1		008 007
8/31/16	14:42	GW		X	HGWC-107	3	1	1	1		009 008
8/31/16	15:10	GW		X	HGWC-121	3	1	1	1		010 009
8/31/16	15:24	GW		X	HGWC-109	3	1	1	1		011 010
8/31/16	16:15	W		X	FERB-1	3	1	1	1		012 011

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

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

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

SAMPLED BY AND TITLE: ERM-M.R., M.T.; EM SERVICES - T.W.
DATE/TIME: 8/31/16 17:00

RELINQUISHED BY:
DATE/TIME: 9/1/2016 07:21

RECEIVED BY:
DATE/TIME: 9/1/16 7:21

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY LAB:
DATE/TIME: 9/2/16 10:20

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

pH checked: Yes No NA
Ice: Yes No NA
Temperature: Min: N/A Max:
Custody Seal: Intact Broken Not Present
# of Coolers: 4
Cooler ID:

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

30195007

CHAIN OF CUSTODY RECORD

Pace Analytical®

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

CLIENT NAME: Georgia Power

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

REPORT TO: Joju Abraham

CC: Maria Padilla, Heath McCorkle

REQUESTED COMPLETION DATE:

PO #:

laburch@southernco.com

PROJECT NAME/STATE: Plant Hammond AP 3&4

PROJECT #: Phase 2 - CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)							LAB ID NUMBER
CONTAINER TYPE:								P	P	P							
PRESERVATION:								3	7	3							
8/31/16	—	GW		X	DUP-1	3		1	1	1							

CONTAINER TYPE / PRESERVATION

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

*MATRIX CODES:

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

REMARKS/ADDITIONAL INFORMATION

~~AT~~ NRV 9-2-16 012

SAMPLED BY AND TITLE: ERM-M.R. DATE/TIME: 8/31/16 17:00

RELINQUISHED BY: DATE/TIME: 9/1/2016 07:11

RECEIVED BY: DATE/TIME: 9/1/16 7:11

RELINQUISHED BY: DATE/TIME:

RECEIVED BY LAB: DATE/TIME: 9/2/16 902

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

pH checked: Yes No NA

Ice: Yes (No) NA

Temperature: Min: N/A Max:

Custody Seal: Intact Broken (Not Present)

# of Coolers: 4

Cooler ID:

FOR LAB USE ONLY

LAB #:

Entered into LIMS:

Tracking #:

Sample Condition Upon Receipt Pittsburgh

30195007

Pace Analytical

Client Name: Georgia Power Project #: _____

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

Tracking #: 6812 5098 8161

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

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

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

Temp should be above freezing to 6°C

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

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4. no Signature
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: GW, W, WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):			✓	7.
Rush Turn Around Time Requested:			✓	8.
Sufficient Volume:		✓		9. low volume HGWC - 118
Correct Containers Used:	✓			10.
-Pace Containers Used:		✓		
Containers Intact:	✓			11.
Filtered volume received for Dissolved tests				12.
All containers needing preservation have been checked.	✓			13. all below 2 PH
All containers needing preservation are found to be in compliance with EPA recommendation.	✓			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed: ML Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	14.
Trip Blank Present:		✓		15.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: ML Date: 9-2-16

Client Notification/ Resolution:

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

Comments/ Resolution: _____

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

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

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-226
Analyst:	WRR
Date:	9/21/2016
Worklist:	31292
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment

MB Sample ID	1138993
MB concentration:	0.040
M/B Counting Uncertainty:	0.084
MB MDC:	0.189
MB Numerical Performance Indicator:	0.94
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment

	LCSD (Y or N)?	N
	LCS31292	LCSD31292
Count Date:	9/14/2016	
Spike I.D.:	16-026	
Spike Concentration (pCi/mL):	44.678	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.514	
Target Conc. (pCi/L, g, F):	8.685	
Uncertainty (Calculated):	0.409	
Result (pCi/L, g, F):	7.435	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.631	
Numerical Performance Indicator:	-3.26	
Percent Recovery:	85.61%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Sample Matrix Spike Control Assessment

Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment

Sample I.D.:	30195006001	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30195006001Dup	
Sample Result (pCi/L, g, F):	1.011	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.292	
Sample Duplicate Result (pCi/L, g, F):	0.838	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.295	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	0.819	30195006001
Duplicate RPD:	18.76%	30195006001Dup
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

Matrix Spike/Matrix Spike Duplicate Sample Assessment

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

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

Comments:

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

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

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment

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

Laboratory Control Sample Assessment

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

Sample Matrix Spike Control Assessment

Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment

		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Sample I.D.:	30195125002	
Duplicate Sample I.D.	30195125002DUP	
Sample Result (pCi/L, g, F):	0.276	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.203	
Sample Duplicate Result (pCi/L, g, F):	0.108	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.241	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	1.049	30195125002
Duplicate RPD:	87.95%	30195125002DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

Matrix Spike/Matrix Spike Duplicate Sample Assessment

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

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

Comments:

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

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

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Test:	Ra-228
Analyst:	JLW
Date:	9/12/2016
Worklist:	31293
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1138994
MB concentration:	0.716
M/B Counting Uncertainty:	0.332
MB MDC:	0.609
MB Numerical Performance Indicator:	4.22
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	See Comment*

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS31293	LCSD31293
Count Date:	9/22/2016	
Spike I.D.:	16-025	
Spike Concentration (pCi/mL):	25.604	
Volume Used (mL):	0.20	
Aliquot Volume (L, g, F):	0.811	
Target Conc. (pCi/L, g, F):	6.316	
Uncertainty (Calculated):	0.455	
Result (pCi/L, g, F):	6.066	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.768	
Numerical Performance Indicator:	-0.55	
Percent Recovery:	96.04%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Sample Matrix Spike Control Assessment	
Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Sample I.D.:	30195006001	
Duplicate Sample I.D.	30195006001DUP	
Sample Result (pCi/L, g, F):	1.460	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.455	
Sample Duplicate Result (pCi/L, g, F):	2.259	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.522	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-2.261	30195006001
Duplicate RPD:	42.96%	30195006001DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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

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

Comments:

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

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

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

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

Analyst Must Manually Enter All Fields Highlighted in Yellow.

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

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

Sample Matrix Spike Control Assessment	
Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

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

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

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

Comments:

PACE ANALYTICAL SERVICES, INC.

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

Laboratory Report

Prepared For:

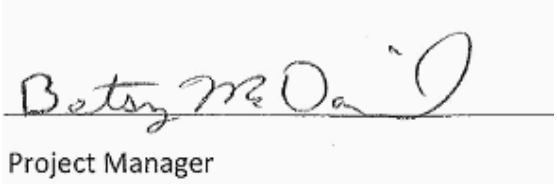
Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: **Mr. Joju Abraham**

Report Number: **AZJ0623**
October 28, 2016
Project: CCR Event
Project #:Plant Hammond

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

Approved:



Project Manager

PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 28, 2016

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HGWA-111	AZJ0623-01	Ground Water	10/20/16 14:32	10/21/16 11:48
HGWA-122	AZJ0623-02	Ground Water	10/20/16 10:50	10/21/16 11:48
HGWC-117	AZJ0623-03	Ground Water	10/20/16 10:50	10/21/16 11:48
HGWC-118	AZJ0623-04	Ground Water	10/20/16 12:30	10/21/16 11:48
HGWC-101	AZJ0623-05	Ground Water	10/20/16 14:40	10/21/16 11:48
FB-1	AZJ0623-06	Water	10/20/16 12:40	10/21/16 11:48
FERB-1	AZJ0623-07	Water	10/20/16 12:45	10/21/16 11:48
Dup-1	AZJ0623-08	Ground Water	10/20/16 00:00	10/21/16 11:48

PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 28, 2016

Report No.: AZJ0623
Client ID: HGWA-111
Date/Time Sampled: 10/20/2016 2:32:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZJ0623-01
Date/Time Received: 10/21/2016 11:48:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	108	25	10	mg/L	SM 2540 C		1	10/25/16 12:55	10/25/16 12:55	6100642	JPT
Inorganic Anions											
Chloride	3.2	0.25	0.01	mg/L	EPA 300.0		1	10/23/16 09:34	10/23/16 15:27	6100589	RLC
Fluoride	0.07	0.30	0.02	mg/L	EPA 300.0	J	1	10/23/16 09:34	10/23/16 15:27	6100589	RLC
Sulfate	1.6	1.0	0.05	mg/L	EPA 300.0		1	10/23/16 09:34	10/23/16 15:27	6100589	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 13:51	6100671	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 13:51	6100671	CSW
Barium	0.0255	0.0100	0.0004	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 13:51	6100671	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 13:51	6100671	CSW
Boron	0.0160	0.100	0.0064	mg/L	EPA 6020B	J	1	10/26/16 09:00	10/26/16 13:51	6100671	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 13:51	6100671	CSW
Calcium	38.7	2.50	0.155	mg/L	EPA 6020B		5	10/26/16 09:00	10/27/16 14:06	6100671	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 13:51	6100671	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 13:51	6100671	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 13:51	6100671	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 13:51	6100671	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 13:51	6100671	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 13:51	6100671	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 13:51	6100671	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	10/24/16 10:35	10/24/16 15:55	6100579	MTC

PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 28, 2016

Report No.: AZJ0623
Client ID: HGWA-122
Date/Time Sampled: 10/20/2016 10:50:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZJ0623-02
Date/Time Received: 10/21/2016 11:48:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	265	25	10	mg/L	SM 2540 C		1	10/25/16 12:55	10/25/16 12:55	6100642	JPT
Inorganic Anions											
Chloride	2.8	0.25	0.01	mg/L	EPA 300.0		1	10/23/16 09:34	10/23/16 17:10	6100589	RLC
Fluoride	0.13	0.30	0.02	mg/L	EPA 300.0	J	1	10/23/16 09:34	10/23/16 17:10	6100589	RLC
Sulfate	49	1.0	0.05	mg/L	EPA 300.0		1	10/23/16 09:34	10/23/16 17:10	6100589	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 13:57	6100671	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 13:57	6100671	CSW
Barium	0.0431	0.0100	0.0004	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 13:57	6100671	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 13:57	6100671	CSW
Boron	0.336	0.100	0.0064	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 13:57	6100671	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 13:57	6100671	CSW
Calcium	90.3	5.00	0.311	mg/L	EPA 6020B		10	10/26/16 09:00	10/27/16 14:12	6100671	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 13:57	6100671	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 13:57	6100671	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 13:57	6100671	CSW
Molybdenum	0.0050	0.0100	0.0017	mg/L	EPA 6020B	J	1	10/26/16 09:00	10/26/16 13:57	6100671	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 13:57	6100671	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 13:57	6100671	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 13:57	6100671	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	10/24/16 10:35	10/24/16 15:58	6100579	MTC

PACE ANALYTICAL SERVICES, INC.

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110 Technology Parkway, Peachtree Corners, GA 30092
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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 28, 2016

Report No.: AZJ0623
Client ID: HGWC-117
Date/Time Sampled: 10/20/2016 10:50:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZJ0623-03
Date/Time Received: 10/21/2016 11:48:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	319	25	10	mg/L	SM 2540 C		1	10/25/16 12:55	10/25/16 12:55	6100642	JPT
Inorganic Anions											
Chloride	7.7	0.25	0.01	mg/L	EPA 300.0		1	10/23/16 09:34	10/23/16 18:12	6100589	RLC
Fluoride	0.11	0.30	0.02	mg/L	EPA 300.0	J	1	10/23/16 09:34	10/23/16 18:12	6100589	RLC
Sulfate	150	10	0.51	mg/L	EPA 300.0		10	10/23/16 09:34	10/27/16 16:35	6100589	RNB
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:03	6100671	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:03	6100671	CSW
Barium	0.0529	0.0100	0.0004	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:03	6100671	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:03	6100671	CSW
Boron	0.956	0.100	0.0064	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:03	6100671	CSW
Cadmium	0.0008	0.0010	0.00007	mg/L	EPA 6020B	J	1	10/26/16 09:00	10/26/16 14:03	6100671	CSW
Calcium	64.4	5.00	0.311	mg/L	EPA 6020B		10	10/26/16 09:00	10/27/16 14:18	6100671	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:03	6100671	CSW
Cobalt	0.0045	0.0100	0.0005	mg/L	EPA 6020B	J	1	10/26/16 09:00	10/26/16 14:03	6100671	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:03	6100671	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:03	6100671	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:03	6100671	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:03	6100671	CSW
Lithium	0.0027	0.0500	0.0021	mg/L	EPA 6020B	J	1	10/26/16 09:00	10/26/16 14:03	6100671	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	10/24/16 10:35	10/24/16 16:00	6100579	MTC

PACE ANALYTICAL SERVICES, INC.

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 28, 2016

Report No.: AZJ0623
Client ID: HGWC-118
Date/Time Sampled: 10/20/2016 12:30:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZJ0623-04
Date/Time Received: 10/21/2016 11:48:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	305	25	10	mg/L	SM 2540 C		1	10/25/16 12:55	10/25/16 12:55	6100642	JPT
Inorganic Anions											
Chloride	4.4	0.25	0.01	mg/L	EPA 300.0		1	10/23/16 09:34	10/23/16 18:33	6100589	RLC
Fluoride	0.12	0.30	0.02	mg/L	EPA 300.0	J	1	10/23/16 09:34	10/23/16 18:33	6100589	RLC
Sulfate	81	5.0	0.26	mg/L	EPA 300.0		5	10/23/16 09:34	10/27/16 16:56	6100589	RNB
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:09	6100671	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:09	6100671	CSW
Barium	0.0550	0.0100	0.0004	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:09	6100671	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:09	6100671	CSW
Boron	0.697	0.100	0.0064	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:09	6100671	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:09	6100671	CSW
Calcium	83.7	5.00	0.311	mg/L	EPA 6020B		10	10/26/16 09:00	10/27/16 14:24	6100671	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:09	6100671	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:09	6100671	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:09	6100671	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:09	6100671	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:09	6100671	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:09	6100671	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:09	6100671	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	10/24/16 10:35	10/24/16 16:02	6100579	MTC

PACE ANALYTICAL SERVICES, INC.

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 28, 2016

Report No.: AZJ0623
Client ID: HGWC-101
Date/Time Sampled: 10/20/2016 2:40:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZJ0623-05
Date/Time Received: 10/21/2016 11:48:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	165	25	10	mg/L	SM 2540 C		1	10/25/16 12:55	10/25/16 12:55	6100642	JPT
Inorganic Anions											
Chloride	5.7	0.25	0.01	mg/L	EPA 300.0		1	10/23/16 09:34	10/23/16 18:54	6100589	RLC
Fluoride	0.03	0.30	0.02	mg/L	EPA 300.0	J	1	10/23/16 09:34	10/23/16 18:54	6100589	RLC
Sulfate	110	10	0.51	mg/L	EPA 300.0		10	10/23/16 09:34	10/27/16 18:39	6100589	RNB
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:14	6100671	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:14	6100671	CSW
Barium	0.0477	0.0100	0.0004	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:14	6100671	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:14	6100671	CSW
Boron	0.0877	0.100	0.0064	mg/L	EPA 6020B	J	1	10/26/16 09:00	10/26/16 14:14	6100671	CSW
Cadmium	0.0003	0.0010	0.00007	mg/L	EPA 6020B	J	1	10/26/16 09:00	10/26/16 14:14	6100671	CSW
Calcium	19.3	2.50	0.155	mg/L	EPA 6020B		5	10/26/16 09:00	10/26/16 16:05	6100671	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:14	6100671	CSW
Cobalt	0.0025	0.0100	0.0005	mg/L	EPA 6020B	J	1	10/26/16 09:00	10/26/16 14:14	6100671	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:14	6100671	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:14	6100671	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:14	6100671	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:14	6100671	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:14	6100671	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	10/24/16 10:35	10/24/16 16:05	6100579	MTC

PACE ANALYTICAL SERVICES, INC.

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

Attention: Mr. Joju Abraham

October 28, 2016

Report No.: AZJ0623
Client ID: FB-1
Date/Time Sampled: 10/20/2016 12:40:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AZJ0623-06
Date/Time Received: 10/21/2016 11:48:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	10/25/16 12:55	10/25/16 12:55	6100642	JPT
Inorganic Anions											
Chloride	0.04	0.25	0.01	mg/L	EPA 300.0	J	1	10/23/16 09:34	10/23/16 19:35	6100589	RLC
Fluoride	0.03	0.30	0.02	mg/L	EPA 300.0	J	1	10/23/16 09:34	10/23/16 19:35	6100589	RLC
Sulfate	ND	1.0	0.05	mg/L	EPA 300.0		1	10/23/16 09:34	10/23/16 19:35	6100589	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:20	6100671	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:20	6100671	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:20	6100671	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:20	6100671	CSW
Boron	ND	0.100	0.0064	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:20	6100671	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:20	6100671	CSW
Calcium	ND	0.500	0.0311	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:20	6100671	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:20	6100671	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:20	6100671	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:20	6100671	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:20	6100671	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:20	6100671	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:20	6100671	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:20	6100671	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	10/24/16 11:15	10/24/16 17:16	6100580	MTC

PACE ANALYTICAL SERVICES, INC.

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110 Technology Parkway, Peachtree Corners, GA 30092
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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 28, 2016

Report No.: AZJ0623
Client ID: FERB-1
Date/Time Sampled: 10/20/2016 12:45:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AZJ0623-07
Date/Time Received: 10/21/2016 11:48:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	10/25/16 12:55	10/25/16 12:55	6100642	JPT
Inorganic Anions											
Chloride	0.04	0.25	0.01	mg/L	EPA 300.0	J	1	10/23/16 09:34	10/23/16 19:56	6100589	RLC
Fluoride	ND	0.30	0.02	mg/L	EPA 300.0		1	10/23/16 09:34	10/23/16 19:56	6100589	RLC
Sulfate	ND	1.0	0.05	mg/L	EPA 300.0		1	10/23/16 09:34	10/23/16 19:56	6100589	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:26	6100671	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:26	6100671	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:26	6100671	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:26	6100671	CSW
Boron	ND	0.100	0.0064	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:26	6100671	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:26	6100671	CSW
Calcium	0.0666	0.500	0.0311	mg/L	EPA 6020B	J	1	10/26/16 09:00	10/26/16 14:26	6100671	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:26	6100671	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:26	6100671	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:26	6100671	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:26	6100671	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:26	6100671	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:26	6100671	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:26	6100671	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	10/24/16 11:15	10/24/16 17:18	6100580	MTC

PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 28, 2016

Report No.: AZJ0623
Client ID: Dup-1
Date/Time Sampled: 10/20/2016 12:00:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZJ0623-08
Date/Time Received: 10/21/2016 11:48:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	318	25	10	mg/L	SM 2540 C		1	10/25/16 12:55	10/25/16 12:55	6100642	JPT
Inorganic Anions											
Chloride	7.1	0.25	0.01	mg/L	EPA 300.0		1	10/23/16 09:34	10/23/16 20:16	6100589	RLC
Fluoride	0.05	0.30	0.02	mg/L	EPA 300.0	J	1	10/23/16 09:34	10/23/16 20:16	6100589	RLC
Sulfate	150	10	0.51	mg/L	EPA 300.0		10	10/23/16 09:34	10/27/16 19:00	6100589	RNB
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:32	6100671	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:32	6100671	CSW
Barium	0.0532	0.0100	0.0004	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:32	6100671	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:32	6100671	CSW
Boron	0.915	0.100	0.0064	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:32	6100671	CSW
Cadmium	0.0008	0.0010	0.00007	mg/L	EPA 6020B	J	1	10/26/16 09:00	10/26/16 14:32	6100671	CSW
Calcium	61.7	5.00	0.311	mg/L	EPA 6020B		10	10/26/16 09:00	10/27/16 14:41	6100671	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:32	6100671	CSW
Cobalt	0.0046	0.0100	0.0005	mg/L	EPA 6020B	J	1	10/26/16 09:00	10/26/16 14:32	6100671	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:32	6100671	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:32	6100671	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:32	6100671	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	10/26/16 09:00	10/26/16 14:32	6100671	CSW
Lithium	0.0026	0.0500	0.0021	mg/L	EPA 6020B	J	1	10/26/16 09:00	10/26/16 14:32	6100671	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	10/24/16 11:15	10/24/16 17:21	6100580	MTC

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General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100642 - SM 2540 C											
Blank (6100642-BLK1)						Prepared & Analyzed: 10/25/16					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (6100642-BS1)						Prepared & Analyzed: 10/25/16					
Total Dissolved Solids	388	25	10	mg/L	400.00		97	84-108			
Duplicate (6100642-DUP1)		**Source: AZJ0621-05**				Prepared & Analyzed: 10/25/16					
Total Dissolved Solids	646	25	10	mg/L		642			0.6	10	
Duplicate (6100642-DUP2)		**Source: AZJ0623-04**				Prepared & Analyzed: 10/25/16					
Total Dissolved Solids	323	25	10	mg/L		305			6	10	

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Report No.: AZJ0623

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100589 - EPA 300.0											
Blank (6100589-BLK1)						Prepared & Analyzed: 10/23/16					
Chloride	ND	1.0	0.01	mg/L							
Fluoride	ND	0.10	0.02	mg/L							
Sulfate	ND	5.0	0.05	mg/L							
LCS (6100589-BS1)						Prepared & Analyzed: 10/23/16					
Chloride	10.1	1.0	0.01	mg/L	10.010		101	90-110			
Fluoride	9.97	0.10	0.02	mg/L	10.020		99	90-110			
Sulfate	10.0	5.0	0.05	mg/L	10.020		100	90-110			
Matrix Spike (6100589-MS1)		**Source: AZJ0623-02**				Prepared & Analyzed: 10/23/16					
Chloride	12.9	1.0	0.01	mg/L	10.010	2.83	101	90-110			
Fluoride	10.6	0.10	0.02	mg/L	10.020	0.13	105	90-110			
Sulfate	54.3	5.0	0.05	mg/L	10.020	49.3	50	90-110			QM-02
Matrix Spike (6100589-MS2)		**Source: AZJ0623-05**				Prepared & Analyzed: 10/23/16					
Chloride	15.6	1.0	0.01	mg/L	10.010	5.70	99	90-110			
Fluoride	10.6	0.10	0.02	mg/L	10.020	0.03	106	90-110			
Sulfate	99.7	5.0	0.05	mg/L	10.020	100	NR	90-110			QM-02
Matrix Spike Dup (6100589-MSD1)		**Source: AZJ0623-02**				Prepared & Analyzed: 10/23/16					
Chloride	12.9	1.0	0.01	mg/L	10.010	2.83	100	90-110	0.2	15	
Fluoride	10.6	0.10	0.02	mg/L	10.020	0.13	105	90-110	0.2	15	
Sulfate	54.2	5.0	0.05	mg/L	10.020	49.3	49	90-110	0.08	15	QM-02

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100579 - EPA 7470A											
Blank (6100579-BLK1)						Prepared & Analyzed: 10/24/16					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (6100579-BS1)						Prepared & Analyzed: 10/24/16					
Mercury	0.00242	0.00050	0.000041	mg/L	2.5000E-3		97	80-120			
Matrix Spike (6100579-MS1)		**Source: AZJ0582-01**				Prepared & Analyzed: 10/24/16					
Mercury	0.00239	0.00050	0.000041	mg/L	2.5000E-3	ND	96	75-125			
Matrix Spike Dup (6100579-MSD1)		**Source: AZJ0582-01**				Prepared & Analyzed: 10/24/16					
Mercury	0.00237	0.00050	0.000041	mg/L	2.5000E-3	ND	95	75-125	0.6	20	
Post Spike (6100579-PS1)		**Source: AZJ0582-01**				Prepared & Analyzed: 10/24/16					
Mercury	1.80			ug/L	1.6667	-0.0129	109	80-120			
Batch 6100580 - EPA 7470A											
Blank (6100580-BLK1)						Prepared & Analyzed: 10/24/16					
Mercury	ND	0.00020	0.000041	mg/L							
LCS (6100580-BS1)						Prepared & Analyzed: 10/24/16					
Mercury	0.00244	0.00050	0.000041	mg/L	2.5000E-3		98	80-120			
Matrix Spike (6100580-MS1)		**Source: AZJ0623-08**				Prepared & Analyzed: 10/24/16					
Mercury	0.00243	0.00050	0.000041	mg/L	2.5000E-3	ND	97	75-125			
Matrix Spike Dup (6100580-MSD1)		**Source: AZJ0623-08**				Prepared & Analyzed: 10/24/16					
Mercury	0.00233	0.00050	0.000041	mg/L	2.5000E-3	ND	93	75-125	4	20	

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100580 - EPA 7470A											
Post Spike (6100580-PS1)			**Source: AZJ0623-08**			Prepared & Analyzed: 10/24/16					
Mercury	1.70			ug/L	1.6667	0.00436	102	80-120			
Batch 6100671 - EPA 3005A											
Blank (6100671-BLK1)						Prepared & Analyzed: 10/26/16					
Antimony	ND	0.0030	0.0008	mg/L							
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	ND	0.100	0.0064	mg/L							
Cadmium	ND	0.0010	0.00007	mg/L							
Calcium	ND	0.500	0.0311	mg/L							
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0050	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0050	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0050	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	ND	0.0100	0.0021	mg/L							
Lithium	ND	0.0500	0.0021	mg/L							
LCS (6100671-BS1)						Prepared & Analyzed: 10/26/16					
Antimony	0.107	0.0030	0.0008	mg/L	0.10000		107	80-120			
Arsenic	0.104	0.0050	0.0016	mg/L	0.10000		104	80-120			
Barium	0.0971	0.0100	0.0004	mg/L	0.10000		97	80-120			
Beryllium	0.103	0.0030	0.00008	mg/L	0.10000		103	80-120			
Boron	1.05	0.100	0.0064	mg/L	1.0000		105	80-120			
Cadmium	0.103	0.0010	0.00007	mg/L	0.10000		103	80-120			
Calcium	1.05	0.500	0.0311	mg/L	1.0000		105	80-120			
Chromium	0.104	0.0100	0.0009	mg/L	0.10000		104	80-120			
Cobalt	0.103	0.0100	0.0005	mg/L	0.10000		103	80-120			
Copper	0.101	0.0050	0.0005	mg/L	0.10000		101	80-120			
Lead	0.102	0.0050	0.0001	mg/L	0.10000		102	80-120			
Molybdenum	0.104	0.0100	0.0017	mg/L	0.10000		104	80-120			
Nickel	0.102	0.0050	0.0006	mg/L	0.10000		102	80-120			
Selenium	0.100	0.0100	0.0010	mg/L	0.10000		100	80-120			
Silver	0.102	0.0050	0.0005	mg/L	0.10000		102	80-120			

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100671 - EPA 3005A											
LCS (6100671-BS1)						Prepared & Analyzed: 10/26/16					
Thallium	0.102	0.0010	0.0002	mg/L	0.10000		102	80-120			
Vanadium	0.102	0.0100	0.0071	mg/L	0.10000		102	80-120			
Zinc	0.108	0.0100	0.0021	mg/L	0.10000		108	80-120			
Lithium	0.107	0.0500	0.0021	mg/L	0.10000		107	80-120			
Matrix Spike (6100671-MS1)			**Source: AZJ0696-04**			Prepared & Analyzed: 10/26/16					
Antimony	0.107	0.0030	0.0008	mg/L	0.10000	ND	107	75-125			
Arsenic	0.100	0.0050	0.0016	mg/L	0.10000	ND	100	75-125			
Barium	0.0982	0.0100	0.0004	mg/L	0.10000	ND	98	75-125			
Beryllium	0.101	0.0030	0.00008	mg/L	0.10000	ND	101	75-125			
Boron	1.06	0.100	0.0064	mg/L	1.0000	ND	106	75-125			
Cadmium	0.101	0.0010	0.00007	mg/L	0.10000	ND	101	75-125			
Calcium	1.02	0.500	0.0311	mg/L	1.0000	ND	102	75-125			
Chromium	0.104	0.0100	0.0009	mg/L	0.10000	ND	104	75-125			
Cobalt	0.102	0.0100	0.0005	mg/L	0.10000	ND	102	75-125			
Copper	0.101	0.0050	0.0005	mg/L	0.10000	ND	101	75-125			
Lead	0.0990	0.0050	0.0001	mg/L	0.10000	ND	99	75-125			
Molybdenum	0.101	0.0100	0.0017	mg/L	0.10000	ND	101	75-125			
Nickel	0.102	0.0050	0.0006	mg/L	0.10000	ND	102	75-125			
Selenium	0.0992	0.0100	0.0010	mg/L	0.10000	ND	99	75-125			
Silver	0.102	0.0050	0.0005	mg/L	0.10000	ND	102	75-125			
Thallium	0.0994	0.0010	0.0002	mg/L	0.10000	ND	99	75-125			
Vanadium	0.103	0.0100	0.0071	mg/L	0.10000	ND	103	75-125			
Zinc	0.106	0.0100	0.0021	mg/L	0.10000	ND	106	75-125			
Lithium	0.104	0.0500	0.0021	mg/L	0.10000	ND	104	75-125			
Matrix Spike Dup (6100671-MSD1)			**Source: AZJ0696-04**			Prepared & Analyzed: 10/26/16					
Antimony	0.105	0.0030	0.0008	mg/L	0.10000	ND	105	75-125	3	20	
Arsenic	0.102	0.0050	0.0016	mg/L	0.10000	ND	102	75-125	2	20	
Barium	0.0959	0.0100	0.0004	mg/L	0.10000	ND	96	75-125	2	20	
Beryllium	0.101	0.0030	0.00008	mg/L	0.10000	ND	101	75-125	0.02	20	
Boron	1.04	0.100	0.0064	mg/L	1.0000	ND	104	75-125	2	20	
Cadmium	0.101	0.0010	0.00007	mg/L	0.10000	ND	101	75-125	0.5	20	
Calcium	0.998	0.500	0.0311	mg/L	1.0000	ND	100	75-125	2	20	
Chromium	0.104	0.0100	0.0009	mg/L	0.10000	ND	104	75-125	0.6	20	
Cobalt	0.101	0.0100	0.0005	mg/L	0.10000	ND	101	75-125	0.9	20	
Copper	0.0985	0.0050	0.0005	mg/L	0.10000	ND	98	75-125	2	20	
Lead	0.0995	0.0050	0.0001	mg/L	0.10000	ND	99	75-125	0.5	20	
Molybdenum	0.0977	0.0100	0.0017	mg/L	0.10000	ND	98	75-125	3	20	
Nickel	0.0994	0.0050	0.0006	mg/L	0.10000	ND	99	75-125	2	20	

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100671 - EPA 3005A											
Matrix Spike Dup (6100671-MSD1)		**Source: AZJ0696-04**				Prepared & Analyzed: 10/26/16					
Selenium	0.101	0.0100	0.0010	mg/L	0.10000	ND	101	75-125	2	20	
Silver	0.0997	0.0050	0.0005	mg/L	0.10000	ND	100	75-125	2	20	
Thallium	0.100	0.0010	0.0002	mg/L	0.10000	ND	100	75-125	1	20	
Vanadium	0.105	0.0100	0.0071	mg/L	0.10000	ND	105	75-125	2	20	
Zinc	0.105	0.0100	0.0021	mg/L	0.10000	ND	105	75-125	1	20	
Lithium	0.101	0.0500	0.0021	mg/L	0.10000	ND	101	75-125	3	20	
Post Spike (6100671-PS1)		**Source: AZJ0696-04**				Prepared & Analyzed: 10/26/16					
Antimony	96.0			ug/L	100.00	0.176	96	80-120			
Arsenic	103			ug/L	100.00	-0.164	104	80-120			
Barium	98.0			ug/L	100.00	-0.0089	98	80-120			
Beryllium	99.2			ug/L	100.00	0.0006	99	80-120			
Boron	1060			ug/L	1000.0	1.09	106	80-120			
Cadmium	103			ug/L	100.00	-0.0453	103	80-120			
Calcium	1050			ug/L	1000.0	10.9	103	80-120			
Chromium	105			ug/L	100.00	-0.0552	105	80-120			
Cobalt	101			ug/L	100.00	0.0039	101	80-120			
Copper	99.3			ug/L	100.00	0.0665	99	80-120			
Lead	99.0			ug/L	100.00	-0.0007	99	80-120			
Molybdenum	105			ug/L	100.00	0.0174	105	80-120			
Nickel	101			ug/L	100.00	0.0775	100	80-120			
Selenium	102			ug/L	100.00	-1.57	103	80-120			
Silver	102			ug/L	100.00	0.0072	102	80-120			
Thallium	99.9			ug/L	100.00	0.0064	100	80-120			
Vanadium	103			ug/L	100.00	-0.163	103	80-120			
Zinc	108			ug/L	100.00	0.823	107	80-120			
Lithium	105			ug/L	100.00	0.0048	105	80-120			

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October 28, 2016

Legend

Definition of Laboratory Terms

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

Sample Information

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

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

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

Definition of Qualifiers

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

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

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

CHAIN OF CUSTODY RECORD

Pace Analytical

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

CLIENT NAME: Georgia Power

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

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

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)	LAB ID NUMBER
CONTAINER TYPE								P	P	P	
PRESERVATION								3	7	3	
10/20/16	14:32	GW		x	HGWA-111	4		1	1	2	1
10/20/16	10:50	GW		x	HGWA-122	3		1	1	1	2
10/20/16	10:50	GW		x	HGWC-117	3		1	1	1	3
10/20/16	12:30	GW		x	HGWC-118	3		1	1	1	4
10/20/16	14:40	GW		x	HGWC-101	3		1	1	1	5
10/20/16	12:40	W		x	FB-1	3		1	1	1	6
10/20/16	12:45	W		x	FERB-1	3		1	1	1	7
10/20/16	--	GW		x	DUP-1	3		1	1	1	8

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

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

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

REMARKS/ADDITIONAL INFORMATION
1 Extra Radium Volume Collected for Lab QA/QC

SAMPLED BY AND TITLE: W.Virgo WV, A.Shoredits AS, T.Wardell TW
DATE/TIME: 10/20/2016 14:40

RELINQUISHED BY: W.Virgo (FPN)
DATE/TIME: 10/21/16 1148

RECEIVED BY:
DATE/TIME:

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY/LAB:
DATE/TIME: 10/21/16 1148
Temperature: 1°C Min: 1°C Max:

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS
Custody Seal: Intact Broken Not Present
# of Coolers: 4
Cooler ID:

Ice: Yes No NA
pH checked: Yes No NA

FOR LAB USE ONLY
LAB #: AZJ0623
Entered into LIMS: (24
Tracking #:

20161020 Hammond AP 3&4 COC.xlsx

PACE ANALYTICAL SERVICES, INC.

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

LOG-IN CHECKLIST **Printed: 10/28/2016 4:40:59PM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 10/21/16 11:48

Work Order: AZJ0623
Logged In By: Charles Hawks

OBSERVATIONS

#Samples: 8 **#Containers:** 25

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

CHECKLIST ITEMS

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

Comments:

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

November 23, 2016

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: Plant Hammond
Pace Project No.: 30200226

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on October 24, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

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

CERTIFICATIONS

Project: Plant Hammond
Pace Project No.: 30200226

Pennsylvania Certification IDs

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

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

SAMPLE SUMMARY

Project: Plant Hammond
Pace Project No.: 30200226

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30200226001	**HGWA-111**	Water	10/20/16 14:32	10/24/16 09:00
30200226002	**HGWA-122**	Water	10/20/16 10:50	10/24/16 09:00
30200226003	**HGWC-117**	Water	10/20/16 10:50	10/24/16 09:00
30200226004	**HGWC-118**	Water	10/20/16 12:30	10/24/16 09:00
30200226005	**HGWC-101**	Water	10/20/16 14:40	10/24/16 09:00
30200226006	**FB-1**	Water	10/20/16 12:40	10/24/16 09:00
30200226007	**FERB-1**	Water	10/20/16 12:45	10/24/16 09:00
30200226008	**DUP-1**	Water	10/20/16 00:00	10/24/16 09:00

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

SAMPLE ANALYTE COUNT

Project: Plant Hammond
Pace Project No.: 30200226

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30200226001	**HGWA-111**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	RMK	1
30200226002	**HGWA-122**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	RMK	1
30200226003	**HGWC-117**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	RMK	1
30200226004	**HGWC-118**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	RMK	1
30200226005	**HGWC-101**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	RMK	1
30200226006	**FB-1**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	RMK	1
30200226007	**FERB-1**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	RMK	1
30200226008	**DUP-1**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	RMK	1

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30200226

Sample: HGWA-111 **Lab ID: 30200226001** Collected: 10/20/16 14:32 Received: 10/24/16 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.116 ± 0.125 (0.242) C:91% T:NA**	pCi/L	11/05/16 18:42	13982-63-3	
Radium-228	EPA 9320	**1.01 ± 0.573 (1.05) C:70% T:83%**	pCi/L	11/19/16 19:47	15262-20-1	
Total Radium	Total Radium Calculation	**1.13 ± 0.698 (1.29)**	pCi/L	11/21/16 16:24	7440-14-4	

Sample: HGWA-122 **Lab ID: 30200226002** Collected: 10/20/16 10:50 Received: 10/24/16 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.138 ± 0.136 (0.251) C:87% T:NA**	pCi/L	11/05/16 18:42	13982-63-3	
Radium-228	EPA 9320	**0.358 ± 0.399 (0.804) C:83% T:83%**	pCi/L	11/19/16 19:47	15262-20-1	
Total Radium	Total Radium Calculation	**0.496 ± 0.535 (1.06)**	pCi/L	11/21/16 16:24	7440-14-4	

Sample: HGWC-117 **Lab ID: 30200226003** Collected: 10/20/16 10:50 Received: 10/24/16 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.186 ± 0.153 (0.273) C:89% T:NA**	pCi/L	11/05/16 18:45	13982-63-3	
Radium-228	EPA 9320	**0.617 ± 0.497 (0.965) C:74% T:79%**	pCi/L	11/19/16 19:47	15262-20-1	
Total Radium	Total Radium Calculation	**0.803 ± 0.650 (1.24)**	pCi/L	11/21/16 16:24	7440-14-4	

Sample: HGWC-118 **Lab ID: 30200226004** Collected: 10/20/16 12:30 Received: 10/24/16 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.133 ± 0.126 (0.225) C:86% T:NA**	pCi/L	11/05/16 18:45	13982-63-3	
Radium-228	EPA 9320	**1.84 ± 0.687 (1.05) C:66% T:79%**	pCi/L	11/19/16 19:47	15262-20-1	
Total Radium	Total Radium Calculation	**1.97 ± 0.813 (1.28)**	pCi/L	11/21/16 16:24	7440-14-4	

Sample: HGWC-101 **Lab ID: 30200226005** Collected: 10/20/16 14:40 Received: 10/24/16 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.288 ± 0.201 (0.351) C:90% T:NA**	pCi/L	11/05/16 18:45	13982-63-3	
Radium-228	EPA 9320	**1.11 ± 0.543 (0.945) C:75% T:81%**	pCi/L	11/19/16 19:47	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30200226

Sample: HGWC-101 **Lab ID: 30200226005** Collected: 10/20/16 14:40 Received: 10/24/16 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	**1.40 ± 0.744 (1.30)**	pCi/L	11/21/16 16:24	7440-14-4	

Sample: FB-1 **Lab ID: 30200226006** Collected: 10/20/16 12:40 Received: 10/24/16 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**-0.0612 ± 0.0563 (0.243) C:93% T:NA**	pCi/L	11/05/16 18:46	13982-63-3	
Radium-228	EPA 9320	**0.182 ± 0.408 (0.860) C:77% T:89%**	pCi/L	11/19/16 19:47	15262-20-1	
Total Radium	Total Radium Calculation	**0.182 ± 0.464 (1.10)**	pCi/L	11/21/16 16:24	7440-14-4	

Sample: FERB-1 **Lab ID: 30200226007** Collected: 10/20/16 12:45 Received: 10/24/16 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.219 ± 0.167 (0.293) C:92% T:NA**	pCi/L	11/05/16 18:46	13982-63-3	
Radium-228	EPA 9320	**0.759 ± 0.478 (0.886) C:71% T:87%**	pCi/L	11/19/16 19:48	15262-20-1	
Total Radium	Total Radium Calculation	**0.978 ± 0.645 (1.18)**	pCi/L	11/21/16 16:24	7440-14-4	

Sample: DUP-1 **Lab ID: 30200226008** Collected: 10/20/16 00:00 Received: 10/24/16 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**-0.111 ± 0.0901 (0.335) C:88% T:NA**	pCi/L	11/05/16 18:46	13982-63-3	
Radium-228	EPA 9320	**1.76 ± 0.583 (0.812) C:82% T:77%**	pCi/L	11/19/16 19:48	15262-20-1	
Total Radium	Total Radium Calculation	**1.76 ± 0.673 (1.15)**	pCi/L	11/21/16 16:24	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30200226

QC Batch: 238844 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30200226001, 30200226002, 30200226003, 30200226004, 30200226005, 30200226006, 30200226007, 30200226008

METHOD BLANK: 1173703 Matrix: Water
Associated Lab Samples: 30200226001, 30200226002, 30200226003, 30200226004, 30200226005, 30200226006, 30200226007, 30200226008

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0306 ± 0.0501 (0.101) C:95% T:NA	pCi/L	11/04/16 23:09	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30200226

QC Batch: 239880 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30200226001, 30200226002, 30200226003, 30200226004, 30200226005, 30200226006, 30200226007, 30200226008

METHOD BLANK: 1178547 Matrix: Water
Associated Lab Samples: 30200226001, 30200226002, 30200226003, 30200226004, 30200226005, 30200226006, 30200226007, 30200226008

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.935 ± 0.482 (0.855) C:73% T:95%	pCi/L	11/19/16 19:47	

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

QUALIFIERS

Project: Plant Hammond
Pace Project No.: 30200226

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

WO#:30200226

Chain of Custody

Workorder: AZJ0623 Workorder Name: Plant Hammond Owner Received Date: Results Requested By: 11/23/2016

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

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis: Radium 226, 228, Total	LAB USE ONLY
1	HGWA-111	G	10/20/2016 14:32	AZJ0623-01	GW	2	X	001
2	HGWA-122	G	10/20/2016 10:50	AZJ0623-02	GW	1	X	002
3	HGWC-117	G	10/20/2016 10:50	AZJ0623-03	GW	1	X	003
4	HGWC-118	G	10/20/2016 12:30	AZJ0623-04	GW	1	X	004
5	HGWC-101	G	10/20/2016 14:40	AZJ0623-05	GW	1	X	005
6	FB-1	G	10/20/2016 12:40	AZJ0623-06	W	1	X	006
7	FERB-1	G	10/20/2016 12:45	AZJ0623-07	W	1	X	007
8	Dup-1	G	10/20/2016 0:00	AZJ0623-08	GW	1	X	008
9								
10								

Transfers	Released By	Date/Time	Reveived By	Date/Time	Comments
1	Charles Hunter	10/21/6 1730	RBig Pace	10/24/16	0900
2					
3					

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

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

Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: Pace GA Project # 30200226

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

Tracking #: 6812 5099 9949

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

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

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

Temp should be above freezing to 6°C

Date and Initials of person examining contents: RTB 10/24/16

Comments:	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:			X	4.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: WT	X			5.
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:		X		8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:		X		
Containers Intact:	X			11.
Filtered volume received for Dissolved tests			X	12.
All containers needing preservation have been checked.	X			13. pH<2
All containers needing preservation are found to be in compliance with EPA recommendation.	X			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed 10/24/16 RTB; Date/time of preservation; Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	14.
Trip Blank Present:			X	15.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr		X		Initial when completed: RTB Date: 10/24/16

Client Notification/ Resolution:

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

Comments/ Resolution: _____

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

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

Quality Control Sample Performance Assessment

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-228
Analyst:	JLW
Date:	11/16/2016
Worklist:	32405
Matrix:	DW

Method Blank Assessment	
MB Sample ID	1178547
MB concentration:	0.935
M/B Counting Uncertainty:	0.452
MB MDC:	0.855
MB Numerical Performance Indicator:	4.05
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	See Comment*

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS32405	LCSD32405
Count Date:	11/19/2016	
Spike I.D.:	16-027	
Spike Concentration (pCi/mL):	26.037	
Volume Used (mL):	0.20	
Aliquot Volume (L, g, F):	0.807	
Target Conc. (pCi/L, g, F):	6.450	
Uncertainty (Calculated):	0.464	
Result (pCi/L, g, F):	7.929	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.807	
Numerical Performance Indicator:	3.11	
Percent Recovery:	122.93%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Sample Matrix Spike Control Assessment	
Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Sample I.D.:	30200226001	
Duplicate Sample I.D.	30200226001DUP	
Sample Result (pCi/L, g, F):	1.006	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.544	
Sample Duplicate Result (pCi/L, g, F):	0.294	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.439	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	1.996	30200226001
Duplicate RPD:	109.60%	30200226001DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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

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

Comments:

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

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

use numerical duplicate to assess when results < 5 x MDC
acceptable when < 2 for all matrices

11/23/16

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-226
Analyst:	JC2
Date:	11/3/2016
Worklist:	32222
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1173703
MB concentration:	0.031
M/B Counting Uncertainty:	0.050
MB MDC:	0.101
MB Numerical Performance Indicator:	1.20
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS32222	LCSD32222
Count Date:	11/5/2016	
Spike I.D.:	16-026	
Spike Concentration (pCi/mL):	44.675	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.501	
Target Conc. (pCi/L, g, F):	8.914	
Uncertainty (Calculated):	0.419	
Result (pCi/L, g, F):	8.283	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.789	
Numerical Performance Indicator:	-1.38	
Percent Recovery:	92.92%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Sample Matrix Spike Control Assessment	
Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30200041003	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30200041003DUP	
Sample Result (pCi/L, g, F):	0.058	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.063	
Sample Duplicate Result (pCi/L, g, F):	0.490	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.258	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-3.182	30200041003
Duplicate RPD:	157.41%	30200041003DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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

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

Comments:

results < MDC - NA

***Batch must be ~~re-prepped due to unacceptable precision.~~ JM 11/23/16

PACE ANALYTICAL SERVICES, INC.

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

Laboratory Report

Prepared For:

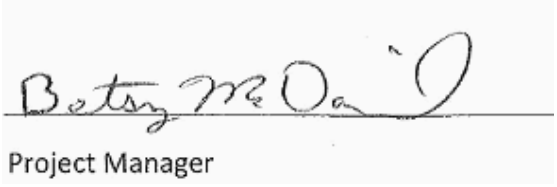
Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: **Mr. Joju Abraham**

Report Number: **AZJ0697**
November 02, 2016
Project: CCR Event
Project #:Plant Hammond

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

Approved:



Project Manager

PACE ANALYTICAL SERVICES, INC.

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

Attention: Mr. Joju Abraham

November 02, 2016

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HGWA-112	AZJ0697-01	Ground Water	10/24/16 12:44	10/25/16 14:10
HGWA-113	AZJ0697-02	Ground Water	10/24/16 14:11	10/25/16 14:10
HGWC-103	AZJ0697-03	Ground Water	10/24/16 15:27	10/25/16 14:10

PACE ANALYTICAL SERVICES, INC.

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 02, 2016

Report No.: AZJ0697
Client ID: HGWA-112
Date/Time Sampled: 10/24/2016 12:44:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZJ0697-01
Date/Time Received: 10/25/2016 2:10:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	65	25	10	mg/L	SM 2540 C		1	10/31/16 19:05	10/31/16 19:05	6100829	JPT
Inorganic Anions											
Chloride	5.2	0.25	0.01	mg/L	EPA 300.0		1	10/26/16 15:29	10/27/16 06:25	6100701	RNB
Fluoride	0.05	0.30	0.02	mg/L	EPA 300.0	J	1	10/26/16 15:29	10/27/16 06:25	6100701	RNB
Sulfate	0.62	1.0	0.05	mg/L	EPA 300.0	J	1	10/26/16 15:29	10/27/16 06:25	6100701	RNB
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:22	6100710	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:22	6100710	CSW
Barium	0.0280	0.0100	0.0004	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:22	6100710	CSW
Beryllium	ND	0.0030	0.0004	mg/L	EPA 6020B		5	10/27/16 14:30	11/01/16 14:09	6100710	CSW
Boron	0.0367	0.100	0.0064	mg/L	EPA 6020B	J	1	10/27/16 14:30	10/29/16 01:22	6100710	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:22	6100710	CSW
Calcium	6.25	2.50	0.155	mg/L	EPA 6020B		5	10/27/16 14:30	11/01/16 14:09	6100710	CSW
Chromium	0.0039	0.0100	0.0009	mg/L	EPA 6020B	J	1	10/27/16 14:30	10/29/16 01:22	6100710	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:22	6100710	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:22	6100710	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:22	6100710	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:22	6100710	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:22	6100710	CSW
Lithium	ND	0.0500	0.0103	mg/L	EPA 6020B		5	10/27/16 14:30	11/01/16 14:09	6100710	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	10/28/16 08:45	10/28/16 13:04	6100740	MTC

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Georgia Power
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Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 02, 2016

Report No.: AZJ0697
Client ID: HGWA-113
Date/Time Sampled: 10/24/2016 2:11:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZJ0697-02
Date/Time Received: 10/25/2016 2:10:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	111	25	10	mg/L	SM 2540 C		1	10/31/16 19:05	10/31/16 19:05	6100829	JPT
Inorganic Anions											
Chloride	1.9	0.25	0.01	mg/L	EPA 300.0		1	10/26/16 15:29	10/27/16 06:45	6100701	RNB
Fluoride	0.16	0.30	0.02	mg/L	EPA 300.0	J	1	10/26/16 15:29	10/27/16 06:45	6100701	RNB
Sulfate	11	1.0	0.05	mg/L	EPA 300.0		1	10/26/16 15:29	10/27/16 06:45	6100701	RNB
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:40	6100710	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:40	6100710	CSW
Barium	0.0258	0.0100	0.0004	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:40	6100710	CSW
Beryllium	0.0019	0.0030	0.0004	mg/L	EPA 6020B	J	5	10/27/16 14:30	11/01/16 14:29	6100710	CSW
Boron	0.0226	0.100	0.0064	mg/L	EPA 6020B	J	1	10/27/16 14:30	10/29/16 01:40	6100710	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:40	6100710	CSW
Calcium	6.40	2.50	0.155	mg/L	EPA 6020B		5	10/27/16 14:30	11/01/16 14:29	6100710	CSW
Chromium	0.0010	0.0100	0.0009	mg/L	EPA 6020B	J	1	10/27/16 14:30	10/29/16 01:40	6100710	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:40	6100710	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:40	6100710	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:40	6100710	CSW
Selenium	0.0034	0.0100	0.0010	mg/L	EPA 6020B	J	1	10/27/16 14:30	10/29/16 01:40	6100710	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:40	6100710	CSW
Lithium	ND	0.0500	0.0103	mg/L	EPA 6020B		5	10/27/16 14:30	11/01/16 14:29	6100710	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	10/28/16 08:45	10/28/16 13:06	6100740	MTC

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 02, 2016

Report No.: AZJ0697
Client ID: HGWC-103
Date/Time Sampled: 10/24/2016 3:27:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZJ0697-03
Date/Time Received: 10/25/2016 2:10:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	517	25	10	mg/L	SM 2540 C		1	10/31/16 19:05	10/31/16 19:05	6100829	JPT
Inorganic Anions											
Chloride	5.2	0.25	0.01	mg/L	EPA 300.0		1	10/26/16 15:29	10/27/16 07:06	6100701	RNB
Fluoride	0.13	0.30	0.02	mg/L	EPA 300.0	J	1	10/26/16 15:29	10/27/16 07:06	6100701	RNB
Sulfate	280	10	0.51	mg/L	EPA 300.0		10	10/26/16 15:29	11/01/16 12:37	6100701	RNB
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:45	6100710	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:45	6100710	CSW
Barium	0.0386	0.0100	0.0004	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:45	6100710	CSW
Beryllium	ND	0.0030	0.0004	mg/L	EPA 6020B		5	10/27/16 14:30	11/01/16 14:37	6100710	CSW
Boron	1.83	0.100	0.0064	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:45	6100710	CSW
Cadmium	0.0008	0.0010	0.00007	mg/L	EPA 6020B	J	1	10/27/16 14:30	10/29/16 01:45	6100710	CSW
Calcium	70.9	5.00	0.311	mg/L	EPA 6020B		10	10/27/16 14:30	11/01/16 18:04	6100710	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:45	6100710	CSW
Cobalt	0.0018	0.0100	0.0005	mg/L	EPA 6020B	J	1	10/27/16 14:30	10/29/16 01:45	6100710	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:45	6100710	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:45	6100710	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:45	6100710	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	10/27/16 14:30	10/29/16 01:45	6100710	CSW
Lithium	ND	0.0500	0.0103	mg/L	EPA 6020B		5	10/27/16 14:30	11/01/16 14:37	6100710	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	10/28/16 08:45	10/28/16 13:08	6100740	MTC

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Georgia Power
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Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 02, 2016

Report No.: AZJ0697

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100829 - SM 2540 C											
Blank (6100829-BLK1)						Prepared & Analyzed: 10/31/16					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (6100829-BS1)						Prepared & Analyzed: 10/31/16					
Total Dissolved Solids	377	25	10	mg/L	400.00		94	84-108			
Duplicate (6100829-DUP1)			**Source: AZJ0696-02RE1**			Prepared & Analyzed: 10/31/16					
Total Dissolved Solids	674	25	10	mg/L		647			4	10	
Duplicate (6100829-DUP2)			**Source: AZJ0700-01RE1**			Prepared & Analyzed: 10/31/16					
Total Dissolved Solids	141	25	10	mg/L		136			4	10	

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November 02, 2016

Report No.: AZJ0697

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100701 - EPA 300.0											
Blank (6100701-BLK1)						Prepared: 10/26/16 Analyzed: 10/27/16					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.02	mg/L							
Sulfate	ND	1.0	0.05	mg/L							
LCS (6100701-BS1)						Prepared: 10/26/16 Analyzed: 10/27/16					
Chloride	10.9	0.25	0.01	mg/L	10.010		108	90-110			
Fluoride	10.9	0.30	0.02	mg/L	10.020		108	90-110			
Sulfate	10.8	1.0	0.05	mg/L	10.020		108	90-110			
Matrix Spike (6100701-MS1)			**Source: AZJ0696-01**			Prepared: 10/26/16 Analyzed: 10/27/16					
Chloride	84.1	0.25	0.01	mg/L	10.010	83.3	7	90-110			QM-02
Fluoride	8.55	0.30	0.02	mg/L	10.020	0.06	85	90-110			QM-05
Sulfate	147	1.0	0.05	mg/L	10.020	151	NR	90-110			QM-02
Matrix Spike (6100701-MS2)			**Source: AZJ0697-03**			Prepared: 10/26/16 Analyzed: 10/27/16					
Chloride	14.6	0.25	0.01	mg/L	10.010	5.18	94	90-110			
Fluoride	10.0	0.30	0.02	mg/L	10.020	0.13	99	90-110			
Sulfate	196	1.0	0.05	mg/L	10.020	194	18	90-110			QM-02
Matrix Spike Dup (6100701-MSD1)			**Source: AZJ0696-01**			Prepared: 10/26/16 Analyzed: 10/27/16					
Chloride	84.2	0.25	0.01	mg/L	10.010	83.3	9	90-110	0.2	15	QM-02
Fluoride	9.63	0.30	0.02	mg/L	10.020	0.06	96	90-110	12	15	
Sulfate	146	1.0	0.05	mg/L	10.020	151	NR	90-110	0.3	15	QM-02

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November 02, 2016

Report No.: AZJ0697

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100710 - EPA 3005A											
Blank (6100710-BLK1)						Prepared: 10/27/16 Analyzed: 10/29/16					
Antimony	ND	0.0030	0.0008	mg/L							
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	ND	0.100	0.0064	mg/L							
Cadmium	ND	0.0010	0.00007	mg/L							
Calcium	ND	0.500	0.0311	mg/L							
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0050	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0050	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0100	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	ND	0.0100	0.0021	mg/L							
Lithium	ND	0.0500	0.0021	mg/L							
LCS (6100710-BS1)						Prepared: 10/27/16 Analyzed: 10/29/16					
Antimony	0.110	0.0030	0.0008	mg/L	0.10000		110	80-120			
Arsenic	0.104	0.0050	0.0016	mg/L	0.10000		104	80-120			
Barium	0.102	0.0100	0.0004	mg/L	0.10000		102	80-120			
Beryllium	0.101	0.0030	0.00008	mg/L	0.10000		101	80-120			
Boron	1.08	0.100	0.0064	mg/L	1.0000		108	80-120			
Cadmium	0.105	0.0010	0.00007	mg/L	0.10000		105	80-120			
Calcium	1.08	0.500	0.0311	mg/L	1.0000		108	80-120			
Chromium	0.108	0.0100	0.0009	mg/L	0.10000		108	80-120			
Cobalt	0.105	0.0100	0.0005	mg/L	0.10000		105	80-120			
Copper	0.100	0.0050	0.0005	mg/L	0.10000		100	80-120			
Lead	0.101	0.0050	0.0001	mg/L	0.10000		101	80-120			
Molybdenum	0.109	0.0100	0.0017	mg/L	0.10000		109	80-120			
Nickel	0.101	0.0050	0.0006	mg/L	0.10000		101	80-120			
Selenium	0.113	0.0100	0.0010	mg/L	0.10000		113	80-120			
Silver	0.104	0.0100	0.0005	mg/L	0.10000		104	80-120			
Thallium	0.101	0.0010	0.0002	mg/L	0.10000		101	80-120			
Vanadium	0.108	0.0100	0.0071	mg/L	0.10000		108	80-120			
Zinc	0.106	0.0100	0.0021	mg/L	0.10000		106	80-120			
Lithium	0.108	0.0500	0.0021	mg/L	0.10000		108	80-120			

PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 02, 2016

Report No.: AZJ0697

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100710 - EPA 3005A											
Matrix Spike (6100710-MS1)		**Source: AZJ0696-05**			Prepared: 10/27/16 Analyzed: 10/29/16						
Antimony	0.113	0.0030	0.0008	mg/L	0.10000	ND	113	75-125			
Arsenic	0.118	0.0050	0.0016	mg/L	0.10000	0.0058	112	75-125			
Barium	0.126	0.0100	0.0004	mg/L	0.10000	0.0208	105	75-125			
Beryllium	0.0942	0.0150	0.0004	mg/L	0.10000	0.0005	94	75-125			
Boron	15.6	0.500	0.0321	mg/L	1.0000	13.7	199	75-125			QM-02
Cadmium	0.101	0.0010	0.00007	mg/L	0.10000	0.0002	101	75-125			
Calcium	574	50.0	3.11	mg/L	1.0000	564	953	75-125			QM-02
Chromium	0.109	0.0100	0.0009	mg/L	0.10000	ND	109	75-125			
Cobalt	0.129	0.0100	0.0005	mg/L	0.10000	0.0253	103	75-125			
Copper	0.0950	0.0050	0.0005	mg/L	0.10000	ND	95	75-125			
Lead	0.0922	0.0050	0.0001	mg/L	0.10000	0.0016	91	75-125			
Molybdenum	0.112	0.0100	0.0017	mg/L	0.10000	ND	112	75-125			
Nickel	0.105	0.0050	0.0006	mg/L	0.10000	0.0063	98	75-125			
Selenium	0.130	0.0100	0.0010	mg/L	0.10000	0.0135	116	75-125			
Silver	0.0937	0.0100	0.0005	mg/L	0.10000	ND	94	75-125			
Thallium	0.0937	0.0010	0.0002	mg/L	0.10000	0.0004	93	75-125			
Vanadium	0.113	0.0100	0.0071	mg/L	0.10000	ND	113	75-125			
Zinc	0.108	0.0100	0.0021	mg/L	0.10000	0.0054	103	75-125			
Lithium	0.105	0.250	0.0103	mg/L	0.10000	ND	105	75-125			J
Matrix Spike Dup (6100710-MSD1)		**Source: AZJ0696-05**			Prepared: 10/27/16 Analyzed: 10/29/16						
Antimony	0.110	0.0030	0.0008	mg/L	0.10000	ND	110	75-125	2	20	
Arsenic	0.114	0.0050	0.0016	mg/L	0.10000	0.0058	108	75-125	3	20	
Barium	0.126	0.0100	0.0004	mg/L	0.10000	0.0208	105	75-125	0.01	20	
Beryllium	0.0949	0.0150	0.0004	mg/L	0.10000	0.0005	94	75-125	0.7	20	
Boron	15.6	0.500	0.0321	mg/L	1.0000	13.7	192	75-125	0.4	20	QM-02
Cadmium	0.100	0.0010	0.00007	mg/L	0.10000	0.0002	100	75-125	1	20	
Calcium	566	50.0	3.11	mg/L	1.0000	564	146	75-125	1	20	QM-02
Chromium	0.107	0.0100	0.0009	mg/L	0.10000	ND	107	75-125	2	20	
Cobalt	0.127	0.0100	0.0005	mg/L	0.10000	0.0253	102	75-125	1	20	
Copper	0.0927	0.0050	0.0005	mg/L	0.10000	ND	93	75-125	2	20	
Lead	0.0898	0.0050	0.0001	mg/L	0.10000	0.0016	88	75-125	3	20	
Molybdenum	0.110	0.0100	0.0017	mg/L	0.10000	ND	110	75-125	2	20	
Nickel	0.104	0.0050	0.0006	mg/L	0.10000	0.0063	98	75-125	0.8	20	
Selenium	0.124	0.0100	0.0010	mg/L	0.10000	0.0135	110	75-125	5	20	
Silver	0.0921	0.0100	0.0005	mg/L	0.10000	ND	92	75-125	2	20	
Thallium	0.0914	0.0010	0.0002	mg/L	0.10000	0.0004	91	75-125	2	20	
Vanadium	0.111	0.0100	0.0071	mg/L	0.10000	ND	111	75-125	1	20	
Zinc	0.105	0.0100	0.0021	mg/L	0.10000	0.0054	99	75-125	4	20	
Lithium	0.102	0.250	0.0103	mg/L	0.10000	ND	102	75-125	2	20	J

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 02, 2016

Report No.: AZJ0697

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100710 - EPA 3005A											
Post Spike (6100710-PS1)		**Source: AZJ0696-05**				Prepared: 10/27/16 Analyzed: 10/29/16					
Antimony	109			ug/L	100.00	0.588	108	80-120			
Arsenic	113			ug/L	100.00	5.81	107	80-120			
Barium	124			ug/L	100.00	20.8	103	80-120			
Beryllium	96.2			ug/L	100.00	0.500	96	80-120			
Boron	16000			ug/L	1000.0	13700	233	80-120			QM-02
Cadmium	95.0			ug/L	100.00	0.172	95	80-120			
Calcium	585000			ug/L	1000.0	564000	NR	80-120			QM-02
Chromium	108			ug/L	100.00	0.110	108	80-120			
Cobalt	126			ug/L	100.00	25.3	101	80-120			
Copper	91.0			ug/L	100.00	0.183	91	80-120			
Lead	88.5			ug/L	100.00	1.57	87	80-120			
Molybdenum	109			ug/L	100.00	0.199	109	80-120			
Nickel	104			ug/L	100.00	6.33	98	80-120			
Selenium	128			ug/L	100.00	13.5	115	80-120			
Silver	91.0			ug/L	100.00	0.0447	91	80-120			
Thallium	90.1			ug/L	100.00	0.369	90	80-120			
Vanadium	109			ug/L	100.00	-0.296	110	80-120			
Zinc	103			ug/L	100.00	5.40	97	80-120			
Lithium	106			ug/L	100.00	0.650	105	80-120			
Batch 6100740 - EPA 7470A											
Blank (6100740-BLK1)						Prepared & Analyzed: 10/28/16					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (6100740-BS1)						Prepared & Analyzed: 10/28/16					
Mercury	0.00240	0.00050	0.000041	mg/L	2.5000E-3		96	80-120			

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 02, 2016

Report No.: AZJ0697

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100740 - EPA 7470A											
Matrix Spike (6100740-MS1)		**Source: AZJ0702-01**				Prepared & Analyzed: 10/28/16					
Mercury	0.00238	0.00050	0.000041	mg/L	2.5000E-3	ND	95	75-125			
Matrix Spike Dup (6100740-MSD1)		**Source: AZJ0702-01**				Prepared & Analyzed: 10/28/16					
Mercury	0.00242	0.00050	0.000041	mg/L	2.5000E-3	ND	97	75-125	2	20	
Post Spike (6100740-PS1)		**Source: AZJ0702-01**				Prepared & Analyzed: 10/28/16					
Mercury	1.70			ug/L	1.6667	0.00850	101	80-120			

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 02, 2016

Legend

Definition of Laboratory Terms

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

Sample Information

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

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

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

Definition of Qualifiers

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

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

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

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

PACE ANALYTICAL SERVICES, INC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 02, 2016

Report Notes

The metals for HGWA-113 was pH adjusted by the Lab with HNO3. MMR

CHAIN OF CUSTODY RECORD

Pace Analytical®

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

CLIENT NAME: Georgia Power

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

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

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

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)	LAB ID NUMBER
CONTAINER TYPE:								P	P	P	
PRESERVATION:								3	7	3	
10/24/16	12:44	GW		X	HGWA-112	3		1	1	1	1
10/24/16	14:11	GW		X	HGWA-113	3		1	1	1	2
10/24/16	15:27	GW		X	HGWC-103	3		1	1	1	3

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

*MATRIX CODES:

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

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: T. Wardell TW
DATE/TIME: 10/24/2016 17:00

RELINQUISHED BY:
DATE/TIME: 10/24/16 17:00

RECEIVED BY:
DATE/TIME:

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY LAB:
DATE/TIME: 10/25/16 1410

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

pH checked: Yes No NA
Ice: Yes No NA
Temperature: 1.2 Min 1.6 Max
Custody Seal: Intact Broken Not Present
# of Coolers:
Cooler ID:

FOR LAB USE ONLY
LAB #: A20697
Entered into LIMS:
Tracking #:

20161024 Hammond COC.xlsx

PACE ANALYTICAL SERVICES, INC.

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

LOG-IN CHECKLIST **Printed: 11/2/2016 4:33:07PM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 10/25/16 14:10

Work Order: AZJ0697
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 3 **#Containers:** 9

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

CHECKLIST ITEMS

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

Comments:

The metals for HGWA-113 was pH adjusted by the Lab with HNO3. MMR

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

November 30, 2016

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: Plant Hammond
Pace Project No.: 30200506

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on October 26, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

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

CERTIFICATIONS

Project: Plant Hammond
Pace Project No.: 30200506

Pennsylvania Certification IDs

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

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

SAMPLE SUMMARY

Project: Plant Hammond
Pace Project No.: 30200506

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30200506001	**HGWA-112**	Water	10/24/16 12:44	10/26/16 10:30
30200506002	**HGWA-113**	Water	10/24/16 14:11	10/26/16 10:30
30200506003	**HGWC-103**	Water	10/24/16 15:27	10/26/16 10:30

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: Plant Hammond
Pace Project No.: 30200506

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30200506001	**HGWA-112**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30200506002	**HGWA-113**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30200506003	**HGWC-103**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30200506

Sample: HGWA-112 **Lab ID: 30200506001** Collected: 10/24/16 12:44 Received: 10/26/16 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.134 ± 0.240 (0.546) C:81% T:NA**	pCi/L	11/09/16 07:01	13982-63-3	
Radium-228	EPA 9320	**1.17 ± 0.479 (0.778) C:81% T:84%**	pCi/L	11/28/16 15:22	15262-20-1	
Total Radium	Total Radium Calculation	**1.30 ± 0.719 (1.32)**	pCi/L	11/29/16 16:28	7440-14-4	

Sample: HGWA-113 **Lab ID: 30200506002** Collected: 10/24/16 14:11 Received: 10/26/16 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0494 ± 0.193 (0.482) C:87% T:NA**	pCi/L	11/09/16 07:01	13982-63-3	
Radium-228	EPA 9320	**0.930 ± 0.438 (0.739) C:82% T:75%**	pCi/L	11/28/16 15:22	15262-20-1	
Total Radium	Total Radium Calculation	**0.979 ± 0.631 (1.22)**	pCi/L	11/29/16 16:28	7440-14-4	

Sample: HGWC-103 **Lab ID: 30200506003** Collected: 10/24/16 15:27 Received: 10/26/16 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.124 ± 0.192 (0.422) C:90% T:NA**	pCi/L	11/09/16 07:01	13982-63-3	
Radium-228	EPA 9320	**0.890 ± 0.434 (0.748) C:77% T:82%**	pCi/L	11/28/16 15:22	15262-20-1	
Total Radium	Total Radium Calculation	**1.01 ± 0.626 (1.17)**	pCi/L	11/29/16 16:28	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30200506

QC Batch: 239218 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30200506001, 30200506002, 30200506003

METHOD BLANK: 1175535 Matrix: Water
Associated Lab Samples: 30200506001, 30200506002, 30200506003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0550 ± 0.118 (0.398) C:85% T:NA	pCi/L	11/09/16 06:59	

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30200506

QC Batch: 239882 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30200506001, 30200506002, 30200506003

METHOD BLANK: 1178558 Matrix: Water
Associated Lab Samples: 30200506001, 30200506002, 30200506003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.610 ± 0.398 (0.756) C:82% T:76%	pCi/L	11/28/16 15:21	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: Plant Hammond
Pace Project No.: 30200506

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

WO#:30200506

Chain of Custody

30200506

Pace Analytical

Workorder: AZJ0697 Workorder Name: Plant Hammond Owner Received Date: Results Requested By: 11/28/2016

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

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis: Radium 226, 228, Total	LAB USE ONLY
1	HGWA-112	G	10/24/2016 12:44	AZJ0697-01	GW	1	X	001
2	HGWA-113	G	10/24/2016 14:11	AZJ0697-02	GW	1	X	002
3	HGWC-103	G	10/24/2016 15:27	AZJ0697-03	GW BMD 10/25/16	1	X	003
4								
5								
6								
7								
8								
9								
10								

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	MLahman	10/25/16	[signature]	10-26-16 1030	
2					
3					

Cooler Temperature on Receipt NA °C | Custody Seal Y or N | Received on Ice Y or N | Sample Intact Y or N

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

30200506

CHAIN OF CUSTODY RECORD

Pace Analytical

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

CLIENT NAME: Georgia Power

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

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

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)						LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
CONTAINER TYPE:								P	P	P							
PRESERVATION:								3	7	3							
10/24/16	12:44	GW		X	HGWA-112	3		1	1	1						1	
10/24/16	14:11	GW		X	HGWA-113	3		1	1	1						2	
10/24/16	15:27	GW		X	HGWC-103	3		1	1	1						3	

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

*MATRIX CODES:

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

SAMPLED BY AND TITLE: T. Wardell TW
DATE/TIME: 10/24/2016 17:00
RELINQUISHED BY:
DATE/TIME: 10/24/16 17:00

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

RECEIVED BY LAB: M Lahman
DATE/TIME: 10/25/16 1410
SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS

pH checked: Yes No NA
Ice: Yes No NA
Temperature: 1.0 °C Min: 1.0 °C Max:
Custody Seal: Intact Broken Not Present
# of Coolers:
Cooler ID:

FOR LAB USE ONLY
LAB #: 92596697
Entered into LIMS:
Tracking #:

Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: PACE GA

Project # 30200506

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

Tracking #: MSTR 6812 5100 0382

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

Thermometer Used NA Type of Ice: Wet Blue (None)

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

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 10-26-16 TAW

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3. NO Time
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:		✓		
Containers Intact:	✓			11.
Filtered volume received for Dissolved tests			✓	12.
All containers needing preservation have been checked.	✓			13. pH <2
All containers needing preservation are found to be in compliance with EPA recommendation.	✓			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed TAW / Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	14.
Trip Blank Present:		✓		15.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: TAW Date: 10-26-16

Client Notification/ Resolution:

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

Comments/ Resolution: _____

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

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

Quality Control Sample Performance Assessment

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-228
Analyst:	JLW
Date:	11/22/2016
Worklist:	32406
Matrix:	DW

Method Blank Assessment

MB Sample ID	1178558
MB concentration:	0.610
M/B Counting Uncertainty:	0.383
MB MDC:	0.756
MB Numerical Performance Indicator:	3.12
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment

	LCSD (Y or N)?	N
	LCS32406	LCSD32406
Count Date:	11/28/2016	
Spike I.D.:	16-027	
Spike Concentration (pCi/mL):	25.962	
Volume Used (mL):	0.20	
Aliquot Volume (L, g, F):	0.813	
Target Conc. (pCi/L, g, F):	6.385	
Uncertainty (Calculated):	0.460	
Result (pCi/L, g, F):	8.119	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.744	
Numerical Performance Indicator:	3.89	
Percent Recovery:	127.15%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Duplicate Sample Assessment

Sample I.D.:	30200749001
Duplicate Sample I.D.	30200749001DUP
Sample Result (pCi/L, g, F):	1.763
Sample Result Counting Uncertainty (pCi/L, g, F):	0.390
Sample Duplicate Result (pCi/L, g, F):	2.026
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.427
Are sample and/or duplicate results below MDC?	See Below ##
Duplicate Numerical Performance Indicator:	-0.892
Duplicate RPD:	13.88%
Duplicate Status vs Numerical Indicator:	N/A
Duplicate Status vs RPD:	Pass

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

30200749001
30200749001DUP

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

Sample Matrix Spike Control Assessment

Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Matrix Spike/Matrix Spike Duplicate Sample Assessment

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

Comments:

11/30/16

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Test:	Ra-226
Analyst:	JC2
Date:	11/8/2016
Worklist:	32293
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment

MB Sample ID	1175535
MB concentration:	-0.055
M/B Counting Uncertainty:	0.118
MB MDC:	0.398
MB Numerical Performance Indicator:	-0.91
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment

	LCSD (Y or N)?	N
	LCS32293	LCSD32293
Count Date:	11/9/2016	
Spike I.D.:	16-026	
Spike Concentration (pCi/mL):	44.675	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.501	
Target Conc. (pCi/L, g, F):	8.926	
Uncertainty (Calculated):	0.420	
Result (pCi/L, g, F):	7.610	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.866	
Numerical Performance Indicator:	-2.68	
Percent Recovery:	85.26%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Sample Matrix Spike Control Assessment

Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment

Sample I.D.:	30200502001
Duplicate Sample I.D.	30200502001DUP
Sample Result (pCi/L, g, F):	0.981
Sample Result Counting Uncertainty (pCi/L, g, F):	0.372
Sample Duplicate Result (pCi/L, g, F):	1.175
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.397
Are sample and/or duplicate results below MDC?	See Below ##
Duplicate Numerical Performance Indicator:	-0.700
Duplicate RPD:	18.00%
Duplicate Status vs Numerical Indicator:	N/A
Duplicate Status vs RPD:	Pass

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

30200502001
30200502001DUP

Matrix Spike/Matrix Spike Duplicate Sample Assessment

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

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

Comments:

11/30/16

PACE ANALYTICAL SERVICES, INC.

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

Laboratory Report

Prepared For:

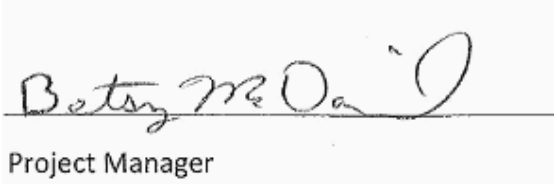
Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: **Mr. Joju Abraham**

Report Number: **AZJ0820**
November 08, 2016
Project: CCR Event
Project #:Plant Hammond

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

Approved:



Project Manager

PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 08, 2016

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HGWC-124	AZJ0820-01	Ground Water	10/26/16 12:57	10/28/16 11:25
HGWC-120	AZJ0820-02	Ground Water	10/26/16 12:55	10/28/16 11:25

PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 08, 2016

Report No.: AZJ0820
Client ID: HGWC-124
Date/Time Sampled: 10/26/2016 12:57:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZJ0820-01
Date/Time Received: 10/28/2016 11:25:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	409	25	10	mg/L	SM 2540 C		1	11/01/16 16:00	11/01/16 16:00	6110015	JPT
Inorganic Anions											
Chloride	3.6	0.25	0.01	mg/L	EPA 300.0	B-01	1	10/31/16 16:40	11/02/16 00:59	6100828	RNB
Fluoride	0.30	0.30	0.02	mg/L	EPA 300.0		1	10/31/16 16:40	11/02/16 00:59	6100828	RNB
Sulfate	71	5.0	0.26	mg/L	EPA 300.0		5	10/31/16 16:40	11/07/16 07:00	6100828	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	11/02/16 08:00	11/02/16 23:08	6110033	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	11/02/16 08:00	11/02/16 23:08	6110033	CSW
Barium	0.0735	0.0100	0.0004	mg/L	EPA 6020B		1	11/02/16 08:00	11/02/16 23:08	6110033	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	11/02/16 08:00	11/02/16 23:08	6110033	CSW
Boron	0.550	0.100	0.0064	mg/L	EPA 6020B		1	11/02/16 08:00	11/04/16 12:31	6110033	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	11/02/16 08:00	11/02/16 23:08	6110033	CSW
Calcium	94.5	5.00	0.311	mg/L	EPA 6020B		10	11/02/16 08:00	11/04/16 11:20	6110033	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	11/02/16 08:00	11/02/16 23:08	6110033	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	11/02/16 08:00	11/02/16 23:08	6110033	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	11/02/16 08:00	11/02/16 23:08	6110033	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	11/02/16 08:00	11/02/16 23:08	6110033	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	11/02/16 08:00	11/02/16 23:08	6110033	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	11/02/16 08:00	11/02/16 23:08	6110033	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	11/02/16 08:00	11/02/16 23:08	6110033	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	11/02/16 10:50	11/02/16 15:42	6110038	MTC

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 08, 2016

Report No.: AZJ0820
Client ID: HGWC-120
Date/Time Sampled: 10/26/2016 12:55:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZJ0820-02
Date/Time Received: 10/28/2016 11:25:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	795	25	10	mg/L	SM 2540 C		1	11/01/16 16:00	11/01/16 16:00	6110015	JPT
Inorganic Anions											
Chloride	3.6	0.25	0.01	mg/L	EPA 300.0	B-01	1	10/31/16 16:40	11/02/16 01:20	6100828	RNB
Fluoride	0.60	0.30	0.02	mg/L	EPA 300.0		1	10/31/16 16:40	11/02/16 01:20	6100828	RNB
Sulfate	280	10	0.51	mg/L	EPA 300.0		10	10/31/16 16:40	11/07/16 07:21	6100828	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	11/02/16 08:00	11/02/16 23:14	6110033	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	11/02/16 08:00	11/02/16 23:14	6110033	CSW
Barium	0.0462	0.0100	0.0004	mg/L	EPA 6020B		1	11/02/16 08:00	11/02/16 23:14	6110033	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	11/02/16 08:00	11/02/16 23:14	6110033	CSW
Boron	1.28	0.100	0.0064	mg/L	EPA 6020B		1	11/02/16 08:00	11/04/16 12:39	6110033	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	11/02/16 08:00	11/02/16 23:14	6110033	CSW
Calcium	156	25.0	1.55	mg/L	EPA 6020B		50	11/02/16 08:00	11/04/16 11:28	6110033	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	11/02/16 08:00	11/02/16 23:14	6110033	CSW
Cobalt	0.0041	0.0100	0.0005	mg/L	EPA 6020B	J	1	11/02/16 08:00	11/02/16 23:14	6110033	CSW
Lead	0.0002	0.0050	0.0001	mg/L	EPA 6020B	J	1	11/02/16 08:00	11/02/16 23:14	6110033	CSW
Molybdenum	0.0187	0.0100	0.0017	mg/L	EPA 6020B		1	11/02/16 08:00	11/02/16 23:14	6110033	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	11/02/16 08:00	11/02/16 23:14	6110033	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	11/02/16 08:00	11/02/16 23:14	6110033	CSW
Lithium	0.0352	0.0500	0.0021	mg/L	EPA 6020B	J	1	11/02/16 08:00	11/02/16 23:14	6110033	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	11/02/16 10:50	11/02/16 15:49	6110038	MTC

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 08, 2016

Report No.: AZJ0820

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6110015 - SM 2540 C											
Blank (6110015-BLK1)						Prepared & Analyzed: 11/01/16					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (6110015-BS1)						Prepared & Analyzed: 11/01/16					
Total Dissolved Solids	399	25	10	mg/L	400.00		100	84-108			
Duplicate (6110015-DUP1)		**Source: AZJ0840-01**				Prepared & Analyzed: 11/01/16					
Total Dissolved Solids	325	25	10	mg/L		330			2	10	

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Report No.: AZJ0820

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100828 - EPA 300.0											
Blank (6100828-BLK1)						Prepared: 10/31/16 Analyzed: 11/01/16					
Chloride	0.02	0.25	0.01	mg/L							J
Fluoride	ND	0.10	0.02	mg/L							
Sulfate	ND	1.0	0.05	mg/L							
LCS (6100828-BS1)						Prepared: 10/31/16 Analyzed: 11/01/16					
Chloride	10.6	1.0	0.01	mg/L	10.010		106	90-110			
Fluoride	10.6	0.10	0.02	mg/L	10.020		106	90-110			
Sulfate	10.4	5.0	0.05	mg/L	10.020		104	90-110			
Matrix Spike (6100828-MS1)		**Source: AZJ0763-01**				Prepared: 10/31/16 Analyzed: 11/01/16					
Chloride	13.5	1.0	0.01	mg/L	10.010	3.13	103	90-110			
Fluoride	11.2	0.10	0.02	mg/L	10.020	0.14	110	90-110			QM-05
Sulfate	11.4	5.0	0.05	mg/L	10.020	0.30	110	90-110			QM-05
Matrix Spike Dup (6100828-MSD1)		**Source: AZJ0763-01**				Prepared: 10/31/16 Analyzed: 11/01/16					
Chloride	13.3	1.0	0.01	mg/L	10.010	3.13	101	90-110	1	15	
Fluoride	11.2	0.10	0.02	mg/L	10.020	0.14	111	90-110	0.2	15	QM-05
Sulfate	11.3	5.0	0.05	mg/L	10.020	0.30	110	90-110	0.4	15	

PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 08, 2016

Report No.: AZJ0820

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6110033 - EPA 3005A											
Blank (6110033-BLK1)						Prepared & Analyzed: 11/02/16					
Antimony	ND	0.0030	0.0008	mg/L							
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	ND	0.100	0.0064	mg/L							
Cadmium	ND	0.0010	0.00007	mg/L							
Calcium	ND	0.500	0.0311	mg/L							
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0050	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0050	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0050	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	ND	0.0100	0.0021	mg/L							
Lithium	ND	0.0500	0.0021	mg/L							
LCS (6110033-BS1)						Prepared & Analyzed: 11/02/16					
Antimony	0.0993	0.0030	0.0008	mg/L	0.10000		99	80-120			
Arsenic	0.0991	0.0050	0.0016	mg/L	0.10000		99	80-120			
Barium	0.0996	0.0100	0.0004	mg/L	0.10000		100	80-120			
Beryllium	0.107	0.0030	0.00008	mg/L	0.10000		107	80-120			
Boron	1.09	0.100	0.0064	mg/L	1.0000		109	80-120			
Cadmium	0.0997	0.0010	0.00007	mg/L	0.10000		100	80-120			
Calcium	1.04	0.500	0.0311	mg/L	1.0000		104	80-120			
Chromium	0.0982	0.0100	0.0009	mg/L	0.10000		98	80-120			
Cobalt	0.0959	0.0100	0.0005	mg/L	0.10000		96	80-120			
Copper	0.0951	0.0050	0.0005	mg/L	0.10000		95	80-120			
Lead	0.0955	0.0050	0.0001	mg/L	0.10000		96	80-120			
Molybdenum	0.101	0.0100	0.0017	mg/L	0.10000		101	80-120			
Nickel	0.0964	0.0050	0.0006	mg/L	0.10000		96	80-120			
Selenium	0.100	0.0100	0.0010	mg/L	0.10000		100	80-120			
Silver	0.103	0.0050	0.0005	mg/L	0.10000		103	80-120			
Thallium	0.0985	0.0010	0.0002	mg/L	0.10000		99	80-120			
Vanadium	0.0992	0.0100	0.0071	mg/L	0.10000		99	80-120			
Zinc	0.102	0.0100	0.0021	mg/L	0.10000		102	80-120			
Lithium	0.111	0.0500	0.0021	mg/L	0.10000		111	80-120			

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 08, 2016

Report No.: AZJ0820

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6110033 - EPA 3005A											
Matrix Spike (6110033-MS1)		**Source: AZK0001-01**			Prepared & Analyzed: 11/02/16						
Antimony	0.0995	0.0030	0.0008	mg/L	0.10000	ND	99	75-125			
Arsenic	0.0988	0.0050	0.0016	mg/L	0.10000	ND	99	75-125			
Barium	0.126	0.0100	0.0004	mg/L	0.10000	0.0277	98	75-125			
Beryllium	0.101	0.0030	0.00008	mg/L	0.10000	ND	101	75-125			
Boron	1.02	0.100	0.0064	mg/L	1.0000	0.0111	101	75-125			
Cadmium	0.0988	0.0010	0.00007	mg/L	0.10000	0.00008	99	75-125			
Calcium	7.87	0.500	0.0311	mg/L	1.0000	6.22	165	75-125			QM-02
Chromium	0.102	0.0100	0.0009	mg/L	0.10000	0.0017	101	75-125			
Cobalt	0.0982	0.0100	0.0005	mg/L	0.10000	ND	98	75-125			
Copper	0.0957	0.0050	0.0005	mg/L	0.10000	ND	96	75-125			
Lead	0.0969	0.0050	0.0001	mg/L	0.10000	ND	97	75-125			
Molybdenum	0.105	0.0100	0.0017	mg/L	0.10000	ND	105	75-125			
Nickel	0.0996	0.0050	0.0006	mg/L	0.10000	0.0015	98	75-125			
Selenium	0.0976	0.0100	0.0010	mg/L	0.10000	ND	98	75-125			
Silver	0.103	0.0050	0.0005	mg/L	0.10000	ND	103	75-125			
Thallium	0.100	0.0010	0.0002	mg/L	0.10000	ND	100	75-125			
Vanadium	0.103	0.0100	0.0071	mg/L	0.10000	ND	103	75-125			
Zinc	0.105	0.0100	0.0021	mg/L	0.10000	0.0039	101	75-125			
Lithium	0.104	0.0500	0.0021	mg/L	0.10000	ND	104	75-125			
Matrix Spike Dup (6110033-MSD1)		**Source: AZK0001-01**			Prepared & Analyzed: 11/02/16						
Antimony	0.101	0.0030	0.0008	mg/L	0.10000	ND	101	75-125	1	20	
Arsenic	0.100	0.0050	0.0016	mg/L	0.10000	ND	100	75-125	2	20	
Barium	0.127	0.0100	0.0004	mg/L	0.10000	0.0277	100	75-125	0.9	20	
Beryllium	0.101	0.0030	0.00008	mg/L	0.10000	ND	101	75-125	0.2	20	
Boron	1.03	0.100	0.0064	mg/L	1.0000	0.0111	101	75-125	0.1	20	
Cadmium	0.101	0.0010	0.00007	mg/L	0.10000	0.00008	101	75-125	2	20	
Calcium	7.22	0.500	0.0311	mg/L	1.0000	6.22	100	75-125	9	20	
Chromium	0.101	0.0100	0.0009	mg/L	0.10000	0.0017	99	75-125	1	20	
Cobalt	0.0959	0.0100	0.0005	mg/L	0.10000	ND	96	75-125	2	20	
Copper	0.0978	0.0050	0.0005	mg/L	0.10000	ND	98	75-125	2	20	
Lead	0.0948	0.0050	0.0001	mg/L	0.10000	ND	95	75-125	2	20	
Molybdenum	0.102	0.0100	0.0017	mg/L	0.10000	ND	102	75-125	3	20	
Nickel	0.0999	0.0050	0.0006	mg/L	0.10000	0.0015	98	75-125	0.4	20	
Selenium	0.103	0.0100	0.0010	mg/L	0.10000	ND	103	75-125	5	20	
Silver	0.104	0.0050	0.0005	mg/L	0.10000	ND	104	75-125	0.4	20	
Thallium	0.0988	0.0010	0.0002	mg/L	0.10000	ND	99	75-125	2	20	
Vanadium	0.101	0.0100	0.0071	mg/L	0.10000	ND	101	75-125	2	20	
Zinc	0.106	0.0100	0.0021	mg/L	0.10000	0.0039	103	75-125	1	20	
Lithium	0.106	0.0500	0.0021	mg/L	0.10000	ND	106	75-125	1	20	

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 08, 2016

Report No.: AZJ0820

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6110033 - EPA 3005A											
Post Spike (6110033-PS1)		**Source: AZK0001-01**				Prepared & Analyzed: 11/02/16					
Antimony	89.5			ug/L	100.00	0.161	89	80-120			
Arsenic	99.9			ug/L	100.00	-0.108	100	80-120			
Barium	125			ug/L	100.00	27.7	97	80-120			
Beryllium	101			ug/L	100.00	0.0513	101	80-120			
Boron	1000			ug/L	1000.0	11.1	99	80-120			
Cadmium	97.0			ug/L	100.00	0.0791	97	80-120			
Calcium	6790			ug/L	1000.0	6220	58	80-120			QM-02
Chromium	104			ug/L	100.00	1.69	102	80-120			
Cobalt	96.4			ug/L	100.00	0.0819	96	80-120			
Copper	95.9			ug/L	100.00	0.0641	96	80-120			
Lead	96.3			ug/L	100.00	0.0601	96	80-120			
Molybdenum	103			ug/L	100.00	0.390	102	80-120			
Nickel	99.1			ug/L	100.00	1.55	98	80-120			
Selenium	102			ug/L	100.00	-0.317	102	80-120			
Silver	103			ug/L	100.00	0.0076	103	80-120			
Thallium	97.6			ug/L	100.00	0.210	97	80-120			
Vanadium	103			ug/L	100.00	-0.156	103	80-120			
Zinc	103			ug/L	100.00	3.91	99	80-120			
Lithium	103			ug/L	100.00	0.699	102	80-120			
Batch 6110038 - EPA 7470A											
Blank (6110038-BLK1)						Prepared & Analyzed: 11/02/16					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (6110038-BS1)						Prepared & Analyzed: 11/02/16					
Mercury	0.00253	0.00050	0.000041	mg/L	2.5000E-3		101	80-120			

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 08, 2016

Report No.: AZJ0820

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6110038 - EPA 7470A											
Matrix Spike (6110038-MS1)		**Source: AZJ0785-12**				Prepared & Analyzed: 11/02/16					
Mercury	0.00239	0.00050	0.000041	mg/L	2.5000E-3	ND	96	75-125			
Matrix Spike Dup (6110038-MSD1)		**Source: AZJ0785-12**				Prepared & Analyzed: 11/02/16					
Mercury	0.00243	0.00050	0.000041	mg/L	2.5000E-3	ND	97	75-125	1	20	
Post Spike (6110038-PS1)		**Source: AZJ0785-12**				Prepared & Analyzed: 11/02/16					
Mercury	1.77			ug/L	1.6667	0.00273	106	80-120			

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 08, 2016

Legend

Definition of Laboratory Terms

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

Sample Information

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

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

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

Definition of Qualifiers

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

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

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

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

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

PACE ANALYTICAL SERVICES, INC.

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Georgia Power
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Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 08, 2016

Report Notes

The metals for HGWC-124 was pH adjusted by the Lab with HNO3. MMR

CHAIN OF CUSTODY RECORD

Pace Analytical

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

CLIENT NAME: Georgia Power

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

REPORT TO: Joju Abraham

CC: Maria Padilla, Heath McCorkle

REQUESTED COMPLETION DATE:

PO #: laburch@southernco.com

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)							LAB ID NUMBER
CONTAINER TYPE:								P	P	P							
PRESERVATION:								3	7	3							
10/26/16	12:57	GW		X	HGWC-124	3		1	1	1							1
10/26/16	12:55	GW		X	HGWC-120	3		1	1	1							2

CONTAINER TYPE / PRESERVATION

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

*MATRIX CODES:

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

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: T. Wardell *TM* M. Rogers *MR*

DATE/TIME: 10/26/2016 13:45

RELINQUISHED BY: *MR*

DATE/TIME: 10-28-16 1120

RECEIVED BY:

DATE/TIME:

RELINQUISHED BY:

DATE/TIME:

RECEIVED BY/LAB: M Zalman

DATE/TIME: 10/28/16 1125

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

Custody Seal: Intact Broken (N/A) Not Present

# of Coolers:

Cooler ID:

pH Checked: Yes No NA

Lot#:

Temperature: 1°C Min: 1°C Max:

FOR LAB USE ONLY

LAB #: A270820

Entered into LIMS: MZ

Tracking #:

20161026 Hammond COC.xlsx

PACE ANALYTICAL SERVICES, INC.

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

LOG-IN CHECKLIST **Printed: 11/8/2016 3:36:38PM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 10/28/16 11:25

Work Order: AZJ0820
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 2 **#Containers:** 6

Minimum Temp(C): 1.0 **Maximum Temp(C):** 1.0 **Custody Seal(s) Used:** N/A

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	NO
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

The metals for HGWC-124 was pH adjusted by the Lab with HNO3. MMR

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

December 05, 2016

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: Plant Hammond
Pace Project No.: 30201008

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on October 31, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

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

CERTIFICATIONS

Project: Plant Hammond
Pace Project No.: 30201008

Pennsylvania Certification IDs

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

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

SAMPLE SUMMARY

Project: Plant Hammond
Pace Project No.: 30201008

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30201008001	**HGWC-124**	Water	10/26/16 12:57	10/31/16 09:30
30201008002	**HGWC-120**	Water	10/26/16 12:55	10/31/16 09:30

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

SAMPLE ANALYTE COUNT

Project: Plant Hammond
Pace Project No.: 30201008

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30201008001	**HGWC-124**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30201008002	**HGWC-120**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30201008

Sample: HGWC-124 **Lab ID: 30201008001** Collected: 10/26/16 12:57 Received: 10/31/16 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.103 ± 0.0870 (0.155) C:96% T:NA**	pCi/L	11/25/16 08:43	13982-63-3	
Radium-228	EPA 9320	**0.534 ± 0.485 (0.990) C:64% T:78%**	pCi/L	12/01/16 15:30	15262-20-1	
Total Radium	Total Radium Calculation	**0.637 ± 0.572 (1.15)**	pCi/L	12/02/16 16:14	7440-14-4	

Sample: HGWC-120 **Lab ID: 30201008002** Collected: 10/26/16 12:55 Received: 10/31/16 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.173 ± 0.105 (0.158) C:98% T:NA**	pCi/L	11/25/16 08:43	13982-63-3	
Radium-228	EPA 9320	**0.691 ± 0.464 (0.888) C:63% T:81%**	pCi/L	12/01/16 15:30	15262-20-1	
Total Radium	Total Radium Calculation	**0.864 ± 0.569 (1.05)**	pCi/L	12/02/16 16:14	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30201008

QC Batch: 239636 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30201008001, 30201008002

METHOD BLANK: 1177543 Matrix: Water
Associated Lab Samples: 30201008001, 30201008002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0971 ± 0.0940 (0.182) C:96% T:NA	pCi/L	11/23/16 09:33	

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

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Greensburg, PA 15601
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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30201008

QC Batch: 239888 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30201008001, 30201008002

METHOD BLANK: 1178568 Matrix: Water
Associated Lab Samples: 30201008001, 30201008002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.494 ± 0.321 (0.600) C:92% T:73%	pCi/L	12/01/16 15:31	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: Plant Hammond
Pace Project No.: 30201008

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

WO#:30201008

Chain of Custody

Workorder: AZJ0820 Workorder Name: Plant Hammond Owner Received Date: Results Requested By: 11/29/2016

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

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis Radium 226, 228, Total	LAB USE ONLY
1	HGWC-124	G	10/26/2016 12:57	AZJ0820-01	GW	1	X	001
2	HGWC-120	G	10/26/2016 12:55	AZJ0820-02	GW	1	X	002
3								
4								
5								
6								
7								
8								
9								
10								

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	MLahman	10/28/16	Kiara Hill	10-31-16 0930	
2					
3					

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

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

30201008

CHAIN OF CUSTODY RECORD

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

PAGE: 1 OF 1

CLIENT NAME: Georgia Power

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

REPORT TO: Joju Abraham

CC: Maria Padilla, Heath McCorkle

REQUESTED COMPLETION DATE:

PO #: laburch@southernco.com

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: CCR

ANALYSIS REQUESTED

								Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)	LAB ID NUMBER
						CONTAINER TYPE:		P	P	P	
						PRESERVATION:		3	7	3	
Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS					
10/26/16	12:57	GW		X	HGWC-124	3		1	1	1	1
10/26/16	12:55	GW		X	HGWC-120	3		1	1	1	2

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

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

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

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: T. Wardell TW/M. Rogers MR — DATE/TIME: 10/26/2016 13:45

RELINQUISHED BY: [signature] — DATE/TIME: 10-28-16 1120

RECEIVED BY: — DATE/TIME:

RELINQUISHED BY: — DATE/TIME:

RECEIVED BY LAB: [signature] — DATE/TIME: 10/28/16 1125

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS — Custody Seal: Intact Broken Not Present (NA) — # of Coolers: — Cooler ID:

pH Checked: Yes No NA — Ice: Yes No NA — Temperature: Min 1°C Max 1°C

FOR LAB USE ONLY — LAB #: A210820 — Entered into LIMS: MR — Tracking #:

20161026 Hammond COC.xlsx

Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: Paul Georgia Project # 30201008

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

Tracking #: 6812 5100 1150

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

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

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

Temp should be above freezing to 6°C

Date and initials of person examining contents: KH 10-31-16

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:	✓			4.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:		✓		
Containers Intact:	✓			11.
Filtered volume received for Dissolved tests			✓	12.
All containers needing preservation have been checked.	✓			13. pH <2
All containers needing preservation are found to be in compliance with EPA recommendation.	✓			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed KH / Date/time of preservation / Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	14.
Trip Blank Present:			✓	15.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: KH / Date: 10-31-16

Client Notification/ Resolution:

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

Comments/ Resolution: _____

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

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

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-228
Analyst:	JLW
Date:	11/28/2016
Worklist:	32410
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1178568
MB concentration:	0.494
M/B Counting Uncertainty:	0.308
MB MDC:	0.600
MB Numerical Performance Indicator:	3.14
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS32410	LCSD32410
Count Date:	12/1/2016	
Spike I.D.:	16-027	
Spike Concentration (pCi/mL):	25.936	
Volume Used (mL):	0.20	
Aliquot Volume (L, g, F):	0.806	
Target Conc. (pCi/L, g, F):	6.434	
Uncertainty (Calculated):	0.463	
Result (pCi/L, g, F):	6.760	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.777	
Numerical Performance Indicator:	0.71	
Percent Recovery:	105.08%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Sample Matrix Spike Control Assessment	
Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30201007002	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30201007002DUP	
Sample Result (pCi/L, g, F):	0.528	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.409	
Sample Duplicate Result (pCi/L, g, F):	0.557	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.411	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-0.097	30201007002
Duplicate RPD:	5.29%	30201007002DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

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

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

Comments:

12/5/16

Quality Control Sample Performance Assessment

Pace Analytical™
www.pacelabs.com

Test:	Ra-226
Analyst:	LAL
Date:	11/16/2016
Worklist:	32365
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment

MB Sample ID	1177543
MB concentration:	0.097
M/B Counting Uncertainty:	0.093
MB MDC:	0.182
MB Numerical Performance Indicator:	2.05
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment

	LCSD (Y or N)?	Y
	LCS32365	LCSD32365
Count Date:	11/25/2016	11/25/2016
Spike I.D.:	16-026	16-026
Spike Concentration (pCi/mL):	44.674	44.674
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.498	0.510
Target Conc. (pCi/L, g, F):	8.962	8.764
Uncertainty (Calculated):	0.422	0.412
Result (pCi/L, g, F):	7.931	7.893
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.585	0.597
Numerical Performance Indicator:	-2.80	-2.35
Percent Recovery:	88.49%	90.07%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass

Sample Matrix Spike Control Assessment

Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment

Sample I.D.:	LCS32365
Duplicate Sample I.D.	LCSD32365
Sample Result (pCi/L, g, F):	7.931
Sample Result Counting Uncertainty (pCi/L, g, F):	0.585
Sample Duplicate Result (pCi/L, g, F):	7.893
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.597
Are sample and/or duplicate results below MDC?	NO
Duplicate Numerical Performance Indicator:	0.088
Duplicate RPD:	0.47%
Duplicate Status vs Numerical Indicator:	N/A
Duplicate Status vs RPD:	Pass

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

Matrix Spike/Matrix Spike Duplicate Sample Assessment

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

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

Comments:

CMC 12/5/16

PACE ANALYTICAL SERVICES, INC.

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

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AZK0264
November 17, 2016
Project: CCR Event
Project #:Plant Hammond

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

Approved:

Project Manager

PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 17, 2016

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HGWC-121	AZK0264-01	Ground Water	11/07/16 12:45	11/08/16 12:40

PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 17, 2016

Report No.: AZK0264
Client ID: HGWC-121
Date/Time Sampled: 11/7/2016 12:45:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AZK0264-01
Date/Time Received: 11/8/2016 12:40:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	1000	25	10	mg/L	SM 2540 C		1	11/09/16 12:55	11/09/16 12:55	6110247	JPT
Inorganic Anions											
Chloride	65	2.5	0.14	mg/L	EPA 300.0		10	11/09/16 17:36	11/15/16 01:02	6110275	RNB
Fluoride	0.18	0.30	0.02	mg/L	EPA 300.0	J	1	11/09/16 17:36	11/15/16 01:23	6110275	RNB
Sulfate	300	10	0.51	mg/L	EPA 300.0		10	11/09/16 17:36	11/15/16 01:02	6110275	RNB
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	11/10/16 08:35	11/11/16 14:14	6110266	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	11/10/16 08:35	11/11/16 14:14	6110266	CSW
Barium	0.0764	0.0100	0.0004	mg/L	EPA 6020B		1	11/10/16 08:35	11/11/16 14:14	6110266	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	11/10/16 08:35	11/11/16 14:14	6110266	CSW
Boron	2.95	0.200	0.0321	mg/L	EPA 6020B		5	11/10/16 08:35	11/14/16 14:28	6110266	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	11/10/16 08:35	11/11/16 14:14	6110266	CSW
Calcium	170	25.0	1.55	mg/L	EPA 6020B		50	11/10/16 08:35	11/14/16 14:21	6110266	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	11/10/16 08:35	11/11/16 14:14	6110266	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	11/10/16 08:35	11/11/16 14:14	6110266	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	11/10/16 08:35	11/11/16 14:14	6110266	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	11/10/16 08:35	11/11/16 14:14	6110266	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	11/10/16 08:35	11/11/16 14:14	6110266	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	11/10/16 08:35	11/11/16 14:14	6110266	CSW
Lithium	0.0089	0.0500	0.0021	mg/L	EPA 6020B	J	1	11/10/16 08:35	11/11/16 14:14	6110266	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	11/10/16 10:05	11/10/16 15:47	6110259	MTC

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 17, 2016

Report No.: AZK0264

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6110247 - SM 2540 C											
Blank (6110247-BLK1)						Prepared & Analyzed: 11/09/16					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (6110247-BS1)						Prepared & Analyzed: 11/09/16					
Total Dissolved Solids	401	25	10	mg/L	400.00		100	84-108			
Duplicate (6110247-DUP1)		**Source: AZK0288-06**				Prepared & Analyzed: 11/09/16					
Total Dissolved Solids	391	25	10	mg/L		399			2	10	

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 17, 2016

Report No.: AZK0264

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6110275 - EPA 9056A											
Blank (6110275-BLK1)						Prepared: 11/09/16 Analyzed: 11/10/16					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.02	mg/L							
Sulfate	ND	1.0	0.05	mg/L							
LCS (6110275-BS1)						Prepared: 11/09/16 Analyzed: 11/10/16					
Chloride	10.7	0.25	0.01	mg/L	10.010		107	90-110			
Fluoride	10.9	0.30	0.02	mg/L	10.020		108	90-110			
Sulfate	10.5	1.0	0.05	mg/L	10.020		104	90-110			
Matrix Spike (6110275-MS1)			**Source: AZK0229-02RE1**			Prepared: 11/09/16 Analyzed: 11/10/16					
Chloride	11.7	0.25	0.01	mg/L	10.010	2.78	89	90-110			QM-05
Fluoride	9.93	0.30	0.02	mg/L	10.020	0.10	98	90-110			
Sulfate	12.9	1.0	0.05	mg/L	10.020	4.06	88	90-110			QM-05
Matrix Spike (6110275-MS2)			**Source: AZK0288-04RE2**			Prepared: 11/09/16 Analyzed: 11/10/16					
Chloride	24.4	0.25	0.01	mg/L	10.010	16.3	81	90-110			QM-05
Fluoride	11.0	0.30	0.02	mg/L	10.020	0.44	106	90-110			
Sulfate	95.0	1.0	0.05	mg/L	10.020	89.5	54	90-110			QM-02
Matrix Spike Dup (6110275-MSD1)			**Source: AZK0229-02RE1**			Prepared: 11/09/16 Analyzed: 11/10/16					
Chloride	12.7	0.25	0.01	mg/L	10.010	2.78	99	90-110	8	15	
Fluoride	11.1	0.30	0.02	mg/L	10.020	0.10	110	90-110	11	15	
Sulfate	13.9	1.0	0.05	mg/L	10.020	4.06	99	90-110	8	15	

PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 17, 2016

Report No.: AZK0264

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6110259 - EPA 7470A											
Blank (6110259-BLK1)						Prepared & Analyzed: 11/10/16					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (6110259-BS1)						Prepared & Analyzed: 11/10/16					
Mercury	0.00256	0.00050	0.000041	mg/L	2.5000E-3		102	80-120			
Matrix Spike (6110259-MS1)		**Source: AZK0200-02**				Prepared & Analyzed: 11/10/16					
Mercury	0.00244	0.00050	0.000041	mg/L	2.5000E-3	ND	98	75-125			
Matrix Spike Dup (6110259-MSD1)		**Source: AZK0200-02**				Prepared & Analyzed: 11/10/16					
Mercury	0.00251	0.00050	0.000041	mg/L	2.5000E-3	ND	100	75-125	3	20	
Post Spike (6110259-PS1)		**Source: AZK0200-02**				Prepared & Analyzed: 11/10/16					
Mercury	1.75			ug/L	1.6667	-0.0167	105	80-120			
Batch 6110266 - EPA 3005A											
Blank (6110266-BLK1)						Prepared: 11/10/16 Analyzed: 11/11/16					
Antimony	0.0008	0.0030	0.0008	mg/L							J
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	ND	0.0400	0.0064	mg/L							
Cadmium	ND	0.0010	0.00007	mg/L							
Calcium	ND	0.500	0.0311	mg/L							
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0250	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0100	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0100	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	ND	0.0100	0.0021	mg/L							
Lithium	ND	0.0500	0.0021	mg/L							

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 17, 2016

Report No.: AZK0264

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6110266 - EPA 3005A											
LCS (6110266-BS1)						Prepared: 11/10/16 Analyzed: 11/11/16					
Antimony	0.0994	0.0030	0.0008	mg/L	0.10000		99	80-120			
Arsenic	0.0990	0.0050	0.0016	mg/L	0.10000		99	80-120			
Barium	0.0984	0.0100	0.0004	mg/L	0.10000		98	80-120			
Beryllium	0.0924	0.0030	0.00008	mg/L	0.10000		92	80-120			
Boron	0.998	0.0400	0.0064	mg/L	1.0000		100	80-120			
Cadmium	0.0986	0.0010	0.00007	mg/L	0.10000		99	80-120			
Calcium	1.01	0.500	0.0311	mg/L	1.0000		101	80-120			
Chromium	0.101	0.0100	0.0009	mg/L	0.10000		101	80-120			
Cobalt	0.0985	0.0100	0.0005	mg/L	0.10000		98	80-120			
Copper	0.100	0.0250	0.0005	mg/L	0.10000		100	80-120			
Lead	0.0979	0.0050	0.0001	mg/L	0.10000		98	80-120			
Molybdenum	0.0988	0.0100	0.0017	mg/L	0.10000		99	80-120			
Nickel	0.101	0.0100	0.0006	mg/L	0.10000		101	80-120			
Selenium	0.0956	0.0100	0.0010	mg/L	0.10000		96	80-120			
Silver	0.101	0.0100	0.0005	mg/L	0.10000		101	80-120			
Thallium	0.0986	0.0010	0.0002	mg/L	0.10000		99	80-120			
Vanadium	0.0994	0.0100	0.0071	mg/L	0.10000		99	80-120			
Zinc	0.0990	0.0100	0.0021	mg/L	0.10000		99	80-120			
Lithium	0.0955	0.0500	0.0021	mg/L	0.10000		96	80-120			
Matrix Spike (6110266-MS1)		**Source: AZK0229-01**				Prepared: 11/10/16 Analyzed: 11/11/16					
Antimony	0.101	0.0030	0.0008	mg/L	0.10000	0.0022	98	75-125			
Arsenic	0.0982	0.0050	0.0016	mg/L	0.10000	ND	98	75-125			
Barium	0.103	0.0100	0.0004	mg/L	0.10000	0.0047	98	75-125			
Beryllium	0.0918	0.0030	0.00008	mg/L	0.10000	ND	92	75-125			
Boron	0.967	0.0400	0.0064	mg/L	1.0000	0.0138	95	75-125			
Cadmium	0.0962	0.0010	0.00007	mg/L	0.10000	0.0001	96	75-125			
Calcium	2.53	0.500	0.0311	mg/L	1.0000	1.65	88	75-125			
Chromium	0.0998	0.0100	0.0009	mg/L	0.10000	ND	100	75-125			
Cobalt	0.0993	0.0100	0.0005	mg/L	0.10000	0.0044	95	75-125			
Copper	0.0984	0.0250	0.0005	mg/L	0.10000	ND	98	75-125			
Lead	0.0969	0.0050	0.0001	mg/L	0.10000	ND	97	75-125			
Molybdenum	0.0964	0.0100	0.0017	mg/L	0.10000	ND	96	75-125			
Nickel	0.104	0.0100	0.0006	mg/L	0.10000	0.0035	100	75-125			
Selenium	0.0928	0.0100	0.0010	mg/L	0.10000	ND	93	75-125			
Silver	0.0997	0.0100	0.0005	mg/L	0.10000	ND	100	75-125			
Thallium	0.0979	0.0010	0.0002	mg/L	0.10000	ND	98	75-125			
Vanadium	0.0984	0.0100	0.0071	mg/L	0.10000	ND	98	75-125			
Zinc	0.0997	0.0100	0.0021	mg/L	0.10000	0.0043	95	75-125			
Lithium	0.0948	0.0500	0.0021	mg/L	0.10000	ND	95	75-125			

PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 17, 2016

Report No.: AZK0264

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6110266 - EPA 3005A											
Matrix Spike Dup (6110266-MSD1)		**Source: AZK0229-01**				Prepared: 11/10/16 Analyzed: 11/11/16					
Antimony	0.105	0.0030	0.0008	mg/L	0.10000	0.0022	103	75-125	4	20	
Arsenic	0.0972	0.0050	0.0016	mg/L	0.10000	ND	97	75-125	1	20	
Barium	0.105	0.0100	0.0004	mg/L	0.10000	0.0047	101	75-125	2	20	
Beryllium	0.0946	0.0030	0.00008	mg/L	0.10000	ND	95	75-125	3	20	
Boron	1.01	0.0400	0.0064	mg/L	1.0000	0.0138	100	75-125	5	20	
Cadmium	0.0975	0.0010	0.00007	mg/L	0.10000	0.0001	97	75-125	1	20	
Calcium	2.61	0.500	0.0311	mg/L	1.0000	1.65	97	75-125	3	20	
Chromium	0.0988	0.0100	0.0009	mg/L	0.10000	ND	99	75-125	1	20	
Cobalt	0.100	0.0100	0.0005	mg/L	0.10000	0.0044	96	75-125	0.8	20	
Copper	0.0986	0.0250	0.0005	mg/L	0.10000	ND	99	75-125	0.2	20	
Lead	0.0968	0.0050	0.0001	mg/L	0.10000	ND	97	75-125	0.05	20	
Molybdenum	0.103	0.0100	0.0017	mg/L	0.10000	ND	103	75-125	7	20	
Nickel	0.101	0.0100	0.0006	mg/L	0.10000	0.0035	97	75-125	3	20	
Selenium	0.0936	0.0100	0.0010	mg/L	0.10000	ND	94	75-125	0.9	20	
Silver	0.105	0.0100	0.0005	mg/L	0.10000	ND	105	75-125	5	20	
Thallium	0.0988	0.0010	0.0002	mg/L	0.10000	ND	99	75-125	0.9	20	
Vanadium	0.0981	0.0100	0.0071	mg/L	0.10000	ND	98	75-125	0.3	20	
Zinc	0.0979	0.0100	0.0021	mg/L	0.10000	0.0043	94	75-125	2	20	
Lithium	0.0983	0.0500	0.0021	mg/L	0.10000	ND	98	75-125	4	20	
Post Spike (6110266-PS1)		**Source: AZK0229-01**				Prepared: 11/10/16 Analyzed: 11/11/16					
Antimony	92.0			ug/L	100.00	2.25	90	80-120			
Arsenic	96.3			ug/L	100.00	-0.204	96	80-120			
Barium	105			ug/L	100.00	4.68	100	80-120			
Beryllium	95.1			ug/L	100.00	0.0410	95	80-120			
Boron	989			ug/L	1000.0	13.8	98	80-120			
Cadmium	97.8			ug/L	100.00	0.124	98	80-120			
Calcium	2570			ug/L	1000.0	1650	92	80-120			
Chromium	96.6			ug/L	100.00	0.293	96	80-120			
Cobalt	102			ug/L	100.00	4.37	97	80-120			
Copper	96.0			ug/L	100.00	0.237	96	80-120			
Lead	95.6			ug/L	100.00	0.104	96	80-120			
Molybdenum	99.7			ug/L	100.00	0.193	100	80-120			
Nickel	99.8			ug/L	100.00	3.50	96	80-120			
Selenium	97.0			ug/L	100.00	0.965	96	80-120			
Silver	101			ug/L	100.00	0.0213	101	80-120			
Thallium	97.0			ug/L	100.00	0.139	97	80-120			
Vanadium	98.0			ug/L	100.00	-0.333	98	80-120			
Zinc	97.6			ug/L	100.00	4.31	93	80-120			
Lithium	98.5			ug/L	100.00	1.22	97	80-120			

PACE ANALYTICAL SERVICES, INC.

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(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 17, 2016

Legend

Definition of Laboratory Terms

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

Sample Information

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

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

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

Definition of Qualifiers

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

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

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

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

CHAIN OF CUSTODY RECORD

Pace Analytical®

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

PAGE: 1 OF 1

CLIENT NAME: Georgia Power
CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 241 Ralph McGill Blvd SE B10185, Atlanta, GA 30308, 404-506-7239
REPORT TO: Joju Abraham
CC: Maria Padilla, Heath McCorkle
REQUESTED COMPLETION DATE:
PO #: laburch@southernco.com
PROJECT NAME/STATE: Plant Hammond - AP 3&4
PROJECT #: CCR

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)							LAB ID NUMBER
					CONTAINER TYPE			P	P	P							
					PRESERVATION			3	7	3							
11/07/16	12:45	GW		X	HGWC-121	3		1	1	1							

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

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

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

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: Will Virgo WV — DATE/TIME: 11/7/2016 13:00
RELINQUISHED BY: Will Virgo (ERM) — DATE/TIME: 11/8/16 0600
RECEIVED BY: — DATE/TIME:
RELINQUISHED BY: — DATE/TIME:
RECEIVED BY LAB: Karlee Hawkins — DATE/TIME: 11/8/16 1240

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS
Custody Seal: Intact Broken Not Present
Temperature: 1° Min 1° Max
Iced: Yes No NA

FOR LAB USE ONLY
LAB #: AZK0264
Entered into LIMS:
Tracking #:

20161107 Hammond COC.xlsx

PACE ANALYTICAL SERVICES, INC.

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

LOG-IN CHECKLIST **Printed: 11/17/2016 8:17:20AM**

Attn: Mr. Jcju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 11/08/16 12:40

Work Order: AZK0264
Logged In By: Charles Hawks

OBSERVATIONS

#Samples: 1 **#Containers:** 3

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

CHECKLIST ITEMS

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

Comments:

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

December 15, 2016

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: Plant Hammond
Pace Project No.: 30202041

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

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

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

CERTIFICATIONS

Project: Plant Hammond
Pace Project No.: 30202041

Pennsylvania Certification IDs

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

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

SAMPLE SUMMARY

Project: Plant Hammond
Pace Project No.: 30202041

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30202041001	**HGWC-121**	Water	11/07/16 12:45	11/09/16 10:35

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: Plant Hammond
Pace Project No.: 30202041

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30202041001	**HGWC-121**	EPA 9315	JC2	1
		EPA 9320	JAL	1
		Total Radium Calculation	JAL	1

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30202041

Sample: HGWC-121 **Lab ID: 30202041001** Collected: 11/07/16 12:45 Received: 11/09/16 10:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.132 ± 0.142 (0.284) C:84% T:NA**	pCi/L	11/25/16 10:16	13982-63-3	
Radium-228	EPA 9320	**0.607 ± 0.349 (0.604) C:62% T:88%**	pCi/L	12/13/16 18:54	15262-20-1	
Total Radium	Total Radium Calculation	**0.739 ± 0.491 (0.888)**	pCi/L	12/15/16 06:59	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30202041

QC Batch: 242653 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30202041001

METHOD BLANK: 1192645 Matrix: Water
Associated Lab Samples: 30202041001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.240 ± 0.394 (0.801) C:60% T:86%	pCi/L	12/13/16 18:52	

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30202041

QC Batch: 240769 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30202041001

METHOD BLANK: 1183232 Matrix: Water
Associated Lab Samples: 30202041001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0189 ± 0.0805 (0.209) C:84% T:NA	pCi/L	11/25/16 08:38	

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

QUALIFIERS

Project: Plant Hammond
Pace Project No.: 30202041

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

WO#:30202041

Chain of Custody

Workorder: AZK0264 Workorder Name: Plant Hammond Owner Received Date: Results Requested By: 12/9/2016

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

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3					Requested Analysis Radium 226, 228, Total												LAB USE ONLY
1	HGWC-121	G	11/7/2016 12:45	AZK0264-01	GW	1					X												001
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1				12-9-16 1035	
2					
3					

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

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

30202041

CHAIN OF CUSTODY RECORD

Pace Analytical

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

CLIENT NAME: Georgia Power

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

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

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	CONTAINER TYPE	PRESERVATION	# of CONTAINERS	Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)	LAB ID NUMBER
						P	3		1	7	3	
11/07/16	12:45	GW		X	HGWC-121			3	1	1	1	

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

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

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

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: Will Virgo WV
DATE/TIME: 11/7/2016 13:00

RELINQUISHED BY: Will Virgo (FZN)
DATE/TIME: 11/8/16 0600

RECEIVED BY:
DATE/TIME:

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY LAB: Charles Hawkins
DATE/TIME: 11/8/16 1240

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

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

FOR LAB USE ONLY
LAB #: AZK0264
Entered into LIMS: CH
Tracking #:

Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: Pace GA Project # 30202041

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

Tracking #: 6812 5100 2926

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

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

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

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ML 11-9-16

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

Client Notification/ Resolution:

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

Comments/ Resolution: _____

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

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

Quality Control Sample Performance Assessment

Test: Ra-226
Analyst: JC2
Date: 11/21/2016
Worklist: 32548
Matrix: DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment

MB Sample ID	1183232
MB concentration:	0.019
M/B Counting Uncertainty:	0.080
MB MDC:	0.209
MB Numerical Performance Indicator:	0.46
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment

	LCSD (Y or N)?	N
	LCS32548	LCSD32548
Count Date:	11/25/2016	
Spike I.D.:	16-026	
Spike Concentration (pCi/mL):	44.674	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.502	
Target Conc. (pCi/L, g, F):	8.904	
Uncertainty (Calculated):	0.419	
Result (pCi/L, g, F):	8.463	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.787	
Numerical Performance Indicator:	-0.97	
Percent Recovery:	95.05%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Duplicate Sample Assessment

Sample I.D.:	30202040001
Duplicate Sample I.D.	30202040001DUP
Sample Result (pCi/L, g, F):	0.008
Sample Result Counting Uncertainty (pCi/L, g, F):	0.078
Sample Duplicate Result (pCi/L, g, F):	-0.042
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.064
Are sample and/or duplicate results below MDC?	See Below ##
Duplicate Numerical Performance Indicator:	0.966
Duplicate RPD:	-294.57%
Duplicate Status vs Numerical Indicator:	N/A
Duplicate Status vs RPD:	Pass

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

30202040001
30202040001DUP

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

Sample Matrix Spike Control Assessment

Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Matrix Spike/Matrix Spike Duplicate Sample Assessment

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

Comments:

12/10/16

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Test:	Ra-228
Analyst:	JAL
Date:	12/9/2016
Worklist:	32862
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment

MB Sample ID	1192645
MB concentration:	0.240
M/B Counting Uncertainty:	0.392
MB MDC:	0.801
MB Numerical Performance Indicator:	1.20
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment

	LCSD (Y or N)?	N
	LCS32862	LCSD32862
Count Date:	12/13/2016	
Spike I.D.:	16-027	
Spike Concentration (pCi/mL):	25.832	
Volume Used (mL):	0.20	
Aliquot Volume (L, g, F):	0.806	
Target Conc. (pCi/L, g, F):	6.414	
Uncertainty (Calculated):	0.462	
Result (pCi/L, g, F):	6.672	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.640	
Numerical Performance Indicator:	0.64	
Percent Recovery:	104.02%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Sample Matrix Spike Control Assessment

Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment

		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Sample I.D.:	30202155001	
Duplicate Sample I.D.	30202155001DUP	
Sample Result (pCi/L, g, F):	0.822	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.398	
Sample Duplicate Result (pCi/L, g, F):	1.045	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.401	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-0.774	30202155001
Duplicate RPD:	23.89%	30202155001DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

Matrix Spike/Matrix Spike Duplicate Sample Assessment

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

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

Comments:

12/15/16

PACE ANALYTICAL SERVICES, LLC.

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

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AAA0455
January 20, 2017
Project: CCR Event
Project #:Plant Hammond

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

Approved:

Project Manager

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

January 20, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HGWC-121	AAA0455-01	Ground Water	01/13/17 10:40	01/13/17 16:27

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

January 20, 2017

Report No.: AAA0455
Client ID: HGWC-121
Date/Time Sampled: 1/13/2017 10:40:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAA0455-01
Date/Time Received: 1/13/2017 4:27:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	827	25	10	mg/L	SM 2540 C		1	01/16/17 17:50	01/16/17 17:50	7010343	JPT
Inorganic Anions											
Chloride	50	2.5	0.14	mg/L	EPA 300.0		10	01/14/17 12:16	01/16/17 13:15	7010334	RLC
Fluoride	0.14	0.30	0.02	mg/L	EPA 300.0	J	1	01/14/17 12:16	01/15/17 00:42	7010334	RLC
Sulfate	270	10	0.51	mg/L	EPA 300.0		10	01/14/17 12:16	01/16/17 13:15	7010334	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	01/18/17 11:45	01/19/17 18:29	7010413	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	01/18/17 11:45	01/19/17 18:29	7010413	CSW
Barium	0.0744	0.0100	0.0004	mg/L	EPA 6020B		1	01/18/17 11:45	01/19/17 18:29	7010413	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	01/18/17 11:45	01/19/17 18:29	7010413	CSW
Boron	4.01	2.00	0.321	mg/L	EPA 6020B		50	01/18/17 11:45	01/19/17 18:35	7010413	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	01/18/17 11:45	01/19/17 18:29	7010413	CSW
Calcium	192	25.0	1.55	mg/L	EPA 6020B	B-01	50	01/18/17 11:45	01/19/17 18:35	7010413	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	01/18/17 11:45	01/19/17 18:29	7010413	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	01/18/17 11:45	01/19/17 18:29	7010413	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	01/18/17 11:45	01/19/17 18:29	7010413	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	01/18/17 11:45	01/19/17 18:29	7010413	CSW
Selenium	0.0011	0.0100	0.0010	mg/L	EPA 6020B	J	1	01/18/17 11:45	01/19/17 18:29	7010413	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	01/18/17 11:45	01/19/17 18:29	7010413	CSW
Lithium	0.0091	0.0500	0.0021	mg/L	EPA 6020B	J	1	01/18/17 11:45	01/19/17 18:29	7010413	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	01/16/17 09:30	01/16/17 14:32	7010337	MTC

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
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Attention: Mr. Joju Abraham

January 20, 2017

Report No.: AAA0455

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7010343 - SM 2540 C											
Blank (7010343-BLK1)						Prepared & Analyzed: 01/16/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7010343-BS1)						Prepared & Analyzed: 01/16/17					
Total Dissolved Solids	380	25	10	mg/L	400.00		95	84-108			
Duplicate (7010343-DUP1)		**Source: AAA0446-05**				Prepared & Analyzed: 01/16/17					
Total Dissolved Solids	ND	25	10	mg/L		ND				10	
Duplicate (7010343-DUP2)		**Source: AAA0455-01**				Prepared & Analyzed: 01/16/17					
Total Dissolved Solids	818	25	10	mg/L		827			1	10	

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January 20, 2017

Report No.: AAA0455

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7010334 - EPA 300.0											
Blank (7010334-BLK1)						Prepared & Analyzed: 01/14/17					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.004	mg/L							
Sulfate	ND	1.0	0.09	mg/L							
LCS (7010334-BS1)						Prepared & Analyzed: 01/14/17					
Chloride	9.90	0.25	0.01	mg/L	10.010		99	90-110			
Fluoride	10.3	0.30	0.004	mg/L	10.020		102	90-110			
Sulfate	9.97	1.0	0.09	mg/L	10.020		100	90-110			
Matrix Spike (7010334-MS1)			**Source: AAA0345-07**			Prepared & Analyzed: 01/14/17					
Chloride	12.4	0.25	0.01	mg/L	10.010	2.47	99	90-110			
Fluoride	10.5	0.30	0.004	mg/L	10.020	0.006	104	90-110			
Sulfate	12.3	1.0	0.09	mg/L	10.020	2.53	98	90-110			
Matrix Spike (7010334-MS2)			**Source: AAA0440-02**			Prepared & Analyzed: 01/14/17					
Chloride	11.8	0.25	0.01	mg/L	10.010	1.77	100	90-110			
Fluoride	10.6	0.30	0.004	mg/L	10.020	0.02	106	90-110			
Sulfate	11.2	1.0	0.09	mg/L	10.020	1.38	98	90-110			
Matrix Spike Dup (7010334-MSD1)			**Source: AAA0345-07**			Prepared & Analyzed: 01/14/17					
Chloride	12.4	0.25	0.01	mg/L	10.010	2.47	99	90-110	0.3	15	
Fluoride	10.5	0.30	0.004	mg/L	10.020	0.006	105	90-110	0.5	15	
Sulfate	12.3	1.0	0.09	mg/L	10.020	2.53	98	90-110	0.2	15	

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Report No.: AAA0455

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7010337 - EPA 7470A											
Blank (7010337-BLK1)						Prepared & Analyzed: 01/16/17					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (7010337-BS1)						Prepared & Analyzed: 01/16/17					
Mercury	0.00232	0.00050	0.000041	mg/L	2.5000E-3		93	80-120			
Matrix Spike (7010337-MS1)		**Source: AAA0440-01**				Prepared & Analyzed: 01/16/17					
Mercury	0.00236	0.00050	0.000041	mg/L	2.5000E-3	ND	94	75-125			
Matrix Spike Dup (7010337-MSD1)		**Source: AAA0440-01**				Prepared & Analyzed: 01/16/17					
Mercury	0.00236	0.00050	0.000041	mg/L	2.5000E-3	ND	94	75-125	0.1	20	
Post Spike (7010337-PS1)		**Source: AAA0440-01**				Prepared & Analyzed: 01/16/17					
Mercury	1.72			ug/L	1.6667	-0.00226	103	80-120			
Batch 7010413 - EPA 3005A											
Blank (7010413-BLK1)						Prepared: 01/18/17 Analyzed: 01/19/17					
Antimony	ND	0.0030	0.0008	mg/L							
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	ND	0.0400	0.0064	mg/L							
Cadmium	ND	0.0010	0.00007	mg/L							
Calcium	0.0766	0.500	0.0311	mg/L							J
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0250	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0100	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0100	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	ND	0.0100	0.0021	mg/L							
Lithium	ND	0.0500	0.0021	mg/L							

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

January 20, 2017

Report No.: AAA0455

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7010413 - EPA 3005A											
LCS (7010413-BS1)						Prepared: 01/18/17 Analyzed: 01/19/17					
Antimony	0.103	0.0030	0.0008	mg/L	0.10000		103	80-120			
Arsenic	0.0998	0.0050	0.0016	mg/L	0.10000		100	80-120			
Barium	0.0973	0.0100	0.0004	mg/L	0.10000		97	80-120			
Beryllium	0.104	0.0030	0.00008	mg/L	0.10000		104	80-120			
Boron	1.05	0.0400	0.0064	mg/L	1.0000		105	80-120			
Cadmium	0.104	0.0010	0.00007	mg/L	0.10000		104	80-120			
Calcium	1.09	0.500	0.0311	mg/L	1.0000		109	80-120			
Chromium	0.101	0.0100	0.0009	mg/L	0.10000		101	80-120			
Cobalt	0.0999	0.0100	0.0005	mg/L	0.10000		100	80-120			
Copper	0.103	0.0250	0.0005	mg/L	0.10000		103	80-120			
Lead	0.0999	0.0050	0.0001	mg/L	0.10000		100	80-120			
Molybdenum	0.104	0.0100	0.0017	mg/L	0.10000		104	80-120			
Nickel	0.104	0.0100	0.0006	mg/L	0.10000		104	80-120			
Selenium	0.100	0.0100	0.0010	mg/L	0.10000		100	80-120			
Silver	0.101	0.0100	0.0005	mg/L	0.10000		101	80-120			
Thallium	0.0995	0.0010	0.0002	mg/L	0.10000		99	80-120			
Vanadium	0.101	0.0100	0.0071	mg/L	0.10000		101	80-120			
Zinc	0.0956	0.0100	0.0021	mg/L	0.10000		96	80-120			
Lithium	0.105	0.0500	0.0021	mg/L	0.10000		105	80-120			
Matrix Spike (7010413-MS1)			**Source: AAA0466-05**			Prepared: 01/18/17 Analyzed: 01/19/17					
Antimony	0.100	0.0030	0.0008	mg/L	0.10000	ND	100	75-125			
Arsenic	0.0972	0.0050	0.0016	mg/L	0.10000	ND	97	75-125			
Barium	0.123	0.0100	0.0004	mg/L	0.10000	0.0259	97	75-125			
Beryllium	0.104	0.0030	0.00008	mg/L	0.10000	ND	104	75-125			
Boron	1.11	0.0400	0.0064	mg/L	1.0000	0.0624	105	75-125			
Cadmium	0.102	0.0010	0.00007	mg/L	0.10000	ND	102	75-125			
Calcium	9.93	2.50	0.155	mg/L	1.0000	9.20	74	75-125			QM-02
Chromium	0.100	0.0100	0.0009	mg/L	0.10000	ND	100	75-125			
Cobalt	0.0967	0.0100	0.0005	mg/L	0.10000	ND	97	75-125			
Copper	0.0988	0.0250	0.0005	mg/L	0.10000	ND	99	75-125			
Lead	0.0986	0.0050	0.0001	mg/L	0.10000	0.0001	98	75-125			
Molybdenum	0.103	0.0100	0.0017	mg/L	0.10000	ND	103	75-125			
Nickel	0.101	0.0100	0.0006	mg/L	0.10000	ND	101	75-125			
Selenium	0.102	0.0100	0.0010	mg/L	0.10000	0.0016	101	75-125			
Silver	0.0969	0.0100	0.0005	mg/L	0.10000	ND	97	75-125			
Thallium	0.0980	0.0010	0.0002	mg/L	0.10000	ND	98	75-125			
Vanadium	0.103	0.0100	0.0071	mg/L	0.10000	ND	103	75-125			
Zinc	0.100	0.0100	0.0021	mg/L	0.10000	0.0044	96	75-125			
Lithium	0.108	0.0500	0.0021	mg/L	0.10000	0.0081	100	75-125			

PACE ANALYTICAL SERVICES, LLC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

January 20, 2017

Report No.: AAA0455

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7010413 - EPA 3005A											
Matrix Spike Dup (7010413-MSD1)		**Source: AAA0466-05**			Prepared: 01/18/17 Analyzed: 01/19/17						
Antimony	0.0969	0.0030	0.0008	mg/L	0.10000	ND	97	75-125	3	20	
Arsenic	0.0992	0.0050	0.0016	mg/L	0.10000	ND	99	75-125	2	20	
Barium	0.118	0.0100	0.0004	mg/L	0.10000	0.0259	92	75-125	4	20	
Beryllium	0.100	0.0030	0.00008	mg/L	0.10000	ND	100	75-125	4	20	
Boron	1.04	0.0400	0.0064	mg/L	1.0000	0.0624	98	75-125	6	20	
Cadmium	0.108	0.0010	0.00007	mg/L	0.10000	ND	108	75-125	5	20	
Calcium	10.3	2.50	0.155	mg/L	1.0000	9.20	109	75-125	3	20	
Chromium	0.100	0.0100	0.0009	mg/L	0.10000	ND	100	75-125	0.4	20	
Cobalt	0.0974	0.0100	0.0005	mg/L	0.10000	ND	97	75-125	0.7	20	
Copper	0.0969	0.0250	0.0005	mg/L	0.10000	ND	97	75-125	2	20	
Lead	0.0965	0.0050	0.0001	mg/L	0.10000	0.0001	96	75-125	2	20	
Molybdenum	0.105	0.0100	0.0017	mg/L	0.10000	ND	105	75-125	2	20	
Nickel	0.101	0.0100	0.0006	mg/L	0.10000	ND	101	75-125	0.2	20	
Selenium	0.101	0.0100	0.0010	mg/L	0.10000	0.0016	99	75-125	1	20	
Silver	0.0962	0.0100	0.0005	mg/L	0.10000	ND	96	75-125	0.7	20	
Thallium	0.0980	0.0010	0.0002	mg/L	0.10000	ND	98	75-125	0.07	20	
Vanadium	0.102	0.0100	0.0071	mg/L	0.10000	ND	102	75-125	0.3	20	
Zinc	0.100	0.0100	0.0021	mg/L	0.10000	0.0044	96	75-125	0.3	20	
Lithium	0.106	0.0500	0.0021	mg/L	0.10000	0.0081	98	75-125	1	20	
Post Spike (7010413-PS1)		**Source: AAA0466-05**			Prepared: 01/18/17 Analyzed: 01/19/17						
Antimony	73.3			ug/L	100.00	0.232	73	80-120			QM-05
Arsenic	99.6			ug/L	100.00	0.578	99	80-120			
Barium	120			ug/L	100.00	25.9	94	80-120			
Beryllium	101			ug/L	100.00	0.0618	101	80-120			
Boron	1100			ug/L	1000.0	62.4	104	80-120			
Cadmium	102			ug/L	100.00	0.0304	102	80-120			
Calcium	10100			ug/L	1000.0	9200	89	80-120			
Chromium	100			ug/L	100.00	0.335	100	80-120			
Cobalt	98.5			ug/L	100.00	0.0437	98	80-120			
Copper	98.6			ug/L	100.00	0.0258	99	80-120			
Lead	93.7			ug/L	100.00	0.135	94	80-120			
Molybdenum	104			ug/L	100.00	0.801	103	80-120			
Nickel	97.8			ug/L	100.00	0.437	97	80-120			
Selenium	101			ug/L	100.00	1.60	100	80-120			
Silver	97.1			ug/L	100.00	0.0042	97	80-120			
Thallium	96.6			ug/L	100.00	0.0120	97	80-120			
Vanadium	102			ug/L	100.00	0.298	102	80-120			
Zinc	103			ug/L	100.00	4.38	99	80-120			
Lithium	111			ug/L	100.00	8.08	103	80-120			

PACE ANALYTICAL SERVICES, LLC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

January 20, 2017

Legend

Definition of Laboratory Terms

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

Sample Information

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

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

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

Definition of Qualifiers

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

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

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

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

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

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

January 20, 2017

Report Notes

The client listed sample collection date on the COC as 01/13/2016 but on the container labels as 01/13/2017. The sample was received on 01/13/2017. Considering the received date, 01/13/2017 was used as sample collection date for login purposes. MMR

CHAIN OF CUSTODY RECORD

Pace Analytical®

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

CLIENT NAME: Georgia Power

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

REPORT TO: Joju Abraham

CC: Maria Padilla, Heath McCorkle

REQUESTED COMPLETION DATE:

PO #: laburch@southernco.com

PROJECT NAME/STATE: Plant Hammond - AP 3

PROJECT #: Phase 2

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		CONTAINER TYPE:	P	P	P	LAB ID NUMBER
								PRESERVATION:	3	7	3	
									Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)	
01/13/16	1040	GW		x	HGWC-121	3			1	1	1	1

CONTAINER TYPE / PRESERVATION

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

*MATRIX CODES:

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

REMARKS/ADDITIONAL INFORMATION

01/13/17 per labels.
MR 01/13/17

SAMPLED BY AND TITLE: M. Thomas
M. Thomas

DATE/TIME: 1/13/2016

RELINQUISHED BY: M. Thomas

DATE/TIME: 1/13/17 1627

RECEIVED BY:

DATE/TIME:

RELINQUISHED BY:

DATE/TIME:

RECEIVED BY LAB: Laburan

DATE/TIME: 01/13/17 1627

Packed: No NA

Ice: Yes No NA

Temperature: 2° Min: 2° Max

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

Custody Seal: Intact Broken Not Present (NA)

# of Coolers

Cooler ID:

FOR LAB USE ONLY

LAB #: AAA0455

Entered Into LIMS: MR

Tracking #:

PACE ANALYTICAL SERVICES, LLC.

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

LOG-IN CHECKLIST **Printed: 1/16/2017 1:00:23PM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 01/13/17 16:27

Work Order: AAA0455
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 1 **#Containers:** 3

Minimum Temp(C): 2.0 **Maximum Temp(C):** 2.0 **Custody Seal(s) Used:** N/A

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	NO
Custody seal Intact	NO
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

The client listed sample collection date on the COC as 01/13/2016 but on the container labels as 01/13/2017. The sample was received on 01/13/2017. Considering the received date, 01/13/2017 was used as sample collection date for login purposes.
MMR

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

February 14, 2017

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: Plant Hammond
Pace Project No.: 30208165

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on January 17, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

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

CERTIFICATIONS

Project: Plant Hammond
Pace Project No.: 30208165

Pennsylvania Certification IDs

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

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

SAMPLE SUMMARY

Project: Plant Hammond
Pace Project No.: 30208165

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30208165001	**HGWC-121**	Water	01/13/17 10:40	01/17/17 10:00

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: Plant Hammond
Pace Project No.: 30208165

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30208165001	**HGWC-121**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30208165

Sample: HGWC-121 **Lab ID: 30208165001** Collected: 01/13/17 10:40 Received: 01/17/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.404 ± 0.160 (0.217) C:90% T:NA**	pCi/L	01/22/17 16:16	13982-63-3	
Radium-228	EPA 9320	**0.340 ± 0.350 (0.725) C:76% T:86%**	pCi/L	02/10/17 16:12	15262-20-1	
Total Radium	Total Radium Calculation	**0.744 ± 0.510 (0.942)**	pCi/L	02/13/17 14:03	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30208165

QC Batch: 246910 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30208165001

METHOD BLANK: 1214155 Matrix: Water
Associated Lab Samples: 30208165001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.550 ± 0.410 (0.796) C:63% T:85%	pCi/L	02/10/17 11:45	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30208165

QC Batch: 246912 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30208165001

METHOD BLANK: 1214157 Matrix: Water
Associated Lab Samples: 30208165001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.189 ± 0.137 (0.255) C:95% T:NA	pCi/L	01/22/17 16:14	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: Plant Hammond
Pace Project No.: 30208165

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

WO#:30208165

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAA0455 Workorder Name: Plant Hammond Owner Received Date: Results Requested By: 2/7/2017

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

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis: Radium 226, 228, Total	LAB USE ONLY
1	HGWC-121	G	1/13/2017 10:40	AAA0455-01	GW	1	X	001
2								
3								
4								
5								
6								
7								
8								
9								
10								

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1			[signature]	1-17-17 1000	EQuIS deliverable required
2					
3					

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

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

CHAIN OF CUSTODY RECORD

Pace Analytical®

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

30208165

CLIENT NAME: Georgia Power

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

REPORT TO: Joju Abraham

CC: Maria Padilla, Heath McCorkle

REQUESTED COMPLETION DATE:

PO #: laburch@southernco.com

PROJECT NAME/STATE: Plant Hammond - AP 3

PROJECT #: Phase 2

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)							LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
CONTAINER TYPE:								P	P	P								
PRESERVATION:								3	7	3								
01/13/16	1040	GW		x	HGWC-121	3		1	1	1							1	01/13/17 per labels. MR 01/13/17

CONTAINER TYPE / PRESERVATION

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

*MATRIX CODES:

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

SAMPLED BY AND TITLE: M. Thomas
M. Thomas

DATE/TIME: 1/13/2016

RELINQUISHED BY: M. Thomas

DATE/TIME: 1/13/17 1627

RECEIVED BY:

DATE/TIME:

RELINQUISHED BY:

DATE/TIME:

RECEIVED BY LAB: M Lalman

DATE/TIME: 01/13/17 1627

pH Checked: Yes No NA

pH: Yes No NA

Temperature: 2°C Min: 2°C Max

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

Custody Seal: Intact Broken (NA) Not Present

# of Coolers:

Cooler ID:

FOR LAB USE ONLY

LAB #: AAA0455

Entered into LIMS: MR

Tracking #:

Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: Pace GA Project # 30208165

Courier: [X] Fed Ex [ ] UPS [ ] USPS [ ] Client [ ] Commercial [ ] Pace Other _____

Tracking #: 6812 5101 7230

Custody Seal on Cooler/Box Present: [ ] yes [X] no Seals intact: [ ] yes [ ] no

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

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

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ML 1-17-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:		X		4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	X			5.
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:		X		8.
Sufficient Volume:	X			9.
Correct Containers Used: -Pace Containers Used:	X			10.
Containers Intact:	X			11.
Orthophosphate field filtered		X		12.
Organic Samples checked for dechlorination:			X	13.
Filtered volume received for Dissolved tests			X	14.
All containers have been checked for preservation. All containers needing preservation are found to be in compliance with EPA recommendation. exceptions: VOA, coliform, TOC, O&G, Phenolics	X			15. PH<2 Initial when completed ML Date/time of preservation Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	16.
Trip Blank Present: Trip Blank Custody Seals Present		X	X	17.
Rad Aqueous Samples Screened > 0.5 mrem/hr		X		Initial when completed: ML Date: 1-17-17

Client Notification/ Resolution:

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

Comments/ Resolution: _____

[ ] **A check in this box indicates that additional information has been stored in ereports.**

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

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

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Test:	Ra-228
Analyst:	JLW
Date:	1/21/2017
Worklist:	33613
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1214155
MB concentration:	0.550
M/B Counting Uncertainty:	0.398
MB MDC:	0.796
MB Numerical Performance Indicator:	2.71
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS33613	LCSD33613
Count Date:	2/10/2017	
Spike I.D.:	16-027	
Spike Concentration (pCi/mL):	25.337	
Volume Used (mL):	0.20	
Aliquot Volume (L, g, F):	0.804	
Target Conc. (pCi/L, g, F):	6.303	
Uncertainty (Calculated):	0.454	
Result (pCi/L, g, F):	6.777	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.674	
Numerical Performance Indicator:	1.14	
Percent Recovery:	107.51%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Sample Matrix Spike Control Assessment	
Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Sample I.D.:	30208166001	
Duplicate Sample I.D.	30208166001DUP	
Sample Result (pCi/L, g, F):	0.430	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.309	
Sample Duplicate Result (pCi/L, g, F):	0.081	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.314	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	1.552	30208166001
Duplicate RPD:	136.37%	30208166001DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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

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

Comments:

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

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	LAL
Date:	1/20/2017
Worklist:	33615
Matrix:	DW

Method Blank Assessment

MB Sample ID	1214157
MB concentration:	0.189
M/B Counting Uncertainty:	0.134
MB MDC:	0.255
MB Numerical Performance Indicator:	2.76
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment

	LCSD (Y or N)?	N
	LCS33615	**LCSD33615**
Count Date:	1/22/2017	
Spike I.D.:	16-026	
Spike Concentration (pCi/mL):	44.671	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.502	
Target Conc. (pCi/L, g, F):	8.907	
Uncertainty (Calculated):	0.419	
Result (pCi/L, g, F):	7.468	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.532	
Numerical Performance Indicator:	-4.16	
Percent Recovery:	83.84%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Sample Matrix Spike Control Assessment

Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment

Sample I.D.:	30208166001
Duplicate Sample I.D.	30208166001DUP
Sample Result (pCi/L, g, F):	0.762
Sample Result Counting Uncertainty (pCi/L, g, F):	0.184
Sample Duplicate Result (pCi/L, g, F):	0.806
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.183
Are sample and/or duplicate results below MDC?	See Below ##
Duplicate Numerical Performance Indicator:	-0.331
Duplicate RPD:	5.59%
Duplicate Status vs Numerical Indicator:	N/A
Duplicate Status vs RPD:	Pass

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

30208166001
30208166001DUP

Matrix Spike/Matrix Spike Duplicate Sample Assessment

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

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

Comments:

PACE ANALYTICAL SERVICES, LLC.

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

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AAA0861
February 03, 2017
Project: CCR Event
Project #:Plant Hammond

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

Approved:

Project Manager

PACE ANALYTICAL SERVICES, LLC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 03, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HGWA-111	AAA0861-01	Ground Water	01/25/17 10:35	01/26/17 12:05
HGWA-112	AAA0861-02	Ground Water	01/25/17 11:10	01/26/17 12:05
HGWA-113	AAA0861-03	Ground Water	01/25/17 12:53	01/26/17 12:05
HGWA-122	AAA0861-04	Ground Water	01/25/17 13:20	01/26/17 12:05

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 03, 2017

Report No.: AAA0861
Client ID: HGWA-111
Date/Time Sampled: 1/25/2017 10:35:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAA0861-01
Date/Time Received: 1/26/2017 12:05:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	345	25	10	mg/L	SM 2540 C		1	01/30/17 16:05	01/30/17 16:05	7010738	JPT
Inorganic Anions											
Chloride	2.7	0.25	0.01	mg/L	EPA 300.0		1	01/27/17 16:22	01/27/17 19:49	7010718	RLC
Fluoride	0.14	0.30	0.004	mg/L	EPA 300.0	J	1	01/27/17 16:22	01/27/17 19:49	7010718	RLC
Sulfate	1.6	1.0	0.09	mg/L	EPA 300.0		1	01/27/17 16:22	01/27/17 19:49	7010718	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:02	7010760	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:02	7010760	CSW
Barium	0.0304	0.0100	0.0004	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:02	7010760	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	01/31/17 10:00	02/01/17 15:03	7010760	CSW
Boron	0.0095	0.0400	0.0064	mg/L	EPA 6020B	J	1	01/31/17 10:00	01/31/17 19:02	7010760	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:02	7010760	CSW
Calcium	44.6	25.0	1.55	mg/L	EPA 6020B		50	01/31/17 10:00	01/31/17 19:08	7010760	CSW
Chromium	0.0029	0.0100	0.0009	mg/L	EPA 6020B	J	1	01/31/17 10:00	01/31/17 19:02	7010760	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:02	7010760	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:02	7010760	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:02	7010760	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:02	7010760	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:02	7010760	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	01/31/17 10:00	02/01/17 15:03	7010760	CSW
Mercury	0.00004	0.00050	0.000041	mg/L	EPA 7470A	J	1	01/31/17 11:00	01/31/17 15:21	7010766	MTC

PACE ANALYTICAL SERVICES, LLC.

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(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 03, 2017

Report No.: AAA0861
Client ID: HGWA-112
Date/Time Sampled: 1/25/2017 11:10:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAA0861-02
Date/Time Received: 1/26/2017 12:05:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	152	25	10	mg/L	SM 2540 C		1	01/30/17 16:05	01/30/17 16:05	7010738	JPT
Inorganic Anions											
Chloride	5.0	0.25	0.01	mg/L	EPA 300.0		1	01/27/17 16:22	01/27/17 20:10	7010718	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	01/27/17 16:22	01/27/17 20:10	7010718	RLC
Sulfate	0.62	1.0	0.09	mg/L	EPA 300.0	J	1	01/27/17 16:22	01/27/17 20:10	7010718	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:25	7010760	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:25	7010760	CSW
Barium	0.0252	0.0100	0.0004	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:25	7010760	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	01/31/17 10:00	02/01/17 15:09	7010760	CSW
Boron	0.0075	0.0400	0.0064	mg/L	EPA 6020B	J	1	01/31/17 10:00	01/31/17 19:25	7010760	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:25	7010760	CSW
Calcium	6.58	2.50	0.155	mg/L	EPA 6020B		5	01/31/17 10:00	02/02/17 15:55	7010760	CSW
Chromium	0.0038	0.0100	0.0009	mg/L	EPA 6020B	J	1	01/31/17 10:00	01/31/17 19:25	7010760	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:25	7010760	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:25	7010760	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:25	7010760	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:25	7010760	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:25	7010760	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	01/31/17 10:00	02/01/17 15:09	7010760	CSW
Mercury	0.00004	0.00050	0.000041	mg/L	EPA 7470A	J	1	01/31/17 11:00	01/31/17 15:23	7010766	MTC

PACE ANALYTICAL SERVICES, LLC.

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(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 03, 2017

Report No.: AAA0861
Client ID: HGWA-113
Date/Time Sampled: 1/25/2017 12:53:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAA0861-03
Date/Time Received: 1/26/2017 12:05:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	155	25	10	mg/L	SM 2540 C		1	01/30/17 16:05	01/30/17 16:05	7010738	JPT
Inorganic Anions											
Chloride	1.9	0.25	0.01	mg/L	EPA 300.0		1	01/27/17 16:22	01/27/17 20:30	7010718	RLC
Fluoride	0.15	0.30	0.004	mg/L	EPA 300.0	J	1	01/27/17 16:22	01/27/17 20:30	7010718	RLC
Sulfate	12	1.0	0.09	mg/L	EPA 300.0		1	01/27/17 16:22	01/27/17 20:30	7010718	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:36	7010760	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:36	7010760	CSW
Barium	0.0272	0.0100	0.0004	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:36	7010760	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	01/31/17 10:00	02/01/17 15:15	7010760	CSW
Boron	0.0090	0.0400	0.0064	mg/L	EPA 6020B	J	1	01/31/17 10:00	01/31/17 19:36	7010760	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:36	7010760	CSW
Calcium	6.87	2.50	0.155	mg/L	EPA 6020B		5	01/31/17 10:00	02/02/17 16:01	7010760	CSW
Chromium	0.0012	0.0100	0.0009	mg/L	EPA 6020B	J	1	01/31/17 10:00	01/31/17 19:36	7010760	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:36	7010760	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:36	7010760	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:36	7010760	CSW
Selenium	0.0023	0.0100	0.0010	mg/L	EPA 6020B	J	1	01/31/17 10:00	01/31/17 19:36	7010760	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:36	7010760	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	01/31/17 10:00	02/01/17 15:15	7010760	CSW
Mercury	0.00004	0.00050	0.000041	mg/L	EPA 7470A	J	1	01/31/17 11:00	01/31/17 15:25	7010766	MTC

PACE ANALYTICAL SERVICES, LLC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 03, 2017

Report No.: AAA0861
Client ID: HGWA-122
Date/Time Sampled: 1/25/2017 1:20:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAA0861-04
Date/Time Received: 1/26/2017 12:05:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	371	25	10	mg/L	SM 2540 C		1	01/30/17 16:05	01/30/17 16:05	7010738	JPT
Inorganic Anions											
Chloride	2.8	0.25	0.01	mg/L	EPA 300.0		1	01/27/17 16:22	01/27/17 20:51	7010718	RLC
Fluoride	0.22	0.30	0.004	mg/L	EPA 300.0	J	1	01/27/17 16:22	01/27/17 20:51	7010718	RLC
Sulfate	48	1.0	0.09	mg/L	EPA 300.0		1	01/27/17 16:22	01/27/17 20:51	7010718	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:48	7010760	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:48	7010760	CSW
Barium	0.0429	0.0100	0.0004	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:48	7010760	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	01/31/17 10:00	02/01/17 15:22	7010760	CSW
Boron	0.274	0.0400	0.0064	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:48	7010760	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:48	7010760	CSW
Calcium	77.3	25.0	1.55	mg/L	EPA 6020B		50	01/31/17 10:00	01/31/17 19:54	7010760	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:48	7010760	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:48	7010760	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:48	7010760	CSW
Molybdenum	0.0054	0.0100	0.0017	mg/L	EPA 6020B	J	1	01/31/17 10:00	01/31/17 19:48	7010760	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:48	7010760	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 19:48	7010760	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	01/31/17 10:00	02/01/17 15:22	7010760	CSW
Mercury	0.00004	0.00050	0.000041	mg/L	EPA 7470A	J	1	01/31/17 11:00	01/31/17 15:28	7010766	MTC

PACE ANALYTICAL SERVICES, LLC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 03, 2017

Report No.: AAA0861

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7010738 - SM 2540 C											
Blank (7010738-BLK1)						Prepared & Analyzed: 01/30/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7010738-BS1)						Prepared & Analyzed: 01/30/17					
Total Dissolved Solids	406	25	10	mg/L	400.00		102	84-108			
Duplicate (7010738-DUP1)		**Source: AAA0861-02**				Prepared & Analyzed: 01/30/17					
Total Dissolved Solids	131	25	10	mg/L		152			15	10	QR-03

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 03, 2017

Report No.: AAA0861

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7010718 - EPA 300.0											
Blank (7010718-BLK1)						Prepared & Analyzed: 01/27/17					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.004	mg/L							
Sulfate	ND	1.0	0.09	mg/L							
LCS (7010718-BS1)						Prepared & Analyzed: 01/27/17					
Chloride	10.4	0.25	0.01	mg/L	10.010		104	90-110			
Fluoride	10.5	0.30	0.004	mg/L	10.020		105	90-110			
Sulfate	10.6	1.0	0.09	mg/L	10.020		106	90-110			
Matrix Spike (7010718-MS1)		**Source: AAA0862-01**				Prepared & Analyzed: 01/27/17					
Chloride	57.0	0.25	0.01	mg/L	10.010	51.6	55	90-110			QM-02
Fluoride	10.8	0.30	0.004	mg/L	10.020	0.24	105	90-110			
Sulfate	100	1.0	0.09	mg/L	10.020	101	NR	90-110			QM-02
Matrix Spike Dup (7010718-MSD1)		**Source: AAA0862-01**				Prepared & Analyzed: 01/27/17					
Chloride	56.5	0.25	0.01	mg/L	10.010	51.6	50	90-110	0.9	15	QM-02
Fluoride	10.8	0.30	0.004	mg/L	10.020	0.24	105	90-110	0.1	15	
Sulfate	101	1.0	0.09	mg/L	10.020	101	NR	90-110	0.4	15	QM-02

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Georgia Power
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Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 03, 2017

Report No.: AAA0861

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7010760 - EPA 3005A											
Blank (7010760-BLK1)						Prepared & Analyzed: 01/31/17					
Antimony	ND	0.0030	0.0008	mg/L							
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	ND	0.0400	0.0064	mg/L							
Cadmium	ND	0.0010	0.00007	mg/L							
Calcium	ND	0.500	0.0311	mg/L							
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0250	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0100	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0100	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	ND	0.0100	0.0021	mg/L							
Lithium	ND	0.0500	0.0021	mg/L							
LCS (7010760-BS1)						Prepared & Analyzed: 01/31/17					
Antimony	0.104	0.0030	0.0008	mg/L	0.10000		104	80-120			
Arsenic	0.104	0.0050	0.0016	mg/L	0.10000		104	80-120			
Barium	0.0974	0.0100	0.0004	mg/L	0.10000		97	80-120			
Beryllium	0.104	0.0030	0.00008	mg/L	0.10000		104	80-120			
Boron	1.06	0.0400	0.0064	mg/L	1.0000		106	80-120			
Cadmium	0.0997	0.0010	0.00007	mg/L	0.10000		100	80-120			
Calcium	1.06	0.500	0.0311	mg/L	1.0000		106	80-120			
Chromium	0.102	0.0100	0.0009	mg/L	0.10000		102	80-120			
Cobalt	0.101	0.0100	0.0005	mg/L	0.10000		101	80-120			
Copper	0.101	0.0250	0.0005	mg/L	0.10000		101	80-120			
Lead	0.102	0.0050	0.0001	mg/L	0.10000		102	80-120			
Molybdenum	0.103	0.0100	0.0017	mg/L	0.10000		103	80-120			
Nickel	0.103	0.0100	0.0006	mg/L	0.10000		103	80-120			
Selenium	0.100	0.0100	0.0010	mg/L	0.10000		100	80-120			
Silver	0.100	0.0100	0.0005	mg/L	0.10000		100	80-120			
Thallium	0.100	0.0010	0.0002	mg/L	0.10000		100	80-120			
Vanadium	0.101	0.0100	0.0071	mg/L	0.10000		101	80-120			
Zinc	0.107	0.0100	0.0021	mg/L	0.10000		107	80-120			
Lithium	0.0962	0.0500	0.0021	mg/L	0.10000		96	80-120			

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 03, 2017

Report No.: AAA0861

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7010760 - EPA 3005A											
Matrix Spike (7010760-MS1)		**Source: AAA0909-08**				Prepared & Analyzed: 01/31/17					
Antimony	0.106	0.0030	0.0008	mg/L	0.10000	ND	106	75-125			
Arsenic	0.109	0.0050	0.0016	mg/L	0.10000	ND	109	75-125			
Barium	0.209	0.0100	0.0004	mg/L	0.10000	0.105	104	75-125			
Beryllium	0.104	0.0030	0.00008	mg/L	0.10000	ND	104	75-125			
Boron	2.78	2.00	0.321	mg/L	1.0000	1.19	159	75-125			QM-02
Cadmium	0.102	0.0010	0.00007	mg/L	0.10000	ND	102	75-125			
Calcium	145	25.0	1.55	mg/L	1.0000	139	618	75-125			QM-02
Chromium	0.106	0.0100	0.0009	mg/L	0.10000	ND	106	75-125			
Cobalt	0.102	0.0100	0.0005	mg/L	0.10000	ND	102	75-125			
Copper	0.102	0.0250	0.0005	mg/L	0.10000	ND	102	75-125			
Lead	0.0985	0.0050	0.0001	mg/L	0.10000	0.0001	98	75-125			
Molybdenum	0.108	0.0100	0.0017	mg/L	0.10000	ND	108	75-125			
Nickel	0.0994	0.0100	0.0006	mg/L	0.10000	ND	99	75-125			
Selenium	0.103	0.0100	0.0010	mg/L	0.10000	ND	103	75-125			
Silver	0.0976	0.0100	0.0005	mg/L	0.10000	ND	98	75-125			
Thallium	0.0974	0.0010	0.0002	mg/L	0.10000	ND	97	75-125			
Vanadium	0.106	0.0100	0.0071	mg/L	0.10000	ND	106	75-125			
Zinc	0.105	0.0100	0.0021	mg/L	0.10000	0.0025	102	75-125			
Lithium	0.0978	0.0500	0.0021	mg/L	0.10000	0.0028	95	75-125			
Matrix Spike Dup (7010760-MSD1)		**Source: AAA0909-08**				Prepared & Analyzed: 01/31/17					
Antimony	0.103	0.0030	0.0008	mg/L	0.10000	ND	103	75-125	2	20	
Arsenic	0.108	0.0050	0.0016	mg/L	0.10000	ND	108	75-125	1	20	
Barium	0.202	0.0100	0.0004	mg/L	0.10000	0.105	97	75-125	3	20	
Beryllium	0.106	0.0030	0.00008	mg/L	0.10000	ND	106	75-125	2	20	
Boron	2.71	2.00	0.321	mg/L	1.0000	1.19	152	75-125	3	20	QM-02
Cadmium	0.0983	0.0010	0.00007	mg/L	0.10000	ND	98	75-125	3	20	
Calcium	142	25.0	1.55	mg/L	1.0000	139	298	75-125	2	20	QM-02
Chromium	0.0999	0.0100	0.0009	mg/L	0.10000	ND	100	75-125	6	20	
Cobalt	0.100	0.0100	0.0005	mg/L	0.10000	ND	100	75-125	2	20	
Copper	0.0945	0.0250	0.0005	mg/L	0.10000	ND	95	75-125	7	20	
Lead	0.0990	0.0050	0.0001	mg/L	0.10000	0.0001	99	75-125	0.5	20	
Molybdenum	0.107	0.0100	0.0017	mg/L	0.10000	ND	107	75-125	0.6	20	
Nickel	0.0991	0.0100	0.0006	mg/L	0.10000	ND	99	75-125	0.3	20	
Selenium	0.105	0.0100	0.0010	mg/L	0.10000	ND	105	75-125	2	20	
Silver	0.0974	0.0100	0.0005	mg/L	0.10000	ND	97	75-125	0.3	20	
Thallium	0.0973	0.0010	0.0002	mg/L	0.10000	ND	97	75-125	0.1	20	
Vanadium	0.102	0.0100	0.0071	mg/L	0.10000	ND	102	75-125	4	20	
Zinc	0.0996	0.0100	0.0021	mg/L	0.10000	0.0025	97	75-125	5	20	
Lithium	0.100	0.0500	0.0021	mg/L	0.10000	0.0028	97	75-125	2	20	

PACE ANALYTICAL SERVICES, LLC.

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(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 03, 2017

Report No.: AAA0861

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7010760 - EPA 3005A											
Post Spike (7010760-PS1)			**Source: AAA0909-08**			Prepared & Analyzed: 01/31/17					
Antimony	92.7			ug/L	100.00	0.0220	93	80-120			
Arsenic	107			ug/L	100.00	-0.219	107	80-120			
Barium	196			ug/L	100.00	105	91	80-120			
Beryllium	105			ug/L	100.00	0.0100	105	80-120			
Boron	2660			ug/L	1000.0	1190	148	80-120			QM-02
Cadmium	100			ug/L	100.00	0.0104	100	80-120			
Calcium	143000			ug/L	1000.0	139000	377	80-120			QM-02
Chromium	107			ug/L	100.00	0.148	107	80-120			
Cobalt	102			ug/L	100.00	0.123	102	80-120			
Copper	97.5			ug/L	100.00	0.247	97	80-120			
Lead	94.5			ug/L	100.00	0.122	94	80-120			
Molybdenum	106			ug/L	100.00	0.0875	106	80-120			
Nickel	99.0			ug/L	100.00	0.284	99	80-120			
Selenium	106			ug/L	100.00	0.338	106	80-120			
Silver	93.9			ug/L	100.00	0.0015	94	80-120			
Thallium	93.8			ug/L	100.00	0.0007	94	80-120			
Vanadium	108			ug/L	100.00	-2.17	108	80-120			
Zinc	104			ug/L	100.00	2.53	101	80-120			
Lithium	100			ug/L	100.00	2.80	98	80-120			
Batch 7010766 - EPA 7470A											
Blank (7010766-BLK1)						Prepared & Analyzed: 01/31/17					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (7010766-BS1)						Prepared & Analyzed: 01/31/17					
Mercury	0.00245	0.00050	0.000041	mg/L	2.5000E-3		98	80-120			

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Attention: Mr. Joju Abraham

February 03, 2017

Report No.: AAA0861

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7010766 - EPA 7470A											
Matrix Spike (7010766-MS1)		**Source: AAA0792-01**				Prepared & Analyzed: 01/31/17					
Mercury	0.00236	0.00050	0.000041	mg/L	2.5000E-3	ND	94	75-125			
Matrix Spike Dup (7010766-MSD1)		**Source: AAA0792-01**				Prepared & Analyzed: 01/31/17					
Mercury	0.00246	0.00050	0.000041	mg/L	2.5000E-3	ND	98	75-125	4	20	
Post Spike (7010766-PS1)		**Source: AAA0792-01**				Prepared & Analyzed: 01/31/17					
Mercury	1.66			ug/L	1.6667	0.0236	98	80-120			

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Attention: Mr. Joju Abraham

February 03, 2017

Legend

Definition of Laboratory Terms

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

Sample Information

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

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

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

Definition of Qualifiers

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

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

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

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

CHAIN OF CUSTODY RECORD

Pace Analytical

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

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
42 Inverness Center Parkway BIN B426
Birmingham, AL 35242
205-992-5417

REPORT TO: Lauren Petty

CC: Maria Padilla, Heath McCorkle

REQUESTED COMPLETION DATE:

PO #: laburch@southernco.com

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: Phase II

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)							LAB ID NUMBER
CONTAINER TYPE:								P	P	P							
PRESERVATION:								3	7	3							
01/25/17	10:35	GW		X	HGWA-111	4		1	1	2							1
01/25/17	11:10	GW		X	HGWA-112	4		1	1	2							2
01/25/17	12:53	GW		X	HGWA-113	4		1	1	2							3
01/25/17	13:20	GW		X	HGWA-122	4		1	1	2							4

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

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

*MATRIX CODES:

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

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: M.Burch MB W.Virgo WV
DATE/TIME: 1/25/2017 / 13:20

RELINQUISHED BY: Will Virgo (ERM)
DATE/TIME: 1/25/17 2000

RECEIVED BY:
DATE/TIME:

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY LAB: Laburman
DATE/TIME: 01/26/17 1205

Packed: No NA
Ice: Yes No NA
Temperature: °F 1°C Min 1°C Max

SAMPLE SHIPPED VIA: UPS FED EX USPS COURIER CLIENT OTHER FS
Custody Seal: Intact Broken Not Present
# of Coolers:
Cooler ID:

FOR LAB USE ONLY
LAB #: AAA0861
Entered into LIMS: MR
Tracking #:

PACE ANALYTICAL SERVICES, LLC.

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

LOG-IN CHECKLIST **Printed: 1/27/2017 1:57:22PM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 01/26/17 12:05

Work Order: AAA0861
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 4 **#Containers:** 16

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

CHECKLIST ITEMS

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

Comments:

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

February 24, 2017

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: Plant Hammond
Pace Project No.: 30209139

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on January 27, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

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

CERTIFICATIONS

Project: Plant Hammond
Pace Project No.: 30209139

Pennsylvania Certification IDs

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

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

SAMPLE SUMMARY

Project: Plant Hammond
Pace Project No.: 30209139

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30209139001	**HGWA-111**	Water	01/25/17 10:35	01/27/17 10:00
30209139002	**HGWA-112**	Water	01/25/17 11:10	01/27/17 10:00
30209139003	**HGWA-113**	Water	01/25/17 12:53	01/27/17 10:00
30209139004	**HGWA-122**	Water	01/25/17 13:20	01/27/17 10:00

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Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: Plant Hammond
Pace Project No.: 30209139

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30209139001	**HGWA-111**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30209139002	**HGWA-112**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30209139003	**HGWA-113**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30209139004	**HGWA-122**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30209139

Sample: HGWA-111 **Lab ID: 30209139001** Collected: 01/25/17 10:35 Received: 01/27/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0790 ± 0.0960 (0.195) C:92% T:NA**	pCi/L	02/14/17 10:56	13982-63-3	
Radium-228	EPA 9320	**0.809 ± 0.544 (1.04) C:68% T:71%**	pCi/L	02/23/17 12:10	15262-20-1	
Total Radium	Total Radium Calculation	**0.888 ± 0.640 (1.24)**	pCi/L	02/23/17 16:09	7440-14-4	

Sample: HGWA-112 **Lab ID: 30209139002** Collected: 01/25/17 11:10 Received: 01/27/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0174 ± 0.102 (0.260) C:97% T:NA**	pCi/L	02/14/17 10:56	13982-63-3	
Radium-228	EPA 9320	**1.02 ± 0.548 (0.991) C:72% T:71%**	pCi/L	02/23/17 11:37	15262-20-1	
Total Radium	Total Radium Calculation	**1.04 ± 0.650 (1.25)**	pCi/L	02/23/17 16:09	7440-14-4	

Sample: HGWA-113 **Lab ID: 30209139003** Collected: 01/25/17 12:53 Received: 01/27/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0276 ± 0.0756 (0.185) C:97% T:NA**	pCi/L	02/14/17 10:56	13982-63-3	
Radium-228	EPA 9320	**0.0104 ± 0.387 (0.899) C:68% T:78%**	pCi/L	02/23/17 11:38	15262-20-1	
Total Radium	Total Radium Calculation	**0.0380 ± 0.463 (1.08)**	pCi/L	02/23/17 16:09	7440-14-4	

Sample: HGWA-122 **Lab ID: 30209139004** Collected: 01/25/17 13:20 Received: 01/27/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0979 ± 0.104 (0.201) C:92% T:NA**	pCi/L	02/14/17 10:56	13982-63-3	
Radium-228	EPA 9320	**1.03 ± 0.640 (1.20) C:56% T:70%**	pCi/L	02/23/17 11:38	15262-20-1	
Total Radium	Total Radium Calculation	**1.13 ± 0.744 (1.40)**	pCi/L	02/23/17 16:09	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30209139

QC Batch: 248824 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30209139001, 30209139002, 30209139003, 30209139004

METHOD BLANK: 1223623 Matrix: Water
Associated Lab Samples: 30209139001, 30209139002, 30209139003, 30209139004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.00454 ± 0.0688 (0.190) C:100% T:NA	pCi/L	02/14/17 10:56	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30209139

QC Batch: 248899 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30209139001, 30209139002, 30209139003, 30209139004

METHOD BLANK: 1224049 Matrix: Water
Associated Lab Samples: 30209139001, 30209139002, 30209139003, 30209139004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.991 ± 0.451 (0.731) C:88% T:66%	pCi/L	02/23/17 12:11	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: Plant Hammond
Pace Project No.: 30209139

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

WO#:30209139

Chain of Custody

30209139

Pace Analytical
www.pacelabs.com

Workorder: AAA0861 Workorder Name: Plant Hammond Owner Received Date: Results Requested By: 2/20/2017

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

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis Radium 226, 228, Total	LAB USE ONLY
1	HGWA-111	G	1/25/2017 10:35	AAA0861-01	GW	2	X	001
2	HGWA-112	G	1/25/2017 11:10	AAA0861-02	GW	2	X	002
3	HGWA-113	G	1/25/2017 12:53	AAA0861-03	GW	2	X	003
4	HGWA-122	G	1/25/2017 13:20	AAA0861-04	GW	2	X	004
5								
6								
7								
8								
9								
10								

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1			Ashley Stone/Pace	1-27-17/1000	
2					
3					

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

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

30209139

CHAIN OF CUSTODY RECORD

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

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
42 Inverness Center Parkway BIN B426
Birmingham, AL 35242
205-992-5417

REPORT TO: Lauren Petty
CC: Maria Padilla, Heath McCorkle
REQUESTED COMPLETION DATE:
PO #: laburch@southernco.com
PROJECT NAME/STATE: Plant Hammond - AP 3&4
PROJECT #: Phase II

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 &SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)	LAB ID NUMBER
CONTAINER TYPE:								P	P	P	
PRESERVATION:								3	7	3	
01/25/17	10:35	GW		X	HGWA-111	4		1	1	2	1
01/25/17	11:10	GW		X	HGWA-112	4		1	1	2	2
01/25/17	12:53	GW		X	HGWA-113	4		1	1	2	3
01/25/17	13:20	GW		X	HGWA-122	4		1	1	2	4

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

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

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

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: M.Burch MB W.Virgo WFV
DATE/TIME: 1/25/2017 / 13:20
RELINQUISHED BY: Will Virgo (ERM)
DATE/TIME: 1/25/17 2000
RECEIVED BY:
DATE/TIME:
RELINQUISHED BY:
DATE/TIME:
RECEIVED BY/LAB: [illegible]
DATE/TIME: 01/26/17 1205
SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS
pH checked: Yes No NA
Ice: Yes No NA
Temperature: 1.6 °C Corr. 1.6 Man.
Custody Seal: Intact Broken Not Present
Air Coolers
Cooler ID

FOR LAB USE ONLY
LAB #: 4A-A-0861
Entered into LIMS:
Tracking #:

2017 01 25 Hammond COCs.xlsx

Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: Pace, GA Project # 30209139

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

Tracking #: 6812 5101 9119

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

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

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

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AMR 1-27-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	X			5.
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:		X		8.
Sufficient Volume:	X			9.
Correct Containers Used: -Pace Containers Used:	X X			10.
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Organic Samples checked for dechlorination:			X	13.
Filtered volume received for Dissolved tests			X	14.
All containers have been checked for preservation. All containers needing preservation are found to be in compliance with EPA recommendation.	X X			15. pH<2
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed: AMR Date/time of preservation:
				Lot # of added preservative:
Headspace in VOA Vials (>6mm):			X	16.
Trip Blank Present:		X		17.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr		X		Initial when completed: AMR Date: 1-27-17

Client Notification/ Resolution:

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

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

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

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

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-228
Analyst:	JLW
Date:	2/13/2017
Worklist:	33965
Matrix:	DW

Method Blank Assessment	
MB Sample ID	1224049
MB concentration:	0.991
M/B Counting Uncertainty:	0.414
MB MDC:	0.731
MB Numerical Performance Indicator:	4.69
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	See Comment*

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS33965	LCSD33965
Count Date:	2/23/2017	
Spike I.D.:	16-027	
Spike Concentration (pCi/mL):	25.228	
Volume Used (mL):	0.20	
Aliquot Volume (L, g, F):	0.810	
Target Conc. (pCi/L, g, F):	6.231	
Uncertainty (Calculated):	0.449	
Result (pCi/L, g, F):	8.243	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.828	
Numerical Performance Indicator:	4.19	
Percent Recovery:	132.29%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Duplicate Sample Assessment		
Sample I.D.:	30209600005	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30209600005DUP	
Sample Result (pCi/L, g, F):	1.345	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.471	
Sample Duplicate Result (pCi/L, g, F):	0.855	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.393	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	1.566	30209600005
Duplicate RPD:	44.56%	30209600005DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

Sample Matrix Spike Control Assessment	
Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

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

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

Comments:

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

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

12/24/17

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	LAL
Date:	2/10/2017
Worklist:	33939
Matrix:	DW

Method Blank Assessment	
MB Sample ID	1223623
MB concentration:	0.005
M/B Counting Uncertainty:	0.069
MB MDC:	0.190
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
	LCS33939	LCSD33939
Count Date:	2/15/2017	
Spike I.D.:	16-026	
Spike Concentration (pCi/mL):	44.669	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.502	
Target Conc. (pCi/L, g, F):	8.890	
Uncertainty (Calculated):	0.418	
Result (pCi/L, g, F):	7.727	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.653	
Numerical Performance Indicator:	-2.94	
Percent Recovery:	86.93%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Sample Matrix Spike Control Assessment	
Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30209600005	Enter Duplicate
Duplicate Sample I.D.	30209600005DUP	sample IDs if
Sample Result (pCi/L, g, F):	0.111	other than
Sample Result Counting Uncertainty (pCi/L, g, F):	0.096	LCS/LCSD in the
Sample Duplicate Result (pCi/L, g, F):	0.064	space below.
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.096	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	0.680	30209600005
Duplicate RPD:	54.03%	30209600005DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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

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

AMP 2/24/17

Comments:

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

PACE ANALYTICAL SERVICES, LLC.

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

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AAA0924
February 03, 2017
Project: CCR Event
Project #:Plant Hammond

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

Approved:

Project Manager

PACE ANALYTICAL SERVICES, LLC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 03, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HGWC-124	AAA0924-01	Ground Water	01/27/17 10:00	01/27/17 16:00
HGWC-120	AAA0924-02	Ground Water	01/27/17 11:25	01/27/17 16:00
HGWC-117	AAA0924-03	Ground Water	01/27/17 12:15	01/27/17 16:00
Dup-1	AAA0924-04	Ground Water	01/27/17 00:00	01/27/17 16:00

PACE ANALYTICAL SERVICES, LLC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 03, 2017

Report No.: AAA0924
Client ID: HGWC-124
Date/Time Sampled: 1/27/2017 10:00:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAA0924-01
Date/Time Received: 1/27/2017 4:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	370	25	10	mg/L	SM 2540 C		1	01/31/17 17:51	01/31/17 17:51	7010778	JPT
Inorganic Anions											
Chloride	4.0	0.25	0.01	mg/L	EPA 300.0		1	01/27/17 16:22	01/27/17 22:34	7010718	RLC
Fluoride	0.30	0.30	0.004	mg/L	EPA 300.0		1	01/27/17 16:22	01/27/17 22:34	7010718	RLC
Sulfate	74	5.0	0.46	mg/L	EPA 300.0		5	01/27/17 16:22	02/01/17 08:59	7010718	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:17	7010760	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:17	7010760	CSW
Barium	0.0632	0.0100	0.0004	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:17	7010760	CSW
Beryllium	ND	0.0030	0.0004	mg/L	EPA 6020B		5	01/31/17 10:00	02/02/17 16:18	7010760	KLH
Boron	0.428	0.0400	0.0064	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:17	7010760	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:17	7010760	CSW
Calcium	84.2	25.0	1.55	mg/L	EPA 6020B		50	01/31/17 10:00	01/31/17 22:22	7010760	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:17	7010760	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:17	7010760	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:17	7010760	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:17	7010760	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:17	7010760	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:17	7010760	CSW
Lithium	ND	0.0500	0.0103	mg/L	EPA 6020B		5	01/31/17 10:00	02/02/17 16:18	7010760	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/02/17 12:05	02/02/17 17:07	7020032	MTC

PACE ANALYTICAL SERVICES, LLC.

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

Attention: Mr. Joju Abraham

February 03, 2017

Report No.: AAA0924
Client ID: HGWC-120
Date/Time Sampled: 1/27/2017 11:25:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAA0924-02
Date/Time Received: 1/27/2017 4:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	706	25	10	mg/L	SM 2540 C		1	01/31/17 17:51	01/31/17 17:51	7010778	JPT
Inorganic Anions											
Chloride	3.3	0.25	0.01	mg/L	EPA 300.0		1	01/27/17 16:22	01/27/17 22:55	7010718	RLC
Fluoride	1.2	0.30	0.004	mg/L	EPA 300.0		1	01/27/17 16:22	01/27/17 22:55	7010718	RLC
Sulfate	290	10	0.92	mg/L	EPA 300.0		10	01/27/17 16:22	02/01/17 09:21	7010718	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:28	7010760	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:28	7010760	CSW
Barium	0.0451	0.0100	0.0004	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:28	7010760	CSW
Beryllium	ND	0.0030	0.0004	mg/L	EPA 6020B		5	01/31/17 10:00	02/02/17 16:24	7010760	KLH
Boron	1.19	0.0400	0.0064	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:28	7010760	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:28	7010760	CSW
Calcium	157	25.0	1.55	mg/L	EPA 6020B		50	01/31/17 10:00	01/31/17 22:34	7010760	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:28	7010760	CSW
Cobalt	0.0034	0.0100	0.0005	mg/L	EPA 6020B	J	1	01/31/17 10:00	01/31/17 22:28	7010760	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:28	7010760	CSW
Molybdenum	0.0214	0.0100	0.0017	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:28	7010760	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:28	7010760	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:28	7010760	CSW
Lithium	0.0329	0.0500	0.0103	mg/L	EPA 6020B	J	5	01/31/17 10:00	02/02/17 16:24	7010760	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/02/17 12:05	02/02/17 17:10	7020032	MTC

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 03, 2017

Report No.: AAA0924
Client ID: HGWC-117
Date/Time Sampled: 1/27/2017 12:15:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAA0924-03
Date/Time Received: 1/27/2017 4:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	407	25	10	mg/L	SM 2540 C		1	01/31/17 17:51	01/31/17 17:51	7010778	JPT
Inorganic Anions											
Chloride	7.8	0.25	0.01	mg/L	EPA 300.0		1	01/27/17 16:22	01/28/17 00:38	7010718	RLC
Fluoride	0.28	0.30	0.004	mg/L	EPA 300.0	J	1	01/27/17 16:22	01/28/17 00:38	7010718	RLC
Sulfate	150	10	0.92	mg/L	EPA 300.0		10	01/27/17 16:22	02/01/17 11:10	7010718	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:51	7010760	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:51	7010760	CSW
Barium	0.0490	0.0100	0.0004	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:51	7010760	CSW
Beryllium	ND	0.0300	0.0004	mg/L	EPA 6020B		5	01/31/17 10:00	02/02/17 16:29	7010760	KLH
Boron	0.990	0.200	0.0321	mg/L	EPA 6020B		5	01/31/17 10:00	02/02/17 16:29	7010760	KLH
Cadmium	0.0007	0.0010	0.00007	mg/L	EPA 6020B	J	1	01/31/17 10:00	01/31/17 22:51	7010760	CSW
Calcium	68.6	25.0	1.55	mg/L	EPA 6020B		50	01/31/17 10:00	01/31/17 22:57	7010760	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:51	7010760	CSW
Cobalt	0.0041	0.0100	0.0005	mg/L	EPA 6020B	J	1	01/31/17 10:00	01/31/17 22:51	7010760	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:51	7010760	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:51	7010760	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:51	7010760	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:51	7010760	CSW
Lithium	ND	0.0500	0.0103	mg/L	EPA 6020B		5	01/31/17 10:00	02/02/17 16:29	7010760	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/02/17 12:05	02/02/17 17:12	7020032	MTC

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 03, 2017

Report No.: AAA0924
Client ID: Dup-1
Date/Time Sampled: 1/27/2017 12:00:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAA0924-04
Date/Time Received: 1/27/2017 4:00:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	729	25	10	mg/L	SM 2540 C		1	01/31/17 17:51	01/31/17 17:51	7010778	JPT
Inorganic Anions											
Chloride	3.1	0.25	0.01	mg/L	EPA 300.0		1	01/27/17 16:22	01/28/17 00:59	7010718	RLC
Fluoride	1.1	0.30	0.004	mg/L	EPA 300.0		1	01/27/17 16:22	01/28/17 00:59	7010718	RLC
Sulfate	300	10	0.92	mg/L	EPA 300.0		10	01/27/17 16:22	02/01/17 11:31	7010718	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 23:02	7010760	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 23:02	7010760	CSW
Barium	0.0429	0.0100	0.0004	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 23:02	7010760	CSW
Beryllium	ND	0.0030	0.0004	mg/L	EPA 6020B		5	01/31/17 10:00	02/02/17 16:35	7010760	KLH
Boron	1.42	0.200	0.0321	mg/L	EPA 6020B		5	01/31/17 10:00	02/02/17 16:35	7010760	KLH
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 23:02	7010760	CSW
Calcium	157	25.0	1.55	mg/L	EPA 6020B		50	01/31/17 10:00	01/31/17 23:08	7010760	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 23:02	7010760	CSW
Cobalt	0.0033	0.0100	0.0005	mg/L	EPA 6020B	J	1	01/31/17 10:00	01/31/17 23:02	7010760	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 23:02	7010760	CSW
Molybdenum	0.0198	0.0100	0.0017	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 23:02	7010760	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 23:02	7010760	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 23:02	7010760	CSW
Lithium	0.0317	0.0500	0.0103	mg/L	EPA 6020B	J	5	01/31/17 10:00	02/02/17 16:35	7010760	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/02/17 12:05	02/02/17 17:19	7020032	MTC

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February 03, 2017

Report No.: AAA0924

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7010778 - SM 2540 C											
Blank (7010778-BLK1)						Prepared & Analyzed: 01/31/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7010778-BS1)						Prepared & Analyzed: 01/31/17					
Total Dissolved Solids	407	25	10	mg/L	400.00		102	84-108			
Duplicate (7010778-DUP1)		**Source: AAA0909-04**				Prepared & Analyzed: 01/31/17					
Total Dissolved Solids	884	25	10	mg/L		846			4	10	
Duplicate (7010778-DUP2)		**Source: AAA0909-14**				Prepared & Analyzed: 01/31/17					
Total Dissolved Solids	21	25	10	mg/L		28			29	10	QR-03, J

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February 03, 2017

Report No.: AAA0924

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7010718 - EPA 300.0											
Blank (7010718-BLK1)						Prepared & Analyzed: 01/27/17					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.004	mg/L							
Sulfate	ND	1.0	0.09	mg/L							
LCS (7010718-BS1)						Prepared & Analyzed: 01/27/17					
Chloride	10.4	0.25	0.01	mg/L	10.010		104	90-110			
Fluoride	10.5	0.30	0.004	mg/L	10.020		105	90-110			
Sulfate	10.6	1.0	0.09	mg/L	10.020		106	90-110			
Matrix Spike (7010718-MS1)		**Source: AAA0862-01**				Prepared & Analyzed: 01/27/17					
Chloride	57.0	0.25	0.01	mg/L	10.010	51.6	55	90-110			QM-02
Fluoride	10.8	0.30	0.004	mg/L	10.020	0.24	105	90-110			
Sulfate	100	1.0	0.09	mg/L	10.020	101	NR	90-110			QM-02
Matrix Spike Dup (7010718-MSD1)		**Source: AAA0862-01**				Prepared & Analyzed: 01/27/17					
Chloride	56.5	0.25	0.01	mg/L	10.010	51.6	50	90-110	0.9	15	QM-02
Fluoride	10.8	0.30	0.004	mg/L	10.020	0.24	105	90-110	0.1	15	
Sulfate	101	1.0	0.09	mg/L	10.020	101	NR	90-110	0.4	15	QM-02

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Report No.: AAA0924

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7010760 - EPA 3005A											
Blank (7010760-BLK1)						Prepared & Analyzed: 01/31/17					
Antimony	ND	0.0030	0.0008	mg/L							
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	ND	0.0400	0.0064	mg/L							
Cadmium	ND	0.0010	0.00007	mg/L							
Calcium	ND	0.500	0.0311	mg/L							
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0250	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0100	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0100	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	ND	0.0100	0.0021	mg/L							
Lithium	ND	0.0500	0.0021	mg/L							
LCS (7010760-BS1)						Prepared & Analyzed: 01/31/17					
Antimony	0.104	0.0030	0.0008	mg/L	0.10000		104	80-120			
Arsenic	0.104	0.0050	0.0016	mg/L	0.10000		104	80-120			
Barium	0.0974	0.0100	0.0004	mg/L	0.10000		97	80-120			
Beryllium	0.104	0.0030	0.00008	mg/L	0.10000		104	80-120			
Boron	1.06	0.0400	0.0064	mg/L	1.0000		106	80-120			
Cadmium	0.0997	0.0010	0.00007	mg/L	0.10000		100	80-120			
Calcium	1.06	0.500	0.0311	mg/L	1.0000		106	80-120			
Chromium	0.102	0.0100	0.0009	mg/L	0.10000		102	80-120			
Cobalt	0.101	0.0100	0.0005	mg/L	0.10000		101	80-120			
Copper	0.101	0.0250	0.0005	mg/L	0.10000		101	80-120			
Lead	0.102	0.0050	0.0001	mg/L	0.10000		102	80-120			
Molybdenum	0.103	0.0100	0.0017	mg/L	0.10000		103	80-120			
Nickel	0.103	0.0100	0.0006	mg/L	0.10000		103	80-120			
Selenium	0.100	0.0100	0.0010	mg/L	0.10000		100	80-120			
Silver	0.100	0.0100	0.0005	mg/L	0.10000		100	80-120			
Thallium	0.100	0.0010	0.0002	mg/L	0.10000		100	80-120			
Vanadium	0.101	0.0100	0.0071	mg/L	0.10000		101	80-120			
Zinc	0.107	0.0100	0.0021	mg/L	0.10000		107	80-120			
Lithium	0.0962	0.0500	0.0021	mg/L	0.10000		96	80-120			

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Report No.: AAA0924

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7010760 - EPA 3005A											
Matrix Spike (7010760-MS1)		**Source: AAA0909-08**				Prepared & Analyzed: 01/31/17					
Antimony	0.106	0.0030	0.0008	mg/L	0.10000	ND	106	75-125			
Arsenic	0.109	0.0050	0.0016	mg/L	0.10000	ND	109	75-125			
Barium	0.209	0.0100	0.0004	mg/L	0.10000	0.105	104	75-125			
Beryllium	0.104	0.0030	0.00008	mg/L	0.10000	ND	104	75-125			
Boron	2.78	2.00	0.321	mg/L	1.0000	1.19	159	75-125			QM-02
Cadmium	0.102	0.0010	0.00007	mg/L	0.10000	ND	102	75-125			
Calcium	145	25.0	1.55	mg/L	1.0000	139	618	75-125			QM-02
Chromium	0.106	0.0100	0.0009	mg/L	0.10000	ND	106	75-125			
Cobalt	0.102	0.0100	0.0005	mg/L	0.10000	ND	102	75-125			
Copper	0.102	0.0250	0.0005	mg/L	0.10000	ND	102	75-125			
Lead	0.0985	0.0050	0.0001	mg/L	0.10000	0.0001	98	75-125			
Molybdenum	0.108	0.0100	0.0017	mg/L	0.10000	ND	108	75-125			
Nickel	0.0994	0.0100	0.0006	mg/L	0.10000	ND	99	75-125			
Selenium	0.103	0.0100	0.0010	mg/L	0.10000	ND	103	75-125			
Silver	0.0976	0.0100	0.0005	mg/L	0.10000	ND	98	75-125			
Thallium	0.0974	0.0010	0.0002	mg/L	0.10000	ND	97	75-125			
Vanadium	0.106	0.0100	0.0071	mg/L	0.10000	ND	106	75-125			
Zinc	0.105	0.0100	0.0021	mg/L	0.10000	0.0025	102	75-125			
Lithium	0.0978	0.0500	0.0021	mg/L	0.10000	0.0028	95	75-125			
Matrix Spike Dup (7010760-MSD1)		**Source: AAA0909-08**				Prepared & Analyzed: 01/31/17					
Antimony	0.103	0.0030	0.0008	mg/L	0.10000	ND	103	75-125	2	20	
Arsenic	0.108	0.0050	0.0016	mg/L	0.10000	ND	108	75-125	1	20	
Barium	0.202	0.0100	0.0004	mg/L	0.10000	0.105	97	75-125	3	20	
Beryllium	0.106	0.0030	0.00008	mg/L	0.10000	ND	106	75-125	2	20	
Boron	2.71	2.00	0.321	mg/L	1.0000	1.19	152	75-125	3	20	QM-02
Cadmium	0.0983	0.0010	0.00007	mg/L	0.10000	ND	98	75-125	3	20	
Calcium	142	25.0	1.55	mg/L	1.0000	139	298	75-125	2	20	QM-02
Chromium	0.0999	0.0100	0.0009	mg/L	0.10000	ND	100	75-125	6	20	
Cobalt	0.100	0.0100	0.0005	mg/L	0.10000	ND	100	75-125	2	20	
Copper	0.0945	0.0250	0.0005	mg/L	0.10000	ND	95	75-125	7	20	
Lead	0.0990	0.0050	0.0001	mg/L	0.10000	0.0001	99	75-125	0.5	20	
Molybdenum	0.107	0.0100	0.0017	mg/L	0.10000	ND	107	75-125	0.6	20	
Nickel	0.0991	0.0100	0.0006	mg/L	0.10000	ND	99	75-125	0.3	20	
Selenium	0.105	0.0100	0.0010	mg/L	0.10000	ND	105	75-125	2	20	
Silver	0.0974	0.0100	0.0005	mg/L	0.10000	ND	97	75-125	0.3	20	
Thallium	0.0973	0.0010	0.0002	mg/L	0.10000	ND	97	75-125	0.1	20	
Vanadium	0.102	0.0100	0.0071	mg/L	0.10000	ND	102	75-125	4	20	
Zinc	0.0996	0.0100	0.0021	mg/L	0.10000	0.0025	97	75-125	5	20	
Lithium	0.100	0.0500	0.0021	mg/L	0.10000	0.0028	97	75-125	2	20	

PACE ANALYTICAL SERVICES, LLC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 03, 2017

Report No.: AAA0924

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7010760 - EPA 3005A											
Post Spike (7010760-PS1)			**Source: AAA0909-08**			Prepared & Analyzed: 01/31/17					
Antimony	92.7			ug/L	100.00	0.0220	93	80-120			
Arsenic	107			ug/L	100.00	-0.219	107	80-120			
Barium	196			ug/L	100.00	105	91	80-120			
Beryllium	105			ug/L	100.00	0.0100	105	80-120			
Boron	2660			ug/L	1000.0	1190	148	80-120			QM-02
Cadmium	100			ug/L	100.00	0.0104	100	80-120			
Calcium	143000			ug/L	1000.0	139000	377	80-120			QM-02
Chromium	107			ug/L	100.00	0.148	107	80-120			
Cobalt	102			ug/L	100.00	0.123	102	80-120			
Copper	97.5			ug/L	100.00	0.247	97	80-120			
Lead	94.5			ug/L	100.00	0.122	94	80-120			
Molybdenum	106			ug/L	100.00	0.0875	106	80-120			
Nickel	99.0			ug/L	100.00	0.284	99	80-120			
Selenium	106			ug/L	100.00	0.338	106	80-120			
Silver	93.9			ug/L	100.00	0.0015	94	80-120			
Thallium	93.8			ug/L	100.00	0.0007	94	80-120			
Vanadium	108			ug/L	100.00	-2.17	108	80-120			
Zinc	104			ug/L	100.00	2.53	101	80-120			
Lithium	100			ug/L	100.00	2.80	98	80-120			
Batch 7020032 - EPA 7470A											
Blank (7020032-BLK1)						Prepared & Analyzed: 02/02/17					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (7020032-BS1)						Prepared & Analyzed: 02/02/17					
Mercury	0.00252	0.00050	0.000041	mg/L	2.5000E-3		101	80-120			

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 03, 2017

Report No.: AAA0924

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020032 - EPA 7470A											
Matrix Spike (7020032-MS1)		**Source: AAA0909-10**				Prepared & Analyzed: 02/02/17					
Mercury	0.00253	0.00050	0.000041	mg/L	2.5000E-3	0.00008	98	75-125			
Matrix Spike Dup (7020032-MSD1)		**Source: AAA0909-10**				Prepared & Analyzed: 02/02/17					
Mercury	0.00249	0.00050	0.000041	mg/L	2.5000E-3	0.00008	96	75-125	2	20	
Post Spike (7020032-PS1)		**Source: AAA0909-10**				Prepared & Analyzed: 02/02/17					
Mercury	1.67			ug/L	1.6667	0.0534	97	80-120			

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 03, 2017

Legend

Definition of Laboratory Terms

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

Sample Information

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

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

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

Definition of Qualifiers

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

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

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

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

CHAIN OF CUSTODY RECORD

Pace Analytical®

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

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
42 Inverness Center Parkway BIN B426
Birmingham, AL 35242
205-992-5417

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

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: Phase II

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)						LAB ID NUMBER
CONTAINER TYPE:								P	P	P						
PRESERVATION:								3	7	3						
01/27/17	10:00	GW		x	HGWC-124	4		1	1	2						1
01/27/17	11:25	GW		x	HGWC-120	4		1	1	2						2
01/27/17	12:15	GW		x	HGWC-117	4		1	1	2						3
01/27/17	--	GW		x	DUP-1	4		1	1	2						4

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

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

*MATRIX CODES:

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

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: M. Burch, M. Thomas
DATE/TIME: 1/27/2017 / 14:00
RELINQUISHED BY:
DATE/TIME: 1/27/17 15:15

RECEIVED BY: Mike Nguyen
DATE/TIME: 1/27/17 1515
RELINQUISHED BY:
DATE/TIME:

RECEIVED BY LAB:
DATE/TIME: 1/27/17 1600

Checked: No NA
Ice: Yes No NA
Temperature: 2°C Min: 2° Max:

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS
Custody Seal: Intact Broken Not Present
# of Coolers:
Cooler ID:

FOR LAB USE ONLY
LAB #: AAA0924
Entered into LIMS: CH
Tracking #:

PACE ANALYTICAL SERVICES, LLC.

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

LOG-IN CHECKLIST **Printed: 1/30/2017 9:12:26AM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 01/27/17 16:00

Work Order: AAA0924
Logged In By: Charles Hawks

OBSERVATIONS

#Samples: 4 **#Containers:** 16

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

CHECKLIST ITEMS

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

Comments:

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

February 28, 2017

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: Plant Hammond
Pace Project No.: 30209265

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on January 30, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

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

Enclosures

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

CERTIFICATIONS

Project: Plant Hammond
Pace Project No.: 30209265

Pennsylvania Certification IDs

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

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

SAMPLE SUMMARY

Project: Plant Hammond
Pace Project No.: 30209265

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30209265001	**HGWC-124**	Water	01/27/17 10:00	01/30/17 09:05
30209265002	**HGWC-120**	Water	01/27/17 11:25	01/30/17 09:05
30209265003	**HGWC-117**	Water	01/27/17 12:15	01/30/17 09:05
30209265004	**Dup-1**	Water	01/27/17 00:00	01/30/17 09:05

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: Plant Hammond
Pace Project No.: 30209265

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30209265001	**HGWC-124**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30209265002	**HGWC-120**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30209265003	**HGWC-117**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30209265004	**Dup-1**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30209265

Sample: HGWC-124 **Lab ID: 30209265001** Collected: 01/27/17 10:00 Received: 01/30/17 09:05 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.111 ± 0.144 (0.291) C:88% T:NA**	pCi/L	02/15/17 11:49	13982-63-3	
Radium-228	EPA 9320	**0.684 ± 0.417 (0.756) C:54% T:88%**	pCi/L	02/23/17 15:06	15262-20-1	
Total Radium	Total Radium Calculation	**0.795 ± 0.561 (1.05)**	pCi/L	02/24/17 16:50	7440-14-4	

Sample: HGWC-120 **Lab ID: 30209265002** Collected: 01/27/17 11:25 Received: 01/30/17 09:05 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.230 ± 0.178 (0.282) C:91% T:NA**	pCi/L	02/15/17 11:49	13982-63-3	
Radium-228	EPA 9320	**0.291 ± 0.309 (0.641) C:72% T:90%**	pCi/L	02/23/17 15:06	15262-20-1	
Total Radium	Total Radium Calculation	**0.521 ± 0.487 (0.923)**	pCi/L	02/24/17 16:50	7440-14-4	

Sample: HGWC-117 **Lab ID: 30209265003** Collected: 01/27/17 12:15 Received: 01/30/17 09:05 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.166 ± 0.167 (0.313) C:91% T:NA**	pCi/L	02/15/17 11:49	13982-63-3	
Radium-228	EPA 9320	**0.917 ± 0.594 (1.14) C:53% T:85%**	pCi/L	02/23/17 15:53	15262-20-1	
Total Radium	Total Radium Calculation	**1.08 ± 0.761 (1.45)**	pCi/L	02/24/17 16:50	7440-14-4	

Sample: Dup-1 **Lab ID: 30209265004** Collected: 01/27/17 00:00 Received: 01/30/17 09:05 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.143 ± 0.158 (0.304) C:90% T:NA**	pCi/L	02/15/17 11:49	13982-63-3	
Radium-228	EPA 9320	**0.207 ± 0.440 (0.971) C:59% T:87%**	pCi/L	02/23/17 15:53	15262-20-1	
Total Radium	Total Radium Calculation	**0.350 ± 0.598 (1.28)**	pCi/L	02/24/17 16:50	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30209265

QC Batch: 248965 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30209265001, 30209265002, 30209265003, 30209265004

METHOD BLANK: 1224567 Matrix: Water
Associated Lab Samples: 30209265001, 30209265002, 30209265003, 30209265004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0945 ± 0.388 (0.887) C:53% T:83%	pCi/L	02/23/17 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
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30209265

QC Batch: 248825 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30209265001, 30209265002, 30209265003, 30209265004

METHOD BLANK: 1223624 Matrix: Water
Associated Lab Samples: 30209265001, 30209265002, 30209265003, 30209265004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0911 ± 0.153 (0.342) C:91% T:NA	pCi/L	02/15/17 09:03	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: Plant Hammond
Pace Project No.: 30209265

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAA0924 Workorder Name: Plant Hammond Owner Received Date: Results Requested By: 2/21/2017

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

WO#:30209265

30209265

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis Radium 226, 228, Total	LAB USE ONLY
1	HGWC-124	G	1/27/2017 10:00	AAA0924-01	GW	2	X	001
2	HGWC-120	G	1/27/2017 11:25	AAA0924-02	GW	2	X	002
3	HGWC-117	G	1/27/2017 12:15	AAA0924-03	GW	2	X	003
4	Dup-1	G	1/27/2017 0:00	AAA0924-04	GW	2	X	004
5								
6								
7								
8								
9								
10								

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1			Ashley Rose/Pace	1-30-17/0905	EQuIS deliverable required.
2					
3					

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

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

30209265

CHAIN OF CUSTODY RECORD

Pace Analytical

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

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
42 Inverness Center Parkway BIN B426
Birmingham, AL 35242
205-992-5417

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

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: Phase II

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals Part 257 App III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)						LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
CONTAINER TYPE								P	P	P							
PRESERVATION								3	7	3							
01/27/17	10:00	GW		x	HGWC-124	4		1	1	2						1	
01/27/17	11:25	GW		x	HGWC-120	4		1	1	2						2	
01/27/17	12:15	GW		x	HGWC-117	4		1	1	2						3	
01/27/17	--	GW		x	DUP-1	4		1	1	2						4	

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

*MATRIX CODES:

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

SAMPLED BY AND TITLE: M. Burch, M. Thomas
DATE/TIME: 1/27/2017 / 14:00
RELINQUISHED BY:
DATE/TIME: 1/27/17 15:15

RECEIVED BY: Mike Nash
DATE/TIME: 1/27/17 1515
RELINQUISHED BY:
DATE/TIME:

RECEIVED BY/LAB: Melissa Hanks
DATE/TIME: 1/27/17 1600
SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS

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

FOR LAB USE ONLY
LAB #: AAA0924
Entered into LIMS:
Tracking #:

Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: Pace, GA

30209265
Project #

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

Tracking #: 6812 5101 9656

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

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

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

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AMR 1-30-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	X			5.
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:		X		8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:	X			
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Organic Samples checked for dechlorination:			X	13.
Filtered volume received for Dissolved tests			X	14.
All containers have been checked for preservation.	X			15. pH<2
All containers needing preservation are found to be in compliance with EPA recommendation.	X			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed AMR / Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	16.
Trip Blank Present:		X		17.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr		X		Initial when completed: AMR Date: 1-30-17

Client Notification/ Resolution:

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

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

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

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

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-228
Analyst:	JLW
Date:	2/15/2017
Worklist:	33968
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1224567
MB concentration:	0.094
M/B Counting Uncertainty:	0.387
MB MDC:	0.887
MB Numerical Performance Indicator:	0.48
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS33968	LCSD33968
Count Date:	2/23/2017	
Spike I.D.:	16-027	
Spike Concentration (pCi/mL):	25.228	
Volume Used (mL):	0.30	
Aliquot Volume (L, g, F):	0.802	
Target Conc. (pCi/L, g, F):	9.439	
Uncertainty (Calculated):	0.680	
Result (pCi/L, g, F):	8.775	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.867	
Numerical Performance Indicator:	-1.18	
Percent Recovery:	92.97%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Sample Matrix Spike Control Assessment	
Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30209606003	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30209606003DUP	
Sample Result (pCi/L, g, F):	0.702	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.483	
Sample Duplicate Result (pCi/L, g, F):	1.313	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.568	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-1.606	30209606003
Duplicate RPD:	60.66%	30209606003DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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

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

Comments:

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

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	LAL
Date:	2/14/2017
Worklist:	33940
Matrix:	DW

Method Blank Assessment

MB Sample ID	1223624
MB concentration:	0.091
M/B Counting Uncertainty:	0.153
MB MDC:	0.342
MB Numerical Performance Indicator:	1.17
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment

	LCSD (Y or N)?	N
	LCS33940	**LCSD33940**
Count Date:	2/15/2017	
Spike I.D.:	16-026	
Spike Concentration (pCi/mL):	44.669	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.506	
Target Conc. (pCi/L, g, F):	8.835	
Uncertainty (Calculated):	0.416	
Result (pCi/L, g, F):	7.810	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.845	
Numerical Performance Indicator:	-2.13	
Percent Recovery:	88.39%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Sample Matrix Spike Control Assessment

Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment

Sample I.D.:	30209606003	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30209606003DUP	
Sample Result (pCi/L, g, F):	0.326	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.256	
Sample Duplicate Result (pCi/L, g, F):	0.234	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.182	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	0.569	30209606003
Duplicate RPD:	32.60%	30209606003DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

Matrix Spike/Matrix Spike Duplicate Sample Assessment

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

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

Comments:

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

PACE ANALYTICAL SERVICES, LLC.

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

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AAB0021
February 09, 2017
Project: CCR Event
Project #:Plant Hammond

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

Approved:

Project Manager

PACE ANALYTICAL SERVICES, LLC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 09, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HGWC-103	AAB0021-01	Ground Water	01/31/17 11:15	02/01/17 11:00
HGWC-101	AAB0021-02	Ground Water	01/31/17 11:30	02/01/17 11:00
HGWC-118	AAB0021-03	Ground Water	01/31/17 11:55	02/01/17 11:00
HGWC-105	AAB0021-04	Ground Water	01/31/17 12:00	02/01/17 11:00
HGWC-107	AAB0021-05	Ground Water	01/31/17 13:05	02/01/17 11:00
HGWC-109	AAB0021-06	Ground Water	01/31/17 15:50	02/01/17 11:00
FB-1	AAB0021-07	Water	01/31/17 11:15	02/01/17 11:00
FERB-1	AAB0021-08	Water	01/31/17 16:15	02/01/17 11:00

PACE ANALYTICAL SERVICES, LLC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 09, 2017

Report No.: AAB0021
Client ID: HGWC-103
Date/Time Sampled: 1/31/2017 11:15:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0021-01
Date/Time Received: 2/1/2017 11:00:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	516	25	10	mg/L	SM 2540 C		1	02/03/17 11:35	02/03/17 11:35	7020078	JPT
Inorganic Anions											
Chloride	5.6	0.25	0.01	mg/L	EPA 300.0	B-01	1	02/04/17 11:15	02/05/17 04:06	7020101	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	02/04/17 11:15	02/05/17 04:06	7020101	RLC
Sulfate	300	10	0.92	mg/L	EPA 300.0	B-01	10	02/04/17 11:15	02/07/17 10:48	7020101	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:21	7020031	KLH
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:21	7020031	KLH
Barium	0.0365	0.0100	0.0004	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:21	7020031	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:21	7020031	KLH
Boron	2.12	2.00	0.321	mg/L	EPA 6020B		50	02/02/17 15:00	02/07/17 14:04	7020031	KLH
Cadmium	0.0006	0.0010	0.00007	mg/L	EPA 6020B	J	1	02/02/17 15:00	02/06/17 22:21	7020031	KLH
Calcium	63.6	25.0	1.55	mg/L	EPA 6020B		50	02/02/17 15:00	02/07/17 14:04	7020031	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:21	7020031	KLH
Cobalt	0.0016	0.0100	0.0005	mg/L	EPA 6020B	J	1	02/02/17 15:00	02/06/17 22:21	7020031	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:21	7020031	KLH
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:21	7020031	KLH
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:21	7020031	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:21	7020031	KLH
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:21	7020031	KLH
Mercury	0.00008	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	02/06/17 12:45	02/06/17 17:36	7020113	MTC

PACE ANALYTICAL SERVICES, LLC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 09, 2017

Report No.: AAB0021
Client ID: HGWC-101
Date/Time Sampled: 1/31/2017 11:30:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0021-02
Date/Time Received: 2/1/2017 11:00:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	263	25	10	mg/L	SM 2540 C		1	02/03/17 11:35	02/03/17 11:35	7020078	JPT
Inorganic Anions											
Chloride	5.8	0.25	0.01	mg/L	EPA 300.0	B-01	1	02/04/17 11:15	02/05/17 04:26	7020101	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	02/04/17 11:15	02/05/17 04:26	7020101	RLC
Sulfate	120	10	0.92	mg/L	EPA 300.0	B-01	10	02/04/17 11:15	02/07/17 11:09	7020101	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:44	7020031	KLH
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:44	7020031	KLH
Barium	0.0527	0.0100	0.0004	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:44	7020031	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:44	7020031	KLH
Boron	0.0928	0.0400	0.0064	mg/L	EPA 6020B		1	02/02/17 15:00	02/07/17 14:15	7020031	KLH
Cadmium	0.0001	0.0010	0.00007	mg/L	EPA 6020B	J	1	02/02/17 15:00	02/06/17 22:44	7020031	KLH
Calcium	19.1	5.00	0.311	mg/L	EPA 6020B		10	02/02/17 15:00	02/07/17 14:10	7020031	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:44	7020031	KLH
Cobalt	0.0010	0.0100	0.0005	mg/L	EPA 6020B	J	1	02/02/17 15:00	02/06/17 22:44	7020031	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:44	7020031	KLH
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:44	7020031	KLH
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:44	7020031	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:44	7020031	KLH
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:44	7020031	KLH
Mercury	0.000093	0.00050	0.000041	mg/L	EPA 7470A	B-01, J	1	02/06/17 12:45	02/06/17 17:38	7020113	MTC

PACE ANALYTICAL SERVICES, LLC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 09, 2017

Report No.: AAB0021
Client ID: HGWC-118
Date/Time Sampled: 1/31/2017 11:55:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0021-03
Date/Time Received: 2/1/2017 11:00:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	361	25	10	mg/L	SM 2540 C		1	02/03/17 11:35	02/03/17 11:35	7020078	JPT
Inorganic Anions											
Chloride	4.8	0.25	0.01	mg/L	EPA 300.0	B-01	1	02/04/17 11:15	02/05/17 04:47	7020101	RLC
Fluoride	0.30	0.30	0.004	mg/L	EPA 300.0		1	02/04/17 11:15	02/05/17 04:47	7020101	RLC
Sulfate	87	10	0.92	mg/L	EPA 300.0	B-01	10	02/04/17 11:15	02/07/17 11:31	7020101	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:55	7020031	KLH
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:55	7020031	KLH
Barium	0.0613	0.0100	0.0004	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:55	7020031	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:55	7020031	KLH
Boron	0.768	0.400	0.0642	mg/L	EPA 6020B		10	02/02/17 15:00	02/07/17 14:21	7020031	KLH
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:55	7020031	KLH
Calcium	76.8	5.00	0.311	mg/L	EPA 6020B		10	02/02/17 15:00	02/07/17 14:21	7020031	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:55	7020031	KLH
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:55	7020031	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:55	7020031	KLH
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:55	7020031	KLH
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:55	7020031	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:55	7020031	KLH
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 22:55	7020031	KLH
Mercury	0.00009	0.00050	0.000041	mg/L	EPA 7470A	J, B-01	1	02/06/17 12:45	02/06/17 17:40	7020113	MTC

PACE ANALYTICAL SERVICES, LLC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 09, 2017

Report No.: AAB0021
Client ID: HGWC-105
Date/Time Sampled: 1/31/2017 12:00:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0021-04
Date/Time Received: 2/1/2017 11:00:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	437	25	10	mg/L	SM 2540 C		1	02/03/17 11:35	02/03/17 11:35	7020078	JPT
Inorganic Anions											
Chloride	3.3	0.25	0.01	mg/L	EPA 300.0	B-01	1	02/04/17 11:15	02/05/17 05:08	7020101	RLC
Fluoride	0.13	0.30	0.004	mg/L	EPA 300.0	J	1	02/04/17 11:15	02/05/17 05:08	7020101	RLC
Sulfate	210	10	0.92	mg/L	EPA 300.0	B-01	10	02/04/17 11:15	02/07/17 11:52	7020101	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:07	7020031	KLH
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:07	7020031	KLH
Barium	0.0674	0.0100	0.0004	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:07	7020031	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:07	7020031	KLH
Boron	1.43	0.400	0.0642	mg/L	EPA 6020B		10	02/02/17 15:00	02/07/17 14:27	7020031	KLH
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:07	7020031	KLH
Calcium	70.3	5.00	0.311	mg/L	EPA 6020B		10	02/02/17 15:00	02/07/17 14:27	7020031	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:07	7020031	KLH
Cobalt	0.0006	0.0100	0.0005	mg/L	EPA 6020B	J	1	02/02/17 15:00	02/06/17 23:07	7020031	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:07	7020031	KLH
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:07	7020031	KLH
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:07	7020031	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:07	7020031	KLH
Lithium	0.0042	0.0500	0.0021	mg/L	EPA 6020B	J	1	02/02/17 15:00	02/06/17 23:07	7020031	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/07/17 10:30	02/07/17 16:35	7020153	MTC

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 09, 2017

Report No.: AAB0021
Client ID: HGWC-107
Date/Time Sampled: 1/31/2017 1:05:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0021-05
Date/Time Received: 2/1/2017 11:00:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	346	25	10	mg/L	SM 2540 C		1	02/03/17 11:35	02/03/17 11:35	7020078	JPT
Inorganic Anions											
Chloride	3.1	0.25	0.01	mg/L	EPA 300.0	B-01	1	02/04/17 11:15	02/05/17 05:28	7020101	RLC
Fluoride	0.16	0.30	0.004	mg/L	EPA 300.0	J	1	02/04/17 11:15	02/05/17 05:28	7020101	RLC
Sulfate	130	10	0.92	mg/L	EPA 300.0	B-01	10	02/04/17 11:15	02/07/17 12:13	7020101	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:18	7020031	KLH
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:18	7020031	KLH
Barium	0.0382	0.0100	0.0004	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:18	7020031	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:18	7020031	KLH
Boron	0.782	0.400	0.0642	mg/L	EPA 6020B		10	02/02/17 15:00	02/06/17 23:18	7020031	KLH
Cadmium	0.00009	0.0010	0.00007	mg/L	EPA 6020B	J	1	02/02/17 15:00	02/06/17 23:18	7020031	KLH
Calcium	46.6	5.00	0.311	mg/L	EPA 6020B		10	02/02/17 15:00	02/07/17 14:33	7020031	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:18	7020031	KLH
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:18	7020031	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:18	7020031	KLH
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:18	7020031	KLH
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:18	7020031	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:18	7020031	KLH
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:18	7020031	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/07/17 10:30	02/07/17 16:37	7020153	MTC

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2480 Maner Road
Atlanta GA, 30339

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February 09, 2017

Report No.: AAB0021
Client ID: HGWC-109
Date/Time Sampled: 1/31/2017 3:50:00PM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAB0021-06
Date/Time Received: 2/1/2017 11:00:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	252	25	10	mg/L	SM 2540 C		1	02/03/17 11:35	02/03/17 11:35	7020078	JPT
Inorganic Anions											
Chloride	5.5	0.25	0.01	mg/L	EPA 300.0	B-01	1	02/04/17 11:15	02/05/17 07:13	7020101	RLC
Fluoride	0.05	0.30	0.004	mg/L	EPA 300.0	J	1	02/04/17 11:15	02/05/17 07:13	7020101	RLC
Sulfate	37	1.0	0.09	mg/L	EPA 300.0	B-01	1	02/04/17 11:15	02/05/17 07:13	7020101	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:30	7020031	KLH
Arsenic	0.0022	0.0050	0.0016	mg/L	EPA 6020B	J	1	02/02/17 15:00	02/06/17 23:30	7020031	KLH
Barium	0.0844	0.0100	0.0004	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:30	7020031	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:30	7020031	KLH
Boron	0.404	0.400	0.0642	mg/L	EPA 6020B		10	02/02/17 15:00	02/07/17 14:54	7020031	KLH
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:30	7020031	KLH
Calcium	34.2	2.50	0.155	mg/L	EPA 6020B		5	02/02/17 15:00	02/07/17 00:04	7020031	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:30	7020031	KLH
Cobalt	0.0017	0.0100	0.0005	mg/L	EPA 6020B	J	1	02/02/17 15:00	02/06/17 23:30	7020031	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:30	7020031	KLH
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:30	7020031	KLH
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:30	7020031	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:30	7020031	KLH
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:30	7020031	KLH
Mercury	0.00008	0.00050	0.000041	mg/L	EPA 7470A	J	1	02/07/17 10:30	02/07/17 16:39	7020153	MTC

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Georgia Power
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Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 09, 2017

Report No.: AAB0021
Client ID: FB-1
Date/Time Sampled: 1/31/2017 11:15:00AM
Matrix: Water

Project: CCR Event
Lab Number ID: AAB0021-07
Date/Time Received: 2/1/2017 11:00:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	18	25	10	mg/L	SM 2540 C	J	1	02/03/17 11:35	02/03/17 11:35	7020078	JPT
Inorganic Anions											
Chloride	0.07	0.25	0.01	mg/L	EPA 300.0	J, B-01	1	02/04/17 11:15	02/05/17 07:35	7020101	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	02/04/17 11:15	02/05/17 07:35	7020101	RLC
Sulfate	ND	1.0	0.09	mg/L	EPA 300.0		1	02/04/17 11:15	02/05/17 07:35	7020101	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:53	7020031	KLH
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:53	7020031	KLH
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:53	7020031	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:53	7020031	KLH
Boron	ND	0.0400	0.0064	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:53	7020031	KLH
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:53	7020031	KLH
Calcium	ND	0.500	0.0311	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:53	7020031	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:53	7020031	KLH
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:53	7020031	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:53	7020031	KLH
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:53	7020031	KLH
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:53	7020031	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:53	7020031	KLH
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:53	7020031	KLH
Mercury	0.00008	0.00050	0.000041	mg/L	EPA 7470A	J	1	02/07/17 10:30	02/07/17 16:47	7020153	MTC

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 09, 2017

Report No.: AAB0021
Client ID: FERB-1
Date/Time Sampled: 1/31/2017 4:15:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAB0021-08
Date/Time Received: 2/1/2017 11:00:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	02/03/17 18:20	02/03/17 18:20	7020170	JPT
Inorganic Anions											
Chloride	0.04	0.25	0.01	mg/L	EPA 300.0	J, B-01	1	02/04/17 11:15	02/05/17 07:56	7020101	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	02/04/17 11:15	02/05/17 07:56	7020101	RLC
Sulfate	ND	1.0	0.09	mg/L	EPA 300.0		1	02/04/17 11:15	02/05/17 07:56	7020101	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:58	7020031	KLH
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:58	7020031	KLH
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:58	7020031	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:58	7020031	KLH
Boron	ND	0.0400	0.0064	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:58	7020031	KLH
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:58	7020031	KLH
Calcium	ND	0.500	0.0311	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:58	7020031	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:58	7020031	KLH
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:58	7020031	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:58	7020031	KLH
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:58	7020031	KLH
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:58	7020031	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:58	7020031	KLH
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	02/02/17 15:00	02/06/17 23:58	7020031	KLH
Mercury	0.00006	0.00050	0.000041	mg/L	EPA 7470A	J	1	02/07/17 10:30	02/07/17 16:49	7020153	MTC

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February 09, 2017

Report No.: AAB0021

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020078 - SM 2540 C											
Blank (7020078-BLK1)						Prepared & Analyzed: 02/03/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7020078-BS1)						Prepared & Analyzed: 02/03/17					
Total Dissolved Solids	413	25	10	mg/L	400.00		103	84-108			
Duplicate (7020078-DUP1)			**Source: AAB0005-02**			Prepared & Analyzed: 02/03/17					
Total Dissolved Solids	3840	25	10	mg/L		3830			0.3	10	
Duplicate (7020078-DUP2)			**Source: AAB0021-07**			Prepared & Analyzed: 02/03/17					
Total Dissolved Solids	14	25	10	mg/L		18			25	10	QR-01, J
Batch 7020170 - SM 2540 C											
Blank (7020170-BLK1)						Prepared & Analyzed: 02/07/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7020170-BS1)						Prepared & Analyzed: 02/07/17					
Total Dissolved Solids	384	25	10	mg/L	400.00		96	84-108			
Duplicate (7020170-DUP1)			**Source: AAA0992-05RE2**			Prepared & Analyzed: 02/07/17					
Total Dissolved Solids	ND	25	10	mg/L		ND				10	
Duplicate (7020170-DUP2)			**Source: AAB0005-03RE1**			Prepared & Analyzed: 02/07/17					
Total Dissolved Solids	ND	25	10	mg/L		ND				10	
Duplicate (7020170-DUP3)			**Source: AAB0021-08RE1**			Prepared & Analyzed: 02/07/17					
Total Dissolved Solids	ND	25	10	mg/L		ND				10	

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February 09, 2017

Report No.: AAB0021

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020101 - EPA 300.0											
Blank (7020101-BLK1)						Prepared & Analyzed: 02/04/17					
Chloride	0.07	0.25	0.01	mg/L							J
Fluoride	ND	0.30	0.004	mg/L							
Sulfate	0.26	1.0	0.09	mg/L							J
LCS (7020101-BS1)						Prepared & Analyzed: 02/04/17					
Chloride	10.9	0.25	0.01	mg/L	10.010		109	90-110			
Fluoride	10.8	0.30	0.004	mg/L	10.020		108	90-110			
Sulfate	10.8	1.0	0.09	mg/L	10.020		107	90-110			
Matrix Spike (7020101-MS1)		**Source: AAB0005-01**				Prepared & Analyzed: 02/04/17					
Chloride	235	0.25	0.01	mg/L	10.010	271	NR	90-110			QM-02
Fluoride	13.2	0.30	0.004	mg/L	10.020	1.33	119	90-110			QM-05
Sulfate	300	1.0	0.09	mg/L	10.020	312	NR	90-110			QM-02
Matrix Spike (7020101-MS2)		**Source: AAB0020-02**				Prepared: 02/04/17 Analyzed: 02/05/17					
Chloride	13.0	0.25	0.01	mg/L	10.010	2.45	106	90-110			
Fluoride	11.2	0.30	0.004	mg/L	10.020	0.04	111	90-110			QM-05
Sulfate	23.5	1.0	0.09	mg/L	10.020	12.8	107	90-110			
Matrix Spike Dup (7020101-MSD1)		**Source: AAB0005-01**				Prepared: 02/04/17 Analyzed: 02/05/17					
Chloride	237	0.25	0.01	mg/L	10.010	271	NR	90-110	0.9	15	QM-02
Fluoride	13.0	0.30	0.004	mg/L	10.020	1.33	117	90-110	1	15	QM-05
Sulfate	300	1.0	0.09	mg/L	10.020	312	NR	90-110	0.05	15	QM-02

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Report No.: AAB0021

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020031 - EPA 3005A											
Blank (7020031-BLK1)						Prepared: 02/02/17 Analyzed: 02/06/17					
Antimony	ND	0.0030	0.0008	mg/L							
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	ND	0.0400	0.0064	mg/L							
Cadmium	ND	0.0010	0.00007	mg/L							
Calcium	ND	0.500	0.0311	mg/L							
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0250	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0100	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0100	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	ND	0.0100	0.0021	mg/L							
Lithium	ND	0.0500	0.0021	mg/L							
LCS (7020031-BS1)						Prepared: 02/02/17 Analyzed: 02/06/17					
Antimony	0.109	0.0030	0.0008	mg/L	0.10000		109	80-120			
Arsenic	0.0939	0.0050	0.0016	mg/L	0.10000		94	80-120			
Barium	0.100	0.0100	0.0004	mg/L	0.10000		100	80-120			
Beryllium	0.106	0.0030	0.00008	mg/L	0.10000		106	80-120			
Boron	1.04	0.0400	0.0064	mg/L	1.0000		104	80-120			
Cadmium	0.103	0.0010	0.00007	mg/L	0.10000		103	80-120			
Calcium	1.08	0.500	0.0311	mg/L	1.0000		108	80-120			
Chromium	0.0944	0.0100	0.0009	mg/L	0.10000		94	80-120			
Cobalt	0.0926	0.0100	0.0005	mg/L	0.10000		93	80-120			
Copper	0.0923	0.0250	0.0005	mg/L	0.10000		92	80-120			
Lead	0.0998	0.0050	0.0001	mg/L	0.10000		100	80-120			
Molybdenum	0.106	0.0100	0.0017	mg/L	0.10000		106	80-120			
Nickel	0.0923	0.0100	0.0006	mg/L	0.10000		92	80-120			
Selenium	0.0967	0.0100	0.0010	mg/L	0.10000		97	80-120			
Silver	0.105	0.0100	0.0005	mg/L	0.10000		105	80-120			
Thallium	0.102	0.0010	0.0002	mg/L	0.10000		102	80-120			
Vanadium	0.0930	0.0100	0.0071	mg/L	0.10000		93	80-120			
Zinc	0.0947	0.0100	0.0021	mg/L	0.10000		95	80-120			
Lithium	0.109	0.0500	0.0021	mg/L	0.10000		109	80-120			

PACE ANALYTICAL SERVICES, LLC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 09, 2017

Report No.: AAB0021

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020031 - EPA 3005A											
Matrix Spike (7020031-MS1)		**Source: AAB0005-02**			Prepared: 02/02/17 Analyzed: 02/06/17						
Antimony	0.107	0.0030	0.0008	mg/L	0.10000	ND	107	75-125			
Arsenic	0.107	0.0050	0.0016	mg/L	0.10000	0.0062	101	75-125			
Barium	0.154	0.0100	0.0004	mg/L	0.10000	0.0445	110	75-125			
Beryllium	0.0874	0.0030	0.00008	mg/L	0.10000	0.0011	86	75-125			
Boron	1.47	0.0400	0.0064	mg/L	1.0000	0.784	68	75-125			QM-02
Cadmium	0.0936	0.0010	0.00007	mg/L	0.10000	ND	94	75-125			
Calcium	157	25.0	1.55	mg/L	1.0000	159	NR	75-125			QM-02
Chromium	0.103	0.0100	0.0009	mg/L	0.10000	0.0015	102	75-125			
Cobalt	0.105	0.0100	0.0005	mg/L	0.10000	0.0111	94	75-125			
Copper	0.0818	0.0250	0.0005	mg/L	0.10000	ND	82	75-125			
Lead	0.0981	0.0050	0.0001	mg/L	0.10000	0.0004	98	75-125			
Molybdenum	0.109	0.0100	0.0017	mg/L	0.10000	ND	109	75-125			
Nickel	0.141	0.0100	0.0006	mg/L	0.10000	0.0510	90	75-125			
Selenium	0.103	0.0100	0.0010	mg/L	0.10000	0.0046	98	75-125			
Silver	0.0842	0.0100	0.0005	mg/L	0.10000	ND	84	75-125			
Thallium	0.101	0.0010	0.0002	mg/L	0.10000	0.0004	100	75-125			
Vanadium	0.108	0.0100	0.0071	mg/L	0.10000	ND	108	75-125			
Zinc	0.115	0.0100	0.0021	mg/L	0.10000	0.0291	86	75-125			
Lithium	0.102	0.0500	0.0021	mg/L	0.10000	0.0124	90	75-125			
Matrix Spike Dup (7020031-MSD1)		**Source: AAB0005-02**			Prepared: 02/02/17 Analyzed: 02/06/17						
Antimony	0.111	0.0030	0.0008	mg/L	0.10000	ND	111	75-125	3	20	
Arsenic	0.108	0.0050	0.0016	mg/L	0.10000	0.0062	102	75-125	0.7	20	
Barium	0.156	0.0100	0.0004	mg/L	0.10000	0.0445	112	75-125	1	20	
Beryllium	0.0884	0.0030	0.00008	mg/L	0.10000	0.0011	87	75-125	1	20	
Boron	1.49	0.0400	0.0064	mg/L	1.0000	0.784	71	75-125	1	20	QM-02
Cadmium	0.0967	0.0010	0.00007	mg/L	0.10000	ND	97	75-125	3	20	
Calcium	160	25.0	1.55	mg/L	1.0000	159	47	75-125	2	20	QM-02
Chromium	0.101	0.0100	0.0009	mg/L	0.10000	0.0015	100	75-125	2	20	
Cobalt	0.108	0.0100	0.0005	mg/L	0.10000	0.0111	97	75-125	2	20	
Copper	0.0839	0.0250	0.0005	mg/L	0.10000	ND	84	75-125	3	20	
Lead	0.103	0.0050	0.0001	mg/L	0.10000	0.0004	103	75-125	5	20	
Molybdenum	0.113	0.0100	0.0017	mg/L	0.10000	ND	113	75-125	4	20	
Nickel	0.140	0.0100	0.0006	mg/L	0.10000	0.0510	89	75-125	0.6	20	
Selenium	0.102	0.0100	0.0010	mg/L	0.10000	0.0046	97	75-125	1	20	
Silver	0.0860	0.0100	0.0005	mg/L	0.10000	ND	86	75-125	2	20	
Thallium	0.106	0.0010	0.0002	mg/L	0.10000	0.0004	106	75-125	6	20	
Vanadium	0.109	0.0100	0.0071	mg/L	0.10000	ND	109	75-125	0.7	20	
Zinc	0.116	0.0100	0.0021	mg/L	0.10000	0.0291	87	75-125	0.9	20	
Lithium	0.108	0.0500	0.0021	mg/L	0.10000	0.0124	96	75-125	6	20	

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Georgia Power
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Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 09, 2017

Report No.: AAB0021

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020031 - EPA 3005A											
Post Spike (7020031-PS1)			**Source: AAB0005-02**			Prepared: 02/02/17 Analyzed: 02/06/17					
Antimony	107			ug/L	100.00	0.251	107	80-120			
Arsenic	106			ug/L	100.00	6.23	100	80-120			
Barium	144			ug/L	100.00	44.5	99	80-120			
Beryllium	92.1			ug/L	100.00	1.07	91	80-120			
Boron	1570			ug/L	1000.0	784	78	80-120			QM-02
Cadmium	96.7			ug/L	100.00	0.0292	97	80-120			
Calcium	168000			ug/L	1000.0	159000	844	80-120			QM-02
Chromium	102			ug/L	100.00	1.46	101	80-120			
Cobalt	105			ug/L	100.00	11.1	94	80-120			
Copper	82.9			ug/L	100.00	0.0687	83	80-120			
Lead	101			ug/L	100.00	0.371	101	80-120			
Molybdenum	111			ug/L	100.00	0.775	111	80-120			
Nickel	142			ug/L	100.00	51.0	91	80-120			
Selenium	100			ug/L	100.00	4.64	96	80-120			
Silver	83.1			ug/L	100.00	0.0177	83	80-120			
Thallium	105			ug/L	100.00	0.381	105	80-120			
Vanadium	110			ug/L	100.00	0.647	110	80-120			
Zinc	118			ug/L	100.00	29.1	89	80-120			
Lithium	108			ug/L	100.00	12.4	95	80-120			
Batch 7020113 - EPA 7470A											
Blank (7020113-BLK1)						Prepared & Analyzed: 02/06/17					
Mercury	0.00007	0.00050	0.000041	mg/L							J
LCS (7020113-BS1)						Prepared & Analyzed: 02/06/17					
Mercury	0.00238	0.00050	0.000041	mg/L	2.5000E-3		95	80-120			

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 09, 2017

Report No.: AAB0021

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020113 - EPA 7470A											
Matrix Spike (7020113-MS1)			**Source: AAA0956-04**			Prepared & Analyzed: 02/06/17					
Mercury	0.00234	0.00050	0.000041	mg/L	2.5000E-3	0.00006	91	75-125			
Matrix Spike Dup (7020113-MSD1)			**Source: AAA0956-04**			Prepared & Analyzed: 02/06/17					
Mercury	0.00235	0.00050	0.000041	mg/L	2.5000E-3	0.00006	92	75-125	0.7	20	
Post Spike (7020113-PS1)			**Source: AAA0956-04**			Prepared & Analyzed: 02/06/17					
Mercury	1.72			ug/L	1.6667	0.0422	101	80-120			
Batch 7020153 - EPA 7470A											
Blank (7020153-BLK1)						Prepared & Analyzed: 02/07/17					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (7020153-BS1)						Prepared & Analyzed: 02/07/17					
Mercury	0.00254	0.00050	0.000041	mg/L	2.5000E-3		102	80-120			
Matrix Spike (7020153-MS1)			**Source: AAB0021-04**			Prepared & Analyzed: 02/07/17					
Mercury	0.00253	0.00050	0.000041	mg/L	2.5000E-3	ND	101	75-125			
Matrix Spike Dup (7020153-MSD1)			**Source: AAB0021-04**			Prepared & Analyzed: 02/07/17					
Mercury	0.00251	0.00050	0.000041	mg/L	2.5000E-3	ND	100	75-125	0.7	20	
Post Spike (7020153-PS1)			**Source: AAB0021-04**			Prepared & Analyzed: 02/07/17					
Mercury	1.83			ug/L	1.6667	-0.0131	110	80-120			

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 09, 2017

Legend

Definition of Laboratory Terms

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

Sample Information

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

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

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

Definition of Qualifiers

QR-01 RPD was outside acceptance limits due to sample concentrations near or below the reporting limit.

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

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

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

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

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

CHAIN OF CUSTODY RECORD

Pace Analytical®

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

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
42 Inverness Center Parkway BIN B426
Birmingham, AL 35242
205-992-5417

REPORT TO: Lauren Petty

CC: Maria Padilla, Heath McCorkle

REQUESTED COMPLETION DATE:

PO #: laburch@southernco.com

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: Phase II

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)						LAB ID NUMBER
					CONTAINER TYPE:			P	P	P						
					PRESERVATION:			3	7	3						
01/31/17	11:15	GW		x	HGWC-103	4		1	1	2						1
01/31/17	11:30	GW		x	HGWC-101	4		1	1	2						2
01/31/17	11:55	GW		x	HGWC-118	4		1	1	2						3
01/31/17	12:00	GW		x	HGWC-105	4		1	1	2						4
01/31/17	13:05	GW		x	HGWC-107	6		1	1	4						5
01/31/17	15:50	GW		x	HGWC-109	4		1	1	2						6
01/31/17	11:15	W		x	FB-1	4		1	1	2						7
01/31/17	16:15	W		x	FERB-1	4		1	1	2						8

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

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

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

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: M. Burch, A Shoredits, M. Thomas — DATE/TIME: 02/01/2017 / 08:00

RELINQUISHED BY: [signature] — DATE/TIME: 02/01/2017 10:13

RECEIVED BY: Nocyea — DATE/TIME: 2/1/17, 1013

RELINQUISHED BY: — DATE/TIME:

RECEIVED BY LAB: [signature] — DATE/TIME: 02/01/17 1100

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

Checked: Yes No NA — Ice: Yes No NA — Temperature: 1.2 Min 1.2 Max

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

FOR LAB USE ONLY
LAB #: AAB0021
Entered into LIMS: DR
Tracking #:

2017 01 31 Hammond COCs.xlsx

PACE ANALYTICAL SERVICES, LLC.

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

LOG-IN CHECKLIST **Printed: 2/2/2017 9:55:10AM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 02/01/17 11:00

Work Order: AAB0021
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 8 **#Containers:** 34

Minimum Temp(C): 1.0 **Maximum Temp(C):** 1.0 **Custody Seal(s) Used:** N/A

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	NO
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

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

February 24, 2017

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: Plant Hammond
Pace Project No.: 30209600

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on February 02, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

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

CERTIFICATIONS

Project: Plant Hammond
Pace Project No.: 30209600

Pennsylvania Certification IDs

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

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

SAMPLE SUMMARY

Project: Plant Hammond
Pace Project No.: 30209600

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30209600001	**HGWC-103**	Water	01/31/17 11:15	02/02/17 10:05
30209600002	**HGWC-101**	Water	01/31/17 11:30	02/02/17 10:05
30209600003	**HGWC-118**	Water	01/31/17 11:55	02/02/17 10:05
30209600004	**HGWC-105**	Water	01/31/17 12:00	02/02/17 10:05
30209600005	**HGWC-107**	Water	01/31/17 13:05	02/02/17 10:05
30209600006	**HGWC-109**	Water	01/31/17 15:50	02/02/17 10:05
30209600007	**FB-1**	Water	01/31/17 11:15	02/02/17 10:05
30209600008	**FERB-1**	Water	01/31/17 16:15	02/02/17 10:05

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

SAMPLE ANALYTE COUNT

Project: Plant Hammond
Pace Project No.: 30209600

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30209600001	**HGWC-103**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30209600002	**HGWC-101**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30209600003	**HGWC-118**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30209600004	**HGWC-105**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30209600005	**HGWC-107**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30209600006	**HGWC-109**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30209600007	**FB-1**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1
30209600008	**FERB-1**	EPA 9315	LAL	1
		EPA 9320	JLW	1
		Total Radium Calculation	JAL	1

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30209600

Sample: HGWC-103 **Lab ID: 30209600001** Collected: 01/31/17 11:15 Received: 02/02/17 10:05 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.105 ± 0.134 (0.286) C:94% T:NA**	pCi/L	02/14/17 10:57	13982-63-3	
Radium-228	EPA 9320	**0.871 ± 0.439 (0.747) C:69% T:80%**	pCi/L	02/23/17 11:39	15262-20-1	
Total Radium	Total Radium Calculation	**0.976 ± 0.573 (1.03)**	pCi/L	02/23/17 16:09	7440-14-4	

Sample: HGWC-101 **Lab ID: 30209600002** Collected: 01/31/17 11:30 Received: 02/02/17 10:05 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.107 ± 0.109 (0.208) C:90% T:NA**	pCi/L	02/14/17 10:57	13982-63-3	
Radium-228	EPA 9320	**0.799 ± 0.419 (0.721) C:69% T:78%**	pCi/L	02/23/17 11:39	15262-20-1	
Total Radium	Total Radium Calculation	**0.906 ± 0.528 (0.929)**	pCi/L	02/23/17 16:09	7440-14-4	

Sample: HGWC-118 **Lab ID: 30209600003** Collected: 01/31/17 11:55 Received: 02/02/17 10:05 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.106 ± 0.0942 (0.170) C:97% T:NA**	pCi/L	02/15/17 13:29	13982-63-3	
Radium-228	EPA 9320	**0.923 ± 0.479 (0.806) C:69% T:69%**	pCi/L	02/23/17 12:11	15262-20-1	
Total Radium	Total Radium Calculation	**1.03 ± 0.573 (0.976)**	pCi/L	02/23/17 16:09	7440-14-4	

Sample: HGWC-105 **Lab ID: 30209600004** Collected: 01/31/17 12:00 Received: 02/02/17 10:05 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0856 ± 0.0919 (0.179) C:93% T:NA**	pCi/L	02/15/17 08:40	13982-63-3	
Radium-228	EPA 9320	**0.782 ± 0.511 (0.962) C:70% T:65%**	pCi/L	02/23/17 11:39	15262-20-1	
Total Radium	Total Radium Calculation	**0.868 ± 0.603 (1.14)**	pCi/L	02/23/17 16:09	7440-14-4	

Sample: HGWC-107 **Lab ID: 30209600005** Collected: 01/31/17 13:05 Received: 02/02/17 10:05 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.111 ± 0.0974 (0.174) C:97% T:NA**	pCi/L	02/15/17 08:41	13982-63-3	
Radium-228	EPA 9320	**1.34 ± 0.529 (0.793) C:69% T:77%**	pCi/L	02/23/17 11:38	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30209600

Sample: HGWC-107 **Lab ID: 30209600005** Collected: 01/31/17 13:05 Received: 02/02/17 10:05 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	**1.45 ± 0.626 (0.967)**	pCi/L	02/23/17 16:09	7440-14-4	

Sample: HGWC-109 **Lab ID: 30209600006** Collected: 01/31/17 15:50 Received: 02/02/17 10:05 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0483 ± 0.0757 (0.164) C:90% T:NA**	pCi/L	02/15/17 08:20	13982-63-3	
Radium-228	EPA 9320	**0.540 ± 0.420 (0.827) C:68% T:79%**	pCi/L	02/23/17 11:39	15262-20-1	
Total Radium	Total Radium Calculation	**0.588 ± 0.496 (0.991)**	pCi/L	02/23/17 16:09	7440-14-4	

Sample: FB-1 **Lab ID: 30209600007** Collected: 01/31/17 11:15 Received: 02/02/17 10:05 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0579 ± 0.0748 (0.152) C:94% T:NA**	pCi/L	02/15/17 08:20	13982-63-3	
Radium-228	EPA 9320	**0.731 ± 0.487 (0.907) C:64% T:67%**	pCi/L	02/23/17 11:40	15262-20-1	
Total Radium	Total Radium Calculation	**0.789 ± 0.562 (1.06)**	pCi/L	02/23/17 16:09	7440-14-4	

Sample: FERB-1 **Lab ID: 30209600008** Collected: 01/31/17 16:15 Received: 02/02/17 10:05 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**-0.0267 ± 0.0478 (0.172) C:97% T:NA**	pCi/L	02/15/17 08:20	13982-63-3	
Radium-228	EPA 9320	**1.05 ± 0.508 (0.828) C:68% T:70%**	pCi/L	02/23/17 12:12	15262-20-1	
Total Radium	Total Radium Calculation	**1.05 ± 0.556 (1.000)**	pCi/L	02/23/17 16:09	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30209600

QC Batch: 248824 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30209600001, 30209600002, 30209600003, 30209600004, 30209600005, 30209600006, 30209600007, 30209600008

METHOD BLANK: 1223623 Matrix: Water
Associated Lab Samples: 30209600001, 30209600002, 30209600003, 30209600004, 30209600005, 30209600006, 30209600007, 30209600008

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.00454 ± 0.0688 (0.190) C:100% T:NA	pCi/L	02/14/17 10:56	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 30209600

QC Batch: 248899 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30209600001, 30209600002, 30209600003, 30209600004, 30209600005, 30209600006, 30209600007, 30209600008

METHOD BLANK: 1224049 Matrix: Water
Associated Lab Samples: 30209600001, 30209600002, 30209600003, 30209600004, 30209600005, 30209600006, 30209600007, 30209600008

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.991 ± 0.451 (0.731) C:88% T:66%	pCi/L	02/23/17 12:11	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: Plant Hammond
Pace Project No.: 30209600

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

WO#:30209600

Chain of Custody

30209600

Pace Analytical

Workorder: AAB0021 Workorder Name: Plant Hammond Owner Received Date: Results Requested By: 2/24/2017

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

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis Radium 226, 228, Total	LAB USE ONLY
1	HGWC-103	G	1/31/2017 11:15	AAB0021-01	GW	2	X	001
2	HGWC-101	G	1/31/2017 11:30	AAB0021-02	GW	2	X	002
3	HGWC-118	G	1/31/2017 11:55	AAB0021-03	GW	2	X	003
4	HGWC-105	G	1/31/2017 12:00	AAB0021-04	GW	2	X	004
5	HGWC-107	G	1/31/2017 13:05	AAB0021-05	GW	4	X	005
6	HGWC-109	G	1/31/2017 15:50	AAB0021-06	GW	2	X	006
7	FB-1	G	1/31/2017 11:15	AAB0021-07	W	2	X	007
8	FERB-1	G	1/31/2017 16:15	AAB0021-08	W	2	X	008
9								
10								

Transfers	Released By	Date/Time	Received By	Date/Time
1			Ashley Rose/Pace	2-2-17/1005
2				
3				

Comments: EQuIS deliverable required.

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

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

30209600

CHAIN OF CUSTODY RECORD

Pace Analytical®

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

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
42 Inverness Center Parkway BIN B426
Birmingham, AL 35242
205-992-5417

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

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: Phase II

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)							LAB ID NUMBER
CONTAINER TYPE:								P	P	P							
PRESERVATION:								3	7	3							
01/31/17	11:15	GW		x	HGWC-103	4		1	1	2							1
01/31/17	11:30	GW		x	HGWC-101	4		1	1	2							2
01/31/17	11:55	GW		x	HGWC-118	4		1	1	2							3
01/31/17	12:00	GW		x	HGWC-105	4		1	1	2							4
01/31/17	13:05	GW		x	HGWC-107	6		1	1	4							5
01/31/17	15:50	GW		x	HGWC-109	4		1	1	2							6
01/31/17	11:15	W		x	FB-1	4		1	1	2							7
01/31/17	16:15	W		x	FERB-1	4		1	1	2							8

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

*MATRIX CODES:

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

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: M. Burch, A Shoredits, M. Thomas
DATE/TIME: 02/01/2017 / 08:00

RELINQUISHED BY:
DATE/TIME: 02/01/2017 10:13

RECEIVED BY:
DATE/TIME: 2/1/17, 1013

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY/LAB:
DATE/TIME: 02/01/17 1600

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

Custody Seal: Intact Broken N/A Present

Cooler ID:

FOR LAB USE ONLY
LAB #: AR 90021
Entered into LIMS:
Tracking #:

2017 01 31 Hammond COCs.xlsx

Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: Pace, GA Project # 30209600

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

Tracking #: 6812 5102 0454

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

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

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

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AMR 2-2-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	X			5.
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:		X		8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:	X			
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Organic Samples checked for dechlorination:			X	13.
Filtered volume received for Dissolved tests			X	14.
All containers have been checked for preservation. All containers needing preservation are found to be in compliance with EPA recommendation.	X			15. pH<2
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed AMR Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	16.
Trip Blank Present:		X		17.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr		X		Initial when completed AMR Date: 2-2-17

Client Notification/ Resolution:

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

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

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

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

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-228
Analyst:	JLW
Date:	2/13/2017
Worklist:	33965
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1224049
MB concentration:	0.991
M/B Counting Uncertainty:	0.414
MB MDC:	0.731
MB Numerical Performance Indicator:	4.69
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	See Comment*

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS33965	LCSD33965
Count Date:	2/23/2017	
Spike I.D.:	16-027	
Spike Concentration (pCi/mL):	25.228	
Volume Used (mL):	0.20	
Aliquot Volume (L, g, F):	0.810	
Target Conc. (pCi/L, g, F):	6.231	
Uncertainty (Calculated):	0.449	
Result (pCi/L, g, F):	8.243	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.828	
Numerical Performance Indicator:	4.19	
Percent Recovery:	132.29%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Sample Matrix Spike Control Assessment	
Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30209600005	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30209600005DUP	
Sample Result (pCi/L, g, F):	1.345	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.471	
Sample Duplicate Result (pCi/L, g, F):	0.855	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.393	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	1.566	30209600005
Duplicate RPD:	44.56%	30209600005DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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

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

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

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

12/24/17

Quality Control Sample Performance Assessment

Pace Analytical™
www.pacelabs.com

Test:	Ra-226
Analyst:	LAL
Date:	2/10/2017
Worklist:	33939
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1223623
MB concentration:	0.005
M/B Counting Uncertainty:	0.069
MB MDC:	0.190
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
	LCS33939	LCSD33939
Count Date:	2/15/2017	
Spike I.D.:	16-026	
Spike Concentration (pCi/mL):	44.669	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.502	
Target Conc. (pCi/L, g, F):	8.890	
Uncertainty (Calculated):	0.418	
Result (pCi/L, g, F):	7.727	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.653	
Numerical Performance Indicator:	-2.94	
Percent Recovery:	86.93%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Sample Matrix Spike Control Assessment	
Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30209600005	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30209600005DUP	
Sample Result (pCi/L, g, F):	0.111	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.096	
Sample Duplicate Result (pCi/L, g, F):	0.064	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.096	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	0.680	30209600005
Duplicate RPD:	54.03%	30209600005DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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

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

JMP 2/24/17

Comments:

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

PACE ANALYTICAL SERVICES, LLC.

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

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AAE0857
June 05, 2017
Project: CCR Event
Project #:Plant Hammond

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

Approved:

Project Manager

PACE ANALYTICAL SERVICES, LLC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HGWA-111	AAE0857-01	Water	05/24/17 09:30	05/25/17 12:40
HGWC-105	AAE0857-02	Water	05/24/17 10:10	05/25/17 12:40
HGWC-107	AAE0857-03	Water	05/24/17 11:45	05/25/17 12:40
HGWC-109	AAE0857-04	Water	05/24/17 13:10	05/25/17 12:40
FB-1	AAE0857-05	Water	05/24/17 14:30	05/25/17 12:40
FERB-1	AAE0857-06	Water	05/24/17 14:35	05/25/17 12:40

PACE ANALYTICAL SERVICES, LLC.

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

Attention: Mr. Joju Abraham

June 05, 2017

Case Narrative

The Radium analysis by methods EPA 9315/9320 was performed by Pace-Pittsburgh, 1638 Roseytown Road - Suites 2, 3, 4, Greensburg PA 15601. The Pace-Pittsburgh lab contact is Jacquelyn Collins at 724-850-5612.

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Report No.: AAE0857
Client ID: HGWA-111
Date/Time Sampled: 5/24/2017 9:30:00AM
Matrix: Water

Project: CCR Event
Lab Number ID: AAE0857-01
Date/Time Received: 5/25/2017 12:40:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	126	25	10	mg/L	SM 2540 C		1	05/30/17 18:00	05/30/17 18:00	7050912	JPT
Inorganic Anions											
Chloride	3.0	0.25	0.01	mg/L	EPA 300.0		1	05/31/17 15:00	05/31/17 21:50	7050979	RLC
Fluoride	0.02	0.30	0.004	mg/L	EPA 300.0	J	1	05/31/17 15:00	05/31/17 21:50	7050979	RLC
Sulfate	1.4	1.0	0.09	mg/L	EPA 300.0		1	05/31/17 15:00	05/31/17 21:50	7050979	RLC
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 21:28	7050846	CSW
Arsenic	ND	0.0050	0.0004	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 21:28	7050846	CSW
Barium	0.0256	0.0100	0.0003	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 21:28	7050846	CSW
Beryllium	ND	0.0030	0.00007	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 21:28	7050846	CSW
Boron	0.0094	0.0400	0.0060	mg/L	EPA 6020B	J	1	05/25/17 17:00	05/30/17 21:28	7050846	CSW
Cadmium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 21:28	7050846	CSW
Calcium	34.8	25.0	0.522	mg/L	EPA 6020B		50	05/25/17 17:00	05/30/17 21:34	7050846	CSW
Chromium	0.0004	0.0100	0.0003	mg/L	EPA 6020B	J	1	05/25/17 17:00	05/30/17 21:28	7050846	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 21:28	7050846	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 21:28	7050846	CSW
Molybdenum	ND	0.0100	0.0006	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 21:28	7050846	CSW
Selenium	ND	0.0100	0.0014	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 21:28	7050846	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 21:28	7050846	CSW
Lithium	0.0017	0.0500	0.0011	mg/L	EPA 6020B	J	1	05/25/17 17:00	05/30/17 21:28	7050846	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	05/30/17 11:45	05/30/17 16:09	7050855	MTC

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Report No.: AAE0857
Client ID: HGWC-105
Date/Time Sampled: 5/24/2017 10:10:00AM
Matrix: Water

Project: CCR Event
Lab Number ID: AAE0857-02
Date/Time Received: 5/25/2017 12:40:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	352	25	10	mg/L	SM 2540 C		1	05/30/17 18:00	05/30/17 18:00	7050912	JPT
Inorganic Anions											
Chloride	3.5	0.25	0.01	mg/L	EPA 300.0		1	05/31/17 15:00	05/31/17 23:34	7050979	RLC
Fluoride	0.07	0.30	0.004	mg/L	EPA 300.0	J	1	05/31/17 15:00	05/31/17 23:34	7050979	RLC
Sulfate	180	10	0.92	mg/L	EPA 300.0		10	05/31/17 15:00	06/01/17 19:32	7050979	RLC
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 21:51	7050846	CSW
Arsenic	ND	0.0050	0.0004	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 21:51	7050846	CSW
Barium	0.0668	0.0100	0.0003	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 21:51	7050846	CSW
Beryllium	ND	0.0030	0.00007	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 21:51	7050846	CSW
Boron	1.30	0.0400	0.0060	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 21:51	7050846	CSW
Cadmium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 21:51	7050846	CSW
Calcium	75.9	25.0	0.522	mg/L	EPA 6020B		50	05/25/17 17:00	05/30/17 21:57	7050846	CSW
Chromium	ND	0.0100	0.0003	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 21:51	7050846	CSW
Cobalt	0.0007	0.0100	0.0005	mg/L	EPA 6020B	J	1	05/25/17 17:00	05/30/17 21:51	7050846	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 21:51	7050846	CSW
Molybdenum	ND	0.0100	0.0006	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 21:51	7050846	CSW
Selenium	ND	0.0100	0.0014	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 21:51	7050846	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 21:51	7050846	CSW
Lithium	0.0039	0.0500	0.0011	mg/L	EPA 6020B	J	1	05/25/17 17:00	05/30/17 21:51	7050846	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	05/30/17 11:45	05/30/17 16:12	7050855	MTC

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Report No.: AAE0857
Client ID: HGWC-107
Date/Time Sampled: 5/24/2017 11:45:00AM
Matrix: Water

Project: CCR Event
Lab Number ID: AAE0857-03
Date/Time Received: 5/25/2017 12:40:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	234	25	10	mg/L	SM 2540 C		1	05/30/17 18:00	05/30/17 18:00	7050912	JPT
Inorganic Anions											
Chloride	2.9	0.25	0.01	mg/L	EPA 300.0		1	05/31/17 15:00	05/31/17 23:54	7050979	RLC
Fluoride	0.009	0.30	0.004	mg/L	EPA 300.0	J	1	05/31/17 15:00	05/31/17 23:54	7050979	RLC
Sulfate	130	10	0.92	mg/L	EPA 300.0		10	05/31/17 15:00	06/01/17 19:52	7050979	RLC
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:03	7050846	CSW
Arsenic	ND	0.0050	0.0004	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:03	7050846	CSW
Barium	0.0377	0.0100	0.0003	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:03	7050846	CSW
Beryllium	ND	0.0030	0.00007	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:03	7050846	CSW
Boron	0.753	0.0400	0.0060	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:03	7050846	CSW
Cadmium	0.0001	0.0010	0.00006	mg/L	EPA 6020B	J	1	05/25/17 17:00	05/30/17 22:03	7050846	CSW
Calcium	49.5	25.0	0.522	mg/L	EPA 6020B		50	05/25/17 17:00	05/30/17 22:08	7050846	CSW
Chromium	ND	0.0100	0.0003	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:03	7050846	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:03	7050846	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:03	7050846	CSW
Molybdenum	ND	0.0100	0.0006	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:03	7050846	CSW
Selenium	ND	0.0100	0.0014	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:03	7050846	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:03	7050846	CSW
Lithium	ND	0.0500	0.0011	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:03	7050846	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	05/30/17 11:45	05/30/17 16:14	7050855	MTC

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Report No.: AAE0857
Client ID: HGWC-109
Date/Time Sampled: 5/24/2017 1:10:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAE0857-04
Date/Time Received: 5/25/2017 12:40:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	184	25	10	mg/L	SM 2540 C		1	05/30/17 18:00	05/30/17 18:00	7050912	JPT
Inorganic Anions											
Chloride	5.3	0.25	0.01	mg/L	EPA 300.0		1	05/31/17 15:00	06/01/17 00:56	7050979	RLC
Fluoride	0.13	0.30	0.004	mg/L	EPA 300.0	J	1	05/31/17 15:00	06/01/17 00:56	7050979	RLC
Sulfate	40	1.0	0.09	mg/L	EPA 300.0		1	05/31/17 15:00	06/01/17 00:56	7050979	RLC
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:14	7050846	CSW
Arsenic	0.0012	0.0050	0.0004	mg/L	EPA 6020B	J	1	05/25/17 17:00	05/30/17 22:14	7050846	CSW
Barium	0.0784	0.0100	0.0003	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:14	7050846	CSW
Beryllium	ND	0.0030	0.00007	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:14	7050846	CSW
Boron	0.415	0.0400	0.0060	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:14	7050846	CSW
Cadmium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:14	7050846	CSW
Calcium	35.3	25.0	0.522	mg/L	EPA 6020B		50	05/25/17 17:00	05/30/17 22:20	7050846	CSW
Chromium	ND	0.0100	0.0003	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:14	7050846	CSW
Cobalt	0.0020	0.0100	0.0005	mg/L	EPA 6020B	J	1	05/25/17 17:00	05/30/17 22:14	7050846	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:14	7050846	CSW
Molybdenum	ND	0.0100	0.0006	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:14	7050846	CSW
Selenium	ND	0.0100	0.0014	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:14	7050846	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:14	7050846	CSW
Lithium	0.0012	0.0500	0.0011	mg/L	EPA 6020B	J	1	05/25/17 17:00	05/30/17 22:14	7050846	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	05/30/17 11:45	05/30/17 16:16	7050855	MTC

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Report No.: AAE0857
Client ID: FB-1
Date/Time Sampled: 5/24/2017 2:30:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAE0857-05
Date/Time Received: 5/25/2017 12:40:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	05/30/17 18:00	05/30/17 18:00	7050912	JPT
Inorganic Anions											
Chloride	ND	0.25	0.01	mg/L	EPA 300.0		1	05/31/17 15:00	06/01/17 01:17	7050979	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	05/31/17 15:00	06/01/17 01:17	7050979	RLC
Sulfate	ND	1.0	0.09	mg/L	EPA 300.0		1	05/31/17 15:00	06/01/17 01:17	7050979	RLC
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:25	7050846	CSW
Arsenic	ND	0.0050	0.0004	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:25	7050846	CSW
Barium	ND	0.0100	0.0003	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:25	7050846	CSW
Beryllium	ND	0.0030	0.00007	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:25	7050846	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:25	7050846	CSW
Cadmium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:25	7050846	CSW
Calcium	ND	0.500	0.0104	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:25	7050846	CSW
Chromium	ND	0.0100	0.0003	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:25	7050846	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:25	7050846	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:25	7050846	CSW
Molybdenum	ND	0.0100	0.0006	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:25	7050846	CSW
Selenium	ND	0.0100	0.0014	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:25	7050846	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:25	7050846	CSW
Lithium	ND	0.0500	0.0011	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:25	7050846	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	05/30/17 14:15	05/30/17 17:23	7050856	MTC

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Report No.: AAE0857
Client ID: FERB-1
Date/Time Sampled: 5/24/2017 2:35:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAE0857-06
Date/Time Received: 5/25/2017 12:40:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	05/30/17 18:00	05/30/17 18:00	7050912	JPT
Inorganic Anions											
Chloride	ND	0.25	0.01	mg/L	EPA 300.0		1	05/31/17 15:00	06/01/17 01:38	7050979	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	05/31/17 15:00	06/01/17 01:38	7050979	RLC
Sulfate	ND	1.0	0.09	mg/L	EPA 300.0		1	05/31/17 15:00	06/01/17 01:38	7050979	RLC
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:31	7050846	CSW
Arsenic	ND	0.0050	0.0004	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:31	7050846	CSW
Barium	0.0005	0.0100	0.0003	mg/L	EPA 6020B	J	1	05/25/17 17:00	05/30/17 22:31	7050846	CSW
Beryllium	ND	0.0030	0.00007	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:31	7050846	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:31	7050846	CSW
Cadmium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:31	7050846	CSW
Calcium	0.0349	0.500	0.0104	mg/L	EPA 6020B	J	1	05/25/17 17:00	05/30/17 22:31	7050846	CSW
Chromium	ND	0.0100	0.0003	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:31	7050846	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:31	7050846	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:31	7050846	CSW
Molybdenum	ND	0.0100	0.0006	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:31	7050846	CSW
Selenium	ND	0.0100	0.0014	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:31	7050846	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:31	7050846	CSW
Lithium	ND	0.0500	0.0011	mg/L	EPA 6020B		1	05/25/17 17:00	05/30/17 22:31	7050846	CSW
Mercury	0.00007	0.00050	0.000041	mg/L	EPA 7470A	J	1	05/30/17 14:15	05/30/17 17:27	7050856	MTC

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Report No.: AAE0857

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7050912 - SM 2540 C											
Blank (7050912-BLK1)						Prepared & Analyzed: 05/30/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7050912-BS1)						Prepared & Analyzed: 05/30/17					
Total Dissolved Solids	384	25	10	mg/L	400.00		96	84-108			
Duplicate (7050912-DUP1)		**Source: AAE0857-04**				Prepared & Analyzed: 05/30/17					
Total Dissolved Solids	185	25	10	mg/L		184			0.5	10	
Duplicate (7050912-DUP2)		**Source: AAE0858-10**				Prepared & Analyzed: 05/30/17					
Total Dissolved Solids	ND	25	10	mg/L		ND				10	

PACE ANALYTICAL SERVICES, LLC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Report No.: AAE0857

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7050979 - EPA 300.0											
Blank (7050979-BLK1)						Prepared & Analyzed: 05/31/17					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.004	mg/L							
Sulfate	ND	1.0	0.09	mg/L							
LCS (7050979-BS1)						Prepared & Analyzed: 05/31/17					
Chloride	10.2	0.25	0.01	mg/L	10.020		101	90-110			
Fluoride	10.2	0.30	0.004	mg/L	10.020		101	90-110			
Sulfate	10.3	1.0	0.09	mg/L	10.050		103	90-110			
Matrix Spike (7050979-MS1)		**Source: AAE0857-03**				Prepared: 05/31/17 Analyzed: 06/01/17					
Chloride	12.9	0.25	0.01	mg/L	10.020	2.91	100	90-110			
Fluoride	10.2	0.30	0.004	mg/L	10.020	0.009	102	90-110			
Sulfate	115	1.0	0.09	mg/L	10.050	118	NR	90-110			QM-02
Matrix Spike (7050979-MS2)		**Source: AAE0894-01**				Prepared: 05/31/17 Analyzed: 06/01/17					
Chloride	99.6	0.25	0.01	mg/L	10.020	99.9	NR	90-110			QM-02
Fluoride	11.2	0.30	0.004	mg/L	10.020	0.42	107	90-110			
Sulfate	275	1.0	0.09	mg/L	10.050	290	NR	90-110			QM-02
Matrix Spike Dup (7050979-MSD1)		**Source: AAE0857-03**				Prepared: 05/31/17 Analyzed: 06/01/17					
Chloride	13.0	0.25	0.01	mg/L	10.020	2.91	100	90-110	0.2	15	
Fluoride	10.3	0.30	0.004	mg/L	10.020	0.009	102	90-110	0.2	15	
Sulfate	115	1.0	0.09	mg/L	10.050	118	NR	90-110	0.02	15	QM-02

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Report No.: AAE0857

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7050846 - EPA 3005A											
Blank (7050846-BLK1)						Prepared: 05/25/17 Analyzed: 05/30/17					
Antimony	ND	0.0030	0.0003	mg/L							
Arsenic	ND	0.0050	0.0004	mg/L							
Barium	ND	0.0100	0.0003	mg/L							
Beryllium	ND	0.0030	0.00007	mg/L							
Boron	ND	0.0400	0.0060	mg/L							
Cadmium	ND	0.0010	0.00006	mg/L							
Calcium	ND	0.500	0.0104	mg/L							
Chromium	ND	0.0100	0.0003	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0250	0.0003	mg/L							
Lead	ND	0.0050	0.00007	mg/L							
Molybdenum	ND	0.0100	0.0006	mg/L							
Nickel	ND	0.0100	0.0003	mg/L							
Selenium	ND	0.0100	0.0014	mg/L							
Silver	ND	0.0100	0.0003	mg/L							
Thallium	ND	0.0010	0.00005	mg/L							
Vanadium	ND	0.0100	0.0014	mg/L							
Zinc	ND	0.0100	0.0013	mg/L							
Lithium	ND	0.0500	0.0011	mg/L							
LCS (7050846-BS1)						Prepared: 05/25/17 Analyzed: 05/30/17					
Antimony	0.105	0.0030	0.0003	mg/L	0.10000		105	80-120			
Arsenic	0.101	0.0050	0.0004	mg/L	0.10000		101	80-120			
Barium	0.0985	0.0100	0.0003	mg/L	0.10000		99	80-120			
Beryllium	0.106	0.0030	0.00007	mg/L	0.10000		106	80-120			
Boron	1.06	0.0400	0.0060	mg/L	1.0000		106	80-120			
Cadmium	0.104	0.0010	0.00006	mg/L	0.10000		104	80-120			
Calcium	0.960	0.500	0.0104	mg/L	1.0000		96	80-120			
Chromium	0.0979	0.0100	0.0003	mg/L	0.10000		98	80-120			
Cobalt	0.101	0.0100	0.0005	mg/L	0.10000		101	80-120			
Copper	0.101	0.0250	0.0003	mg/L	0.10000		101	80-120			
Lead	0.0957	0.0050	0.00007	mg/L	0.10000		96	80-120			
Molybdenum	0.105	0.0100	0.0006	mg/L	0.10000		105	80-120			
Nickel	0.101	0.0100	0.0003	mg/L	0.10000		101	80-120			
Selenium	0.100	0.0100	0.0014	mg/L	0.10000		100	80-120			
Silver	0.104	0.0100	0.0003	mg/L	0.10000		104	80-120			
Thallium	0.0984	0.0010	0.00005	mg/L	0.10000		98	80-120			
Vanadium	0.104	0.0100	0.0014	mg/L	0.10000		104	80-120			
Zinc	0.102	0.0100	0.0013	mg/L	0.10000		102	80-120			
Lithium	0.103	0.0500	0.0011	mg/L	0.10000		103	80-120			

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Report No.: AAE0857

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7050846 - EPA 3005A											
Matrix Spike (7050846-MS1)		**Source: AAE0857-01**			Prepared: 05/25/17 Analyzed: 05/30/17						
Antimony	0.106	0.0030	0.0003	mg/L	0.10000	ND	106	75-125			
Arsenic	0.102	0.0050	0.0004	mg/L	0.10000	ND	102	75-125			
Barium	0.122	0.0100	0.0003	mg/L	0.10000	0.0256	97	75-125			
Beryllium	0.0993	0.0030	0.00007	mg/L	0.10000	ND	99	75-125			
Boron	1.03	0.0400	0.0060	mg/L	1.0000	0.0094	102	75-125			
Cadmium	0.107	0.0010	0.00006	mg/L	0.10000	ND	107	75-125			
Calcium	35.9	25.0	0.522	mg/L	1.0000	34.8	115	75-125			
Chromium	0.101	0.0100	0.0003	mg/L	0.10000	0.0004	101	75-125			
Cobalt	0.102	0.0100	0.0005	mg/L	0.10000	ND	102	75-125			
Copper	0.101	0.0250	0.0003	mg/L	0.10000	0.0005	100	75-125			
Lead	0.0959	0.0050	0.00007	mg/L	0.10000	ND	96	75-125			
Molybdenum	0.104	0.0100	0.0006	mg/L	0.10000	ND	104	75-125			
Nickel	0.103	0.0100	0.0003	mg/L	0.10000	0.0007	102	75-125			
Selenium	0.102	0.0100	0.0014	mg/L	0.10000	ND	102	75-125			
Silver	0.103	0.0100	0.0003	mg/L	0.10000	ND	103	75-125			
Thallium	0.0989	0.0010	0.00005	mg/L	0.10000	ND	99	75-125			
Vanadium	0.106	0.0100	0.0014	mg/L	0.10000	ND	106	75-125			
Zinc	0.105	0.0100	0.0013	mg/L	0.10000	0.0046	101	75-125			
Lithium	0.0972	0.0500	0.0011	mg/L	0.10000	0.0017	95	75-125			
Matrix Spike Dup (7050846-MSD1)		**Source: AAE0857-01**			Prepared: 05/25/17 Analyzed: 05/30/17						
Antimony	0.108	0.0030	0.0003	mg/L	0.10000	ND	108	75-125	1	20	
Arsenic	0.103	0.0050	0.0004	mg/L	0.10000	ND	103	75-125	2	20	
Barium	0.125	0.0100	0.0003	mg/L	0.10000	0.0256	99	75-125	2	20	
Beryllium	0.100	0.0030	0.00007	mg/L	0.10000	ND	100	75-125	0.9	20	
Boron	1.02	0.0400	0.0060	mg/L	1.0000	0.0094	101	75-125	1	20	
Cadmium	0.109	0.0010	0.00006	mg/L	0.10000	ND	109	75-125	1	20	
Calcium	36.1	25.0	0.522	mg/L	1.0000	34.8	138	75-125	0.6	20	QM-02
Chromium	0.0997	0.0100	0.0003	mg/L	0.10000	0.0004	99	75-125	1	20	
Cobalt	0.103	0.0100	0.0005	mg/L	0.10000	ND	103	75-125	1	20	
Copper	0.101	0.0250	0.0003	mg/L	0.10000	0.0005	100	75-125	0.01	20	
Lead	0.0993	0.0050	0.00007	mg/L	0.10000	ND	99	75-125	4	20	
Molybdenum	0.106	0.0100	0.0006	mg/L	0.10000	ND	106	75-125	2	20	
Nickel	0.103	0.0100	0.0003	mg/L	0.10000	0.0007	102	75-125	0.05	20	
Selenium	0.100	0.0100	0.0014	mg/L	0.10000	ND	100	75-125	2	20	
Silver	0.103	0.0100	0.0003	mg/L	0.10000	ND	103	75-125	0.06	20	
Thallium	0.100	0.0010	0.00005	mg/L	0.10000	ND	100	75-125	1	20	
Vanadium	0.105	0.0100	0.0014	mg/L	0.10000	ND	105	75-125	1	20	
Zinc	0.104	0.0100	0.0013	mg/L	0.10000	0.0046	100	75-125	1	20	
Lithium	0.0983	0.0500	0.0011	mg/L	0.10000	0.0017	97	75-125	1	20	

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Report No.: AAE0857

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7050846 - EPA 3005A											
Post Spike (7050846-PS1)			**Source: AAE0857-01**			Prepared: 05/25/17 Analyzed: 05/30/17					
Antimony	106			ug/L	100.00	0.0902	106	80-120			
Arsenic	104			ug/L	100.00	-0.639	104	80-120			
Barium	125			ug/L	100.00	25.6	99	80-120			
Beryllium	103			ug/L	100.00	0.0021	103	80-120			
Boron	1010			ug/L	1000.0	9.35	100	80-120			
Cadmium	106			ug/L	100.00	0.0211	106	80-120			
Calcium	34200			ug/L	1000.0	34800	NR	80-120			QM-02
Chromium	101			ug/L	100.00	0.355	101	80-120			
Cobalt	101			ug/L	100.00	0.0042	101	80-120			
Copper	101			ug/L	100.00	0.503	100	80-120			
Lead	99.4			ug/L	100.00	0.0321	99	80-120			
Molybdenum	107			ug/L	100.00	0.0486	107	80-120			
Nickel	104			ug/L	100.00	0.670	103	80-120			
Selenium	102			ug/L	100.00	-0.0971	102	80-120			
Silver	103			ug/L	100.00	0.0014	103	80-120			
Thallium	100			ug/L	100.00	0.0034	100	80-120			
Vanadium	108			ug/L	100.00	-0.251	108	80-120			
Zinc	106			ug/L	100.00	4.58	101	80-120			
Lithium	101			ug/L	100.00	1.75	99	80-120			
Batch 7050855 - EPA 7470A											
Blank (7050855-BLK1)						Prepared & Analyzed: 05/30/17					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (7050855-BS1)						Prepared & Analyzed: 05/30/17					
Mercury	0.00235	0.00050	0.000041	mg/L	2.5000E-3		94	80-120			

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Report No.: AAE0857

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7050855 - EPA 7470A											
Matrix Spike (7050855-MS1)			**Source: AAE0811-07**			Prepared & Analyzed: 05/30/17					
Mercury	0.00235	0.00050	0.000041	mg/L	2.5000E-3	ND	94	75-125			
Matrix Spike Dup (7050855-MSD1)			**Source: AAE0811-07**			Prepared & Analyzed: 05/30/17					
Mercury	0.00233	0.00050	0.000041	mg/L	2.5000E-3	ND	93	75-125	0.8	20	
Post Spike (7050855-PS1)			**Source: AAE0811-07**			Prepared & Analyzed: 05/30/17					
Mercury	1.67			ug/L	1.6667	-0.00219	100	80-120			
Batch 7050856 - EPA 7470A											
Blank (7050856-BLK1)						Prepared & Analyzed: 05/30/17					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (7050856-BS1)						Prepared & Analyzed: 05/30/17					
Mercury	0.00245	0.00050	0.000041	mg/L	2.5000E-3		98	80-120			
Matrix Spike (7050856-MS1)			**Source: AAE0858-01**			Prepared & Analyzed: 05/30/17					
Mercury	0.00241	0.00050	0.000041	mg/L	2.5000E-3	ND	96	75-125			
Matrix Spike Dup (7050856-MSD1)			**Source: AAE0858-01**			Prepared & Analyzed: 05/30/17					
Mercury	0.00240	0.00050	0.000041	mg/L	2.5000E-3	ND	96	75-125	0.6	20	
Post Spike (7050856-PS1)			**Source: AAE0858-01**			Prepared & Analyzed: 05/30/17					
Mercury	1.64			ug/L	1.6667	0.00915	98	80-120			

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Legend

Definition of Laboratory Terms

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

Sample Information

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

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

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

Definition of Qualifiers

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

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

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

CHAIN OF CUSTODY RECORD

Pace Analytical

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

CLIENT NAME: Georgia Power

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

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

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)						LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
CONTAINER TYPE:								P	P	P							
PRESERVATION:								3	7	3							
05/24/17	9:30	W		X	HGWA-111	4		1	1	2						1	
05/24/17	10:10	W		X	HGWC-105	6		1	1	4						2	2nd Radium Volume collected for Lab QA/QC
05/24/17	11:45	W		X	HGWC-107	4		1	1	2						3	
05/24/17	13:10	W		X	HGWC-109	4		1	1	2						4	
05/24/17	14:30	W		X	FB-1	4		1	1	2						5	
05/24/17	14:35	W		X	FERB-1	4		1	1	2						6	

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

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

*MATRIX CODES:

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

SAMPLED BY AND TITLE: W.Virgo WTV M.Roger MR
DATE/TIME: 5/24/2017 - 15:30
RELINQUISHED BY:
DATE/TIME:

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

RECEIVED BY/LAB:
DATE/TIME: 5/25/17 1240
SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS

pH checked: Yes No NA
Ice: Yes No NA
Temperature: Min: 2.9°C Max: 2.9°C
Custody Seal: Intact Broken Not Present
# of Coolers: 2
Cooler ID:

FOR LAB USE ONLY
LAB #: AAE0857
Entered into LIMS: 1/25
Tracking #:

20170524 AP 3&4 COC.xlsx

PACE ANALYTICAL SERVICES, LLC.

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

LOG-IN CHECKLIST **Printed: 5/26/2017 4:00:28PM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 05/25/17 12:40

Work Order: AAE0857
Logged In By: Charles Hawks

OBSERVATIONS

#Samples: 6 **#Containers:** 26

Minimum Temp(C): 2.9 **Maximum Temp(C):** 2.9 **Custody Seal(s) Used:** Yes

CHECKLIST ITEMS

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

Comments:

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

June 19, 2017

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: AAE0857 Plant Hammond
Pace Project No.: 30219999

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on May 26, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

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

Enclosures

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

CERTIFICATIONS

Project: AAE0857 Plant Hammond
Pace Project No.: 30219999

Pennsylvania Certification IDs

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

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

SAMPLE SUMMARY

Project: AAE0857 Plant Hammond
Pace Project No.: 30219999

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30219999001	**HGWA-111**	Water	05/24/17 09:30	05/26/17 10:00
30219999002	**HGWC-105**	Water	05/24/17 10:10	05/26/17 10:00
30219999003	**HGWC-107**	Water	05/24/17 11:45	05/26/17 10:00
30219999004	**HGWC-109**	Water	05/24/17 13:10	05/26/17 10:00
30219999005	**FB-1**	Water	05/24/17 14:30	05/26/17 10:00
30219999006	**FERB-1**	Water	05/24/17 14:35	05/26/17 10:00

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Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: AAE0857 Plant Hammond
Pace Project No.: 30219999

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30219999001	**HGWA-111**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30219999002	**HGWC-105**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30219999003	**HGWC-107**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30219999004	**HGWC-109**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30219999005	**FB-1**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30219999006	**FERB-1**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAE0857 Plant Hammond
Pace Project No.: 30219999

Sample: HGWA-111 **Lab ID: 30219999001** Collected: 05/24/17 09:30 Received: 05/26/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.133 ± 0.234 (0.531) C:76% T:NA**	pCi/L	06/08/17 08:28	13982-63-3	
Radium-228	EPA 9320	**0.489 ± 0.347 (0.673) C:77% T:89%**	pCi/L	06/13/17 11:13	15262-20-1	
Total Radium	Total Radium Calculation	**0.622 ± 0.581 (1.20)**	pCi/L	06/14/17 14:42	7440-14-4	

Sample: HGWC-105 **Lab ID: 30219999002** Collected: 05/24/17 10:10 Received: 05/26/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.217 ± 0.197 (0.358) C:92% T:NA**	pCi/L	06/08/17 08:28	13982-63-3	
Radium-228	EPA 9320	**0.511 ± 0.317 (0.584) C:80% T:86%**	pCi/L	06/13/17 11:14	15262-20-1	
Total Radium	Total Radium Calculation	**0.728 ± 0.514 (0.942)**	pCi/L	06/14/17 14:42	7440-14-4	

Sample: HGWC-107 **Lab ID: 30219999003** Collected: 05/24/17 11:45 Received: 05/26/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0704 ± 0.140 (0.325) C:91% T:NA**	pCi/L	06/08/17 08:28	13982-63-3	
Radium-228	EPA 9320	**0.323 ± 0.346 (0.717) C:78% T:80%**	pCi/L	06/13/17 15:18	15262-20-1	
Total Radium	Total Radium Calculation	**0.393 ± 0.486 (1.04)**	pCi/L	06/14/17 14:42	7440-14-4	

Sample: HGWC-109 **Lab ID: 30219999004** Collected: 05/24/17 13:10 Received: 05/26/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0881 ± 0.160 (0.365) C:91% T:NA**	pCi/L	06/08/17 08:28	13982-63-3	
Radium-228	EPA 9320	**0.505 ± 0.333 (0.633) C:78% T:99%**	pCi/L	06/13/17 15:18	15262-20-1	
Total Radium	Total Radium Calculation	**0.593 ± 0.493 (0.998)**	pCi/L	06/14/17 14:42	7440-14-4	

Sample: FB-1 **Lab ID: 30219999005** Collected: 05/24/17 14:30 Received: 05/26/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**-0.0905 ± 0.0973 (0.378) C:91% T:NA**	pCi/L	06/08/17 08:20	13982-63-3	
Radium-228	EPA 9320	**0.541 ± 0.372 (0.705) C:75% T:82%**	pCi/L	06/13/17 15:18	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAE0857 Plant Hammond
Pace Project No.: 30219999

Sample: FB-1 **Lab ID: 30219999005** Collected: 05/24/17 14:30 Received: 05/26/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	**0.541 ± 0.469 (1.08)**	pCi/L	06/14/17 14:42	7440-14-4	

Sample: FERB-1 **Lab ID: 30219999006** Collected: 05/24/17 14:35 Received: 05/26/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**-0.0619 ± 0.129 (0.409) C:91% T:NA**	pCi/L	06/08/17 08:20	13982-63-3	
Radium-228	EPA 9320	**0.131 ± 0.266 (0.587) C:74% T:95%**	pCi/L	06/13/17 15:18	15262-20-1	
Total Radium	Total Radium Calculation	**0.131 ± 0.395 (0.996)**	pCi/L	06/14/17 14:42	7440-14-4	

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Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAE0857 Plant Hammond
Pace Project No.: 30219999

QC Batch: 260845 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30219999001, 30219999002, 30219999003, 30219999004, 30219999005, 30219999006

METHOD BLANK: 1284544 Matrix: Water
Associated Lab Samples: 30219999001, 30219999002, 30219999003, 30219999004, 30219999005, 30219999006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.109 ± 0.154 (0.323) C:89% T:NA	pCi/L	06/08/17 08:28	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAE0857 Plant Hammond
Pace Project No.: 30219999

QC Batch: 260864 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30219999001, 30219999002, 30219999003, 30219999004, 30219999005, 30219999006

METHOD BLANK: 1284598 Matrix: Water
Associated Lab Samples: 30219999001, 30219999002, 30219999003, 30219999004, 30219999005, 30219999006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.565 ± 0.330 (0.586) C:77% T:82%	pCi/L	06/13/17 11:12	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: AAE0857 Plant Hammond
Pace Project No.: 30219999

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAE0857 Workorder Name: Plant Hammond Owner Received Date: Results Requested By: 6/19/2017

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

WO#:30219999

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis: Radium 226, 228, Total	LAB USE ONLY
1	HGWA-111	G	5/24/2017 9:30	AAE0857-01	GW	2	X	001
2	HGWC-105	G	5/23/2017 10:10	AAE0857-02	GW	4	X	002
3	HGWC-107	G	5/23/2017 11:45	AAE0857-03	GW	2	X	003
4	HGWC-109	G	5/23/2017 13:10	AAE0857-04	GW	2	X	004
5	FB-1	G	5/23/2017 14:30	AAE0857-05	~~GW~~ W	2	X	005
6	FERB-1	G	5/23/2017 14:35	AAE0857-06	~~GW~~ W	2	X	006
7					BMD 5/25/2017			~~007~~
8								DCMA 5-26-17
9								
10								

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	M. RAHMAN	5/25/17	Ashley Hall Pace	5-26-17/1000	EQuIS deliverable required (Profile 7564)
2					
3					

Cooler Temperature on Receipt _____ °C	Custody Seal Y or N	Received on Ice Y or N	Sample Intact Y or N

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

3021999 Revised

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAE0857 Workorder Name: Plant Hammond Owner Received Date: Results Requested By: 6/19/2017

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

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis Radium 226, 228, Total	LAB USE ONLY
1	HGWA-111	G	5/24/2017 9:30	AAE0857-01	GW	2	X	001
2	HGWC-105	G	5/24/2017 10:10	AAE0857-02	GW	4	X	002
3	HGWC-107	G	5/24/2017 11:45	AAE0857-03	GW	2	X	003
4	HGWC-109	G	5/24/2017 13:10	AAE0857-04	GW	2	X	004
5	FB-1	G	5/24/2017 14:30	AAE0857-05	W	2	X	005
6	FERB-1	G	5/24/2017 14:35	AAE0857-06	W	2	X	006
7								
8								
9								
10								

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1					EQuIS deliverable required (Profile 7564)
2					
3					

Cooler Temperature on Receipt _____ °C	Custody Seal Y or N	Received on Ice Y or N	Sample Intact Y or N

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

30219999 Revised

CHAIN OF CUSTODY RECORD

Pace Analytical

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

CLIENT NAME: Georgia Power

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

REPORT TO: Lauren Petty
CC: Maria Padilla, Heath McCorkle

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

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4, & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)	LAB ID NUMBER
CONTAINER TYPE:								P	P	P	
PRESERVATION:								3	7	3	
05/24/17	9:30	W		X	HGWA-111	4		1	1	2	
05/24/17	10:10	W		X	HGWC-105	6		1	1	4	
05/24/17	11:45	W		X	HGWC-107	4		1	1	2	
05/24/17	13:10	W		X	HGWC-109	4		1	1	2	
05/24/17	14:30	W		X	FB-1	4		1	1	2	
05/24/17	14:35	W		X	FERB-1	4		1	1	2	

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

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

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

REMARKS/ADDITIONAL INFORMATION

2nd Radium Volume collected for Lab QA/QC

SAMPLED BY AND TITLE: W.Virgo WEV M.Roger MR
DATE/TIME: 5/24/2017 - 15:30
RELINQUISHED BY:
DATE/TIME:
RECEIVED BY:
DATE/TIME:
RELINQUISHED BY:
DATE/TIME:

FOR LAB USE ONLY
LAB #:
Entered into LIMS:

RECEIVED BY LAB:
DATE/TIME:
SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS
Tracking #:

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

30219999

CHAIN OF CUSTODY RECORD

Pace Analytical

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

CLIENT NAME: Georgia Power

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

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

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4, & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)	LAB ID NUMBER
CONTAINER TYPE:								P	P	P	
PRESERVATION:								3	7	3	
05/24/17	9:30	W		X	HGWA-111	4		1	1	2	1
05/23/17	10:10	W		X	HGWC-105	6		1	1	4	2
05/23/17	11:45	W		X	HGWC-107	4		1	1	2	3
05/23/17	13:10	W		X	HGWC-109	4		1	1	2	4
05/23/17	14:30	W		X	FB-1	4		1	1	2	5
05/23/17	14:35	W		X	FERB-1	4		1	1	2	6

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

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

REMARKS/ADDITIONAL INFORMATION
2nd Radium Volume collected for Lab QA/QC

SAMPLED BY AND TITLE: W.Virgo WFF M.Roger MR
DATE/TIME: 5/24/2017 - 15:30
RELINQUISHED BY: W.Virgo (ERM)
DATE/TIME: 5/24/17 1900
RECEIVED BY:
DATE/TIME:
RELINQUISHED BY:
DATE/TIME:
RECEIVED BY LAB:
DATE/TIME: 5/25/17 1240
SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS
pH checked: Yes No NA
Ice: Yes No NA
Temperature °C: Min 2.9° Max 2.9°C
Custody Seal: Present Broken Not Present
# of Coolers: 2
Airbill ID:

FOR LAB USE ONLY
LAB #: HAE0857
Entered into LIMS:
Tracking #:

RTB

30219999

Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: Pace, GA Project #

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

Tracking #: 6812 5704 5881

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

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

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

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 05/26-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	X			5.
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:		X		8.
Sufficient Volume:	X			9.
Correct Containers Used: -Pace Containers Used:	X			10.
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Organic Samples checked for dechlorination:			X	13.
Filtered volume received for Dissolved tests			X	14.
All containers have been checked for preservation. All containers needing preservation are found to be in compliance with EPA recommendation. exceptions: VOA, coliform, TOC, O&G, Phenolics	X			15. pH<2 Initial when completed: DMR Date/time of preservation: Lot # of added preservative:
Headspace in VOA Vials (>6mm):			X	16.
Trip Blank Present:		X		17.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr		X		Initial when completed: DMR Date: 5-26-17

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ A check in this box indicates that additional information has been stored in ereports.

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

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

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-228
Analyst:	JLW
Date:	6/9/2017
Worklist:	36017
Matrix:	DW

Method Blank Assessment	
MB Sample ID	1284598
MB concentration:	0.565
M/B Counting Uncertainty:	0.314
MB MDC:	0.586
MB Numerical Performance Indicator:	3.53
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS36017	LCSD36017
Count Date:	6/13/2017	6/13/2017
Spike I.D.:	17-005	17-005
Spike Concentration (pCi/mL):	24.301	24.301
Volume Used (mL):	0.20	0.20
Aliquot Volume (L, g, F):	0.819	0.806
Target Conc. (pCi/L, g, F):	5.931	6.034
Uncertainty (Calculated):	0.427	0.434
Result (pCi/L, g, F):	6.448	5.230
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.643	0.734
Numerical Performance Indicator:	1.31	-1.85
Percent Recovery:	108.73%	86.68%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass

Sample Matrix Spike Control Assessment	
Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	LCS36017	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD36017	
Sample Result (pCi/L, g, F):	6.448	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.643	
Sample Duplicate Result (pCi/L, g, F):	5.230	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.734	
Are sample and/or duplicate results below MDC?	NO	
Duplicate Numerical Performance Indicator:	2.449	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	22.57%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

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

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

Comments:

6/19/17

Quality Control Sample Performance Assessment

Pace Analytical™
www.pacelabs.com

Test:	Ra-226
Analyst:	JC2
Date:	6/7/2017
Worklist:	36007
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1284544
MB concentration:	0.109
M/B Counting Uncertainty:	0.153
MB MDC:	0.323
MB Numerical Performance Indicator:	1.40
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS36007	LCSD36007
Count Date:	6/8/2017	
Spike I.D.:	13-033	
Spike Concentration (pCi/mL):	19.848	
Volume Used (mL):	0.40	
Aliquot Volume (L, g, F):	0.501	
Target Conc. (pCi/L, g, F):	15.835	
Uncertainty (Calculated):	0.745	
Result (pCi/L, g, F):	13.485	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.100	
Numerical Performance Indicator:	-3.47	
Percent Recovery:	85.16%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Sample Matrix Spike Control Assessment	
Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30219997007	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30219997007DUP	
Sample Result (pCi/L, g, F):	0.243	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.181	
Sample Duplicate Result (pCi/L, g, F):	-0.039	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.145	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	2.376	30219997007
Duplicate RPD:	276.22%	30219997007DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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

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

Comments:

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

6/19/17

PACE ANALYTICAL SERVICES, LLC.

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

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AAE0898
June 05, 2017
Project: CCR Event
Project #:Plant Hammond

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

Approved:

Project Manager

PACE ANALYTICAL SERVICES, LLC.

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110 Technology Parkway, Peachtree Corners, GA 30092
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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HGWA-122	AAE0898-01	Ground Water	05/25/17 09:47	05/26/17 09:55
HGWC-120	AAE0898-02	Ground Water	05/25/17 11:28	05/26/17 09:55
HGWC-124	AAE0898-03	Ground Water	05/25/17 11:15	05/26/17 09:55

PACE ANALYTICAL SERVICES, LLC.

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June 05, 2017

Case Narrative

The Radium analysis by methods EPA 9315/9320 was performed by Pace-Pittsburgh, 1638 Roseytown Road - Suites 2, 3, 4, Greensburg PA 15601. The Pace-Pittsburgh lab contact is Jacquelyn Collins at 724-850-5612.

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Report No.: AAE0898
Client ID: HGWA-122
Date/Time Sampled: 5/25/2017 9:47:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAE0898-01
Date/Time Received: 5/26/2017 9:55:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	237	25	10	mg/L	SM 2540 C		1	05/31/17 17:50	05/31/17 17:50	7050957	JPT
Inorganic Anions											
Chloride	2.9	0.25	0.01	mg/L	EPA 300.0		1	06/01/17 15:00	06/02/17 01:02	7060036	RLC
Fluoride	0.12	0.30	0.004	mg/L	EPA 300.0	J	1	06/01/17 15:00	06/02/17 01:02	7060036	RLC
Sulfate	48	1.0	0.09	mg/L	EPA 300.0		1	06/01/17 15:00	06/02/17 01:02	7060036	RLC
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:11	7050903	CSW
Arsenic	ND	0.0050	0.0004	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:11	7050903	CSW
Barium	0.0447	0.0100	0.0003	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:11	7050903	CSW
Beryllium	ND	0.0030	0.00007	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:11	7050903	CSW
Boron	0.298	0.0400	0.0060	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:11	7050903	CSW
Cadmium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:11	7050903	CSW
Calcium	69.9	25.0	0.522	mg/L	EPA 6020B		50	05/30/17 11:10	06/02/17 16:17	7050903	CSW
Chromium	0.0006	0.0100	0.0003	mg/L	EPA 6020B	J	1	05/30/17 11:10	06/02/17 16:11	7050903	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:11	7050903	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:11	7050903	CSW
Molybdenum	0.0018	0.0100	0.0006	mg/L	EPA 6020B	J	1	05/30/17 11:10	06/02/17 16:11	7050903	CSW
Selenium	ND	0.0100	0.0014	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:11	7050903	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:11	7050903	CSW
Lithium	ND	0.0500	0.0011	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:11	7050903	CSW
Mercury	0.00007	0.00050	0.000041	mg/L	EPA 7470A	J	1	05/30/17 11:45	05/30/17 20:06	7050858	MTC

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Report No.: AAE0898
Client ID: HGWC-120
Date/Time Sampled: 5/25/2017 11:28:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAE0898-02
Date/Time Received: 5/26/2017 9:55:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	669	25	10	mg/L	SM 2540 C		1	05/31/17 17:50	05/31/17 17:50	7050957	JPT
Inorganic Anions											
Chloride	3.4	0.25	0.01	mg/L	EPA 300.0		1	06/01/17 15:00	06/02/17 01:23	7060036	RLC
Fluoride	1.4	0.30	0.004	mg/L	EPA 300.0		1	06/01/17 15:00	06/02/17 01:23	7060036	RLC
Sulfate	280	10	0.92	mg/L	EPA 300.0		10	06/01/17 15:00	06/02/17 16:03	7060036	RLC
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:23	7050903	CSW
Arsenic	0.0014	0.0050	0.0004	mg/L	EPA 6020B	J	1	05/30/17 11:10	06/02/17 16:23	7050903	CSW
Barium	0.0488	0.0100	0.0003	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:23	7050903	CSW
Beryllium	ND	0.0030	0.00007	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:23	7050903	CSW
Boron	1.33	0.0400	0.0060	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:23	7050903	CSW
Cadmium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:23	7050903	CSW
Calcium	173	25.0	0.522	mg/L	EPA 6020B		50	05/30/17 11:10	06/02/17 16:29	7050903	CSW
Chromium	ND	0.0100	0.0003	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:23	7050903	CSW
Cobalt	0.0035	0.0100	0.0005	mg/L	EPA 6020B	J	1	05/30/17 11:10	06/02/17 16:23	7050903	CSW
Lead	0.000090	0.0050	0.00007	mg/L	EPA 6020B	J	1	05/30/17 11:10	06/02/17 16:23	7050903	CSW
Molybdenum	0.0231	0.0100	0.0006	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:23	7050903	CSW
Selenium	ND	0.0100	0.0014	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:23	7050903	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:23	7050903	CSW
Lithium	0.0347	0.0500	0.0011	mg/L	EPA 6020B	J	1	05/30/17 11:10	06/02/17 16:23	7050903	CSW
Mercury	0.00007	0.00050	0.000041	mg/L	EPA 7470A	J	1	05/30/17 11:45	05/30/17 20:09	7050858	MTC

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Report No.: AAE0898
Client ID: HGWC-124
Date/Time Sampled: 5/25/2017 11:15:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAE0898-03
Date/Time Received: 5/26/2017 9:55:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	351	25	10	mg/L	SM 2540 C		1	05/31/17 17:50	05/31/17 17:50	7050957	JPT
Inorganic Anions											
Chloride	3.5	0.25	0.01	mg/L	EPA 300.0		1	06/01/17 15:00	06/02/17 01:43	7060036	RLC
Fluoride	0.05	0.30	0.004	mg/L	EPA 300.0	J	1	06/01/17 15:00	06/02/17 01:43	7060036	RLC
Sulfate	73	5.0	0.46	mg/L	EPA 300.0		5	06/01/17 15:00	06/02/17 16:24	7060036	RLC
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:34	7050903	CSW
Arsenic	0.0006	0.0050	0.0004	mg/L	EPA 6020B	J	1	05/30/17 11:10	06/02/17 16:34	7050903	CSW
Barium	0.0773	0.0100	0.0003	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:34	7050903	CSW
Beryllium	ND	0.0030	0.00007	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:34	7050903	CSW
Boron	0.544	0.0400	0.0060	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:34	7050903	CSW
Cadmium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:34	7050903	CSW
Calcium	100	25.0	0.522	mg/L	EPA 6020B		50	05/30/17 11:10	06/02/17 16:40	7050903	CSW
Chromium	ND	0.0100	0.0003	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:34	7050903	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:34	7050903	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:34	7050903	CSW
Molybdenum	0.0009	0.0100	0.0006	mg/L	EPA 6020B	J	1	05/30/17 11:10	06/02/17 16:34	7050903	CSW
Selenium	ND	0.0100	0.0014	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:34	7050903	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 16:34	7050903	CSW
Lithium	0.0011	0.0500	0.0011	mg/L	EPA 6020B	J	1	05/30/17 11:10	06/02/17 16:34	7050903	CSW
Mercury	0.000051	0.00050	0.000041	mg/L	EPA 7470A	J	1	05/30/17 11:45	05/30/17 20:11	7050858	MTC

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
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Attention: Mr. Joju Abraham

June 05, 2017

Report No.: AAE0898

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7050957 - SM 2540 C											
Blank (7050957-BLK1)						Prepared & Analyzed: 05/31/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7050957-BS1)						Prepared & Analyzed: 05/31/17					
Total Dissolved Solids	381	25	10	mg/L	400.00		95	84-108			
Duplicate (7050957-DUP1)		**Source: AAE0911-07**				Prepared & Analyzed: 05/31/17					
Total Dissolved Solids	ND	25	10	mg/L		ND				10	
Duplicate (7050957-DUP2)		**Source: AAE0912-01**				Prepared & Analyzed: 05/31/17					
Total Dissolved Solids	190	25	10	mg/L		223			16	10	QR-03

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June 05, 2017

Report No.: AAE0898

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060036 - EPA 300.0											
Blank (7060036-BLK1)						Prepared & Analyzed: 06/01/17					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.004	mg/L							
Sulfate	ND	1.0	0.09	mg/L							
LCS (7060036-BS1)						Prepared & Analyzed: 06/01/17					
Chloride	10.4	0.25	0.01	mg/L	10.020		104	90-110			
Fluoride	10.3	0.30	0.004	mg/L	10.020		103	90-110			
Sulfate	10.5	1.0	0.09	mg/L	10.050		105	90-110			
Matrix Spike (7060036-MS1)		**Source: AAE0911-01**				Prepared: 06/01/17 Analyzed: 06/02/17					
Chloride	12.4	0.25	0.01	mg/L	10.020	2.44	100	90-110			
Fluoride	10.4	0.30	0.004	mg/L	10.020	0.08	103	90-110			
Sulfate	17.0	1.0	0.09	mg/L	10.050	5.74	112	90-110			QM-05
Matrix Spike (7060036-MS2)		**Source: AAE0918-03**				Prepared: 06/01/17 Analyzed: 06/02/17					
Chloride	20.1	0.25	0.01	mg/L	10.020	9.91	101	90-110			
Fluoride	10.8	0.30	0.004	mg/L	10.020	0.03	108	90-110			
Sulfate	85.7	1.0	0.09	mg/L	10.050	84.2	15	90-110			QM-02
Matrix Spike Dup (7060036-MSD1)		**Source: AAE0911-01**				Prepared: 06/01/17 Analyzed: 06/02/17					
Chloride	12.2	0.25	0.01	mg/L	10.020	2.44	98	90-110	2	15	
Fluoride	10.5	0.30	0.004	mg/L	10.020	0.08	104	90-110	0.3	15	
Sulfate	15.8	1.0	0.09	mg/L	10.050	5.74	100	90-110	8	15	

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Report No.: AAE0898

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7050858 - EPA 7470A											
Blank (7050858-BLK1)						Prepared & Analyzed: 05/30/17					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (7050858-BS1)						Prepared & Analyzed: 05/30/17					
Mercury	0.00236	0.00050	0.000041	mg/L	2.5000E-3		95	80-120			
Matrix Spike (7050858-MS1)		**Source: AAE0894-01**				Prepared & Analyzed: 05/30/17					
Mercury	0.00202	0.00050	0.000041	mg/L	2.5000E-3	ND	81	75-125			
Matrix Spike Dup (7050858-MSD1)		**Source: AAE0894-01**				Prepared & Analyzed: 05/30/17					
Mercury	0.00208	0.00050	0.000041	mg/L	2.5000E-3	ND	83	75-125	3	20	
Post Spike (7050858-PS1)		**Source: AAE0894-01**				Prepared & Analyzed: 05/30/17					
Mercury	1.51			ug/L	1.6667	0.0252	89	80-120			
Batch 7050903 - EPA 3005A											
Blank (7050903-BLK1)						Prepared: 05/30/17 Analyzed: 06/02/17					
Antimony	ND	0.0030	0.0003	mg/L							
Arsenic	ND	0.0050	0.0004	mg/L							
Barium	ND	0.0100	0.0003	mg/L							
Beryllium	ND	0.0030	0.00007	mg/L							
Boron	ND	0.0400	0.0060	mg/L							
Cadmium	ND	0.0010	0.00006	mg/L							
Calcium	ND	0.500	0.0104	mg/L							
Chromium	ND	0.0100	0.0003	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0250	0.0003	mg/L							
Lead	ND	0.0050	0.00007	mg/L							
Molybdenum	ND	0.0100	0.0006	mg/L							
Nickel	ND	0.0100	0.0003	mg/L							
Selenium	ND	0.0100	0.0014	mg/L							
Silver	ND	0.0100	0.0003	mg/L							
Thallium	ND	0.0010	0.00005	mg/L							
Vanadium	ND	0.0100	0.0014	mg/L							
Zinc	ND	0.0100	0.0013	mg/L							
Lithium	ND	0.0500	0.0011	mg/L							

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Report No.: AAE0898

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7050903 - EPA 3005A											
LCS (7050903-BS1)						Prepared: 05/30/17 Analyzed: 06/02/17					
Antimony	0.110	0.0030	0.0003	mg/L	0.10000		110	80-120			
Arsenic	0.104	0.0050	0.0004	mg/L	0.10000		104	80-120			
Barium	0.106	0.0100	0.0003	mg/L	0.10000		106	80-120			
Beryllium	0.103	0.0030	0.00007	mg/L	0.10000		103	80-120			
Boron	1.07	0.0400	0.0060	mg/L	1.0000		107	80-120			
Cadmium	0.104	0.0010	0.00006	mg/L	0.10000		104	80-120			
Calcium	1.08	0.500	0.0104	mg/L	1.0000		108	80-120			
Chromium	0.104	0.0100	0.0003	mg/L	0.10000		104	80-120			
Cobalt	0.106	0.0100	0.0005	mg/L	0.10000		106	80-120			
Copper	0.103	0.0250	0.0003	mg/L	0.10000		103	80-120			
Lead	0.103	0.0050	0.00007	mg/L	0.10000		103	80-120			
Molybdenum	0.105	0.0100	0.0006	mg/L	0.10000		105	80-120			
Nickel	0.106	0.0100	0.0003	mg/L	0.10000		106	80-120			
Selenium	0.105	0.0100	0.0014	mg/L	0.10000		105	80-120			
Silver	0.102	0.0100	0.0003	mg/L	0.10000		102	80-120			
Thallium	0.104	0.0010	0.00005	mg/L	0.10000		104	80-120			
Vanadium	0.106	0.0100	0.0014	mg/L	0.10000		106	80-120			
Zinc	0.106	0.0100	0.0013	mg/L	0.10000		106	80-120			
Lithium	0.106	0.0500	0.0011	mg/L	0.10000		106	80-120			
Matrix Spike (7050903-MS1)		**Source: AAE0911-01**				Prepared: 05/30/17 Analyzed: 06/02/17					
Antimony	0.108	0.0030	0.0003	mg/L	0.10000	ND	108	75-125			
Arsenic	0.105	0.0050	0.0004	mg/L	0.10000	0.0015	103	75-125			
Barium	0.456	0.0100	0.0003	mg/L	0.10000	0.193	263	75-125			QM-02
Beryllium	0.0993	0.0030	0.00007	mg/L	0.10000	ND	99	75-125			
Boron	1.01	0.0400	0.0060	mg/L	1.0000	0.0100	100	75-125			
Cadmium	0.102	0.0010	0.00006	mg/L	0.10000	ND	102	75-125			
Calcium	34.6	25.0	0.522	mg/L	1.0000	33.8	73	75-125			QM-02
Chromium	0.107	0.0100	0.0003	mg/L	0.10000	ND	107	75-125			
Cobalt	0.104	0.0100	0.0005	mg/L	0.10000	ND	104	75-125			
Copper	0.103	0.0250	0.0003	mg/L	0.10000	ND	103	75-125			
Lead	0.101	0.0050	0.00007	mg/L	0.10000	0.0001	101	75-125			
Molybdenum	0.109	0.0100	0.0006	mg/L	0.10000	0.0020	107	75-125			
Nickel	0.105	0.0100	0.0003	mg/L	0.10000	ND	105	75-125			
Selenium	0.103	0.0100	0.0014	mg/L	0.10000	ND	103	75-125			
Silver	0.101	0.0100	0.0003	mg/L	0.10000	ND	101	75-125			
Thallium	0.103	0.0010	0.00005	mg/L	0.10000	0.0001	103	75-125			
Vanadium	0.110	0.0100	0.0014	mg/L	0.10000	ND	110	75-125			
Zinc	0.105	0.0100	0.0013	mg/L	0.10000	0.0015	104	75-125			
Lithium	0.104	0.0500	0.0011	mg/L	0.10000	ND	104	75-125			

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Report No.: AAE0898

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7050903 - EPA 3005A											
Matrix Spike Dup (7050903-MSD1)		**Source: AAE0911-01**			Prepared: 05/30/17 Analyzed: 06/02/17						
Antimony	0.108	0.0030	0.0003	mg/L	0.10000	ND	108	75-125	0.3	20	
Arsenic	0.105	0.0050	0.0004	mg/L	0.10000	0.0015	103	75-125	0.1	20	
Barium	0.461	0.0100	0.0003	mg/L	0.10000	0.193	268	75-125	1	20	QM-02
Beryllium	0.103	0.0030	0.00007	mg/L	0.10000	ND	103	75-125	4	20	
Boron	1.02	0.0400	0.0060	mg/L	1.0000	0.0100	101	75-125	1	20	
Cadmium	0.105	0.0010	0.00006	mg/L	0.10000	ND	105	75-125	2	20	
Calcium	35.3	25.0	0.522	mg/L	1.0000	33.8	145	75-125	2	20	QM-02
Chromium	0.102	0.0100	0.0003	mg/L	0.10000	ND	102	75-125	4	20	
Cobalt	0.0996	0.0100	0.0005	mg/L	0.10000	ND	100	75-125	4	20	
Copper	0.100	0.0250	0.0003	mg/L	0.10000	ND	100	75-125	3	20	
Lead	0.100	0.0050	0.00007	mg/L	0.10000	0.0001	100	75-125	1	20	
Molybdenum	0.105	0.0100	0.0006	mg/L	0.10000	0.0020	103	75-125	3	20	
Nickel	0.100	0.0100	0.0003	mg/L	0.10000	ND	100	75-125	4	20	
Selenium	0.105	0.0100	0.0014	mg/L	0.10000	ND	105	75-125	1	20	
Silver	0.101	0.0100	0.0003	mg/L	0.10000	ND	101	75-125	0.1	20	
Thallium	0.102	0.0010	0.00005	mg/L	0.10000	0.0001	102	75-125	0.9	20	
Vanadium	0.106	0.0100	0.0014	mg/L	0.10000	ND	106	75-125	3	20	
Zinc	0.102	0.0100	0.0013	mg/L	0.10000	0.0015	101	75-125	3	20	
Lithium	0.104	0.0500	0.0011	mg/L	0.10000	ND	104	75-125	0.06	20	
Post Spike (7050903-PS1)		**Source: AAE0911-01**			Prepared: 05/30/17 Analyzed: 06/02/17						
Antimony	106			ug/L	100.00	0.0698	106	80-120			
Arsenic	105			ug/L	100.00	1.49	103	80-120			
Barium	463			ug/L	100.00	193	270	80-120			QM-02
Beryllium	103			ug/L	100.00	0.0042	103	80-120			
Boron	1040			ug/L	1000.0	9.96	103	80-120			
Cadmium	100			ug/L	100.00	-0.0083	100	80-120			
Calcium	35400			ug/L	1000.0	33800	160	80-120			QM-02
Chromium	105			ug/L	100.00	0.145	105	80-120			
Cobalt	104			ug/L	100.00	0.156	104	80-120			
Copper	98.4			ug/L	100.00	-0.110	98	80-120			
Lead	99.2			ug/L	100.00	0.0975	99	80-120			
Molybdenum	106			ug/L	100.00	2.05	104	80-120			
Nickel	101			ug/L	100.00	0.229	101	80-120			
Selenium	104			ug/L	100.00	0.434	103	80-120			
Silver	102			ug/L	100.00	-0.0023	102	80-120			
Thallium	102			ug/L	100.00	0.0965	102	80-120			
Vanadium	107			ug/L	100.00	0.898	106	80-120			
Zinc	103			ug/L	100.00	1.49	101	80-120			
Lithium	101			ug/L	100.00	0.192	101	80-120			

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Legend

Definition of Laboratory Terms

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

Sample Information

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

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

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

Definition of Qualifiers

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

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

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

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

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

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Report Notes

The sample HGWC-120 listed on the COC was labeled HGWC-121 on the containers. The COC was used for login purposes.
MMR

CHAIN OF CUSTODY RECORD

Pace Analytical®

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

CLIENT NAME: Georgia Power

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

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

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)							LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
CONTAINER TYPE:								P	P	P								
PRESERVATION:								3	7	3								
05/25/17	9:47	GW		X	HGWA-122	4		1	1	2							1	
05/25/17	11:28	GW		X	HGWC-120	4		1	1	2							2	HGWC-121 Per labels. MR 05/26/17
05/25/17	11:15	GW		X	HGWC-124	4		1	1	2							3	

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

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

*MATRIX CODES:

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

SAMPLED BY AND TITLE: W.Virgo WTV M.Roger MR
DATE/TIME: 5/25/2017 - 12:30

RELINQUISHED BY: [signature]
DATE/TIME: 5/26/17 0955

RECEIVED BY:
DATE/TIME:

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY/ LAB: Rahman
DATE/TIME: 05/26/17 0955

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

Cooked: No NA
Ice: Yes No NA
Temperature: 1.2 Min: 1.2 Max:
Custody Seal: Intact Broken Not Present N/A
# of Coolers
Cooler ID:

FOR LAB USE ONLY
LAB #: AAE0898
Entered into LIMS: DR
Tracking #:

PACE ANALYTICAL SERVICES, LLC.

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LOG-IN CHECKLIST **Printed: 5/26/2017 4:34:24PM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 05/26/17 09:55

Work Order: AAE0898
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 3 **#Containers:** 12

Minimum Temp(C): 1.2 **Maximum Temp(C):** 1.2 **Custody Seal(s) Used:** N/A

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	NO
Custody seal Intact	N/A
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

The sample HGWC-120 listed on the COC was labeled HGWC-121 on the containers. The COC was used for login purposes.
MMR

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

June 19, 2017

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: AAE0898 Plant Hammond
Pace Project No.: 30220164

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on May 30, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

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

Enclosures

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

CERTIFICATIONS

Project: AAE0898 Plant Hammond
Pace Project No.: 30220164

Pennsylvania Certification IDs

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

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

SAMPLE SUMMARY

Project: AAE0898 Plant Hammond
Pace Project No.: 30220164

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30220164001	**HGWA-122**	Water	05/25/17 09:47	05/30/17 09:45
30220164002	**HGWC-120**	Water	05/25/17 11:28	05/30/17 09:45
30220164003	**HGWC-124**	Water	05/25/17 11:15	05/30/17 09:45

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SAMPLE ANALYTE COUNT

Project: AAE0898 Plant Hammond
Pace Project No.: 30220164

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30220164001	**HGWA-122**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30220164002	**HGWC-120**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30220164003	**HGWC-124**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAE0898 Plant Hammond
Pace Project No.: 30220164

Sample: HGWA-122 **Lab ID: 30220164001** Collected: 05/25/17 09:47 Received: 05/30/17 09:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**-0.0440 ± 0.109 (0.362) C:89% T:NA**	pCi/L	06/08/17 10:00	13982-63-3	
Radium-228	EPA 9320	**0.192 ± 0.397 (0.874) C:79% T:86%**	pCi/L	06/14/17 15:19	15262-20-1	
Total Radium	Total Radium Calculation	**0.192 ± 0.506 (1.24)**	pCi/L	06/16/17 13:43	7440-14-4	

Sample: HGWC-120 **Lab ID: 30220164002** Collected: 05/25/17 11:28 Received: 05/30/17 09:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0979 ± 0.154 (0.339) C:90% T:NA**	pCi/L	06/08/17 09:52	13982-63-3	
Radium-228	EPA 9320	**0.583 ± 0.473 (0.938) C:82% T:80%**	pCi/L	06/14/17 18:21	15262-20-1	
Total Radium	Total Radium Calculation	**0.681 ± 0.627 (1.28)**	pCi/L	06/16/17 13:43	7440-14-4	

Sample: HGWC-124 **Lab ID: 30220164003** Collected: 05/25/17 11:15 Received: 05/30/17 09:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.267 ± 0.208 (0.351) C:88% T:NA**	pCi/L	06/08/17 09:52	13982-63-3	
Radium-228	EPA 9320	**0.629 ± 0.416 (0.770) C:81% T:84%**	pCi/L	06/14/17 18:21	15262-20-1	
Total Radium	Total Radium Calculation	**0.896 ± 0.624 (1.12)**	pCi/L	06/16/17 13:43	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAE0898 Plant Hammond
Pace Project No.: 30220164

QC Batch: 260846 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30220164001, 30220164002, 30220164003

METHOD BLANK: 1284545 Matrix: Water
Associated Lab Samples: 30220164001, 30220164002, 30220164003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0515 ± 0.131 (0.318) C:85% T:NA	pCi/L	06/08/17 10:00	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAE0898 Plant Hammond
Pace Project No.: 30220164

QC Batch: 260865 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30220164001, 30220164002, 30220164003

METHOD BLANK: 1284599 Matrix: Water
Associated Lab Samples: 30220164001, 30220164002, 30220164003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.187 ± 0.335 (0.733) C:75% T:86%	pCi/L	06/14/17 11:31	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: AAE0898 Plant Hammond
Pace Project No.: 30220164

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

30220164

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAE0898 Workorder Name: Plant Hammond Owner Received Date: Results Requested By: 6/21/2017

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

WO#:30220164

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis: Radium 226, 228, Total	LAB USE ONLY
1	HGWA-122	G	5/25/2017 9:47	AAE0898-01	GW	2	X	001
2	HGWC-120	G	5/25/2017 11:28	AAE0898-02	GW	2	X	002
3	HGWC-124	G	5/25/2017 11:15	AAE0898-03	GW	2	X	003
4								
5								
6								
7								
8								
9								
10								

Transfers	Released By	Date/Time	Received By	Date/Time
1	M. RAHMAN	5/26/17	Karen Hill	5/30/17 0945
2				
3				

Comments: EQuIS deliverable required (Profile 7564)
Bottles for HGWC-120 identified as 121;
Default to COC

Cooler Temperature on Receipt NA °C	Custody Seal Y or (N)	Received on Ice Y or (N)	Sample Intact (Y) or N

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

30220164

CHAIN OF CUSTODY RECORD

Pace Analytical

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

CLIENT NAME: Georgia Power

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

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

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 228 & 228 (SW-846 9315/9320)	LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
					CONTAINER TYPE:		P	P	P		
					PRESERVATION:		3	7	3		
05/25/17	9:47	GW		X	HGWA-122	4	1	1	2	1	
05/25/17	11:28	GW		X	HGWC-120	4	1	1	2	2	HGWC-121 per labels. MR 05/26/17
05/25/17	11:15	GW		X	HGWC-124	4	1	1	2	3	

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

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

SAMPLED BY AND TITLE: W.Virgo WFP M.Roger MR
DATE/TIME: 5/25/2017 - 12:30

RELINQUISHED BY: MR
DATE/TIME: 5/26/17 0955

RECEIVED BY:
DATE/TIME:

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY/LAB: M Rahman
DATE/TIME: 05/26/17 0955

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

pH Checked: Yes No NA
Ice: Yes No NA
Temperature: 1.2 Min: 1.2 Max:
Custody Seal: Intact Broken Not Present N/A
# of Coolers:
Cooler ID:

FOR LAB USE ONLY
LAB #: AAE0898
Entered into LIMS: MR
Tracking #:

AWL

Sample Condition Upon Receipt Pittsburgh

30220164

Pace Analytical

Client Name: Pace Georgia Project # _____

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

Tracking #: 6812 5104 6400

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

Thermometer Used NA Type of Ice: Wet Blue (None)

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

Temp should be above freezing to 6°C

Date and Initials of person examining contents: KH 5/30/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:	✓			4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used: -Pace Containers Used:	✓ ✓			10.
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Organic Samples checked for dechlorination:			✓	13.
Filtered volume received for Dissolved tests			✓	14.
All containers have been checked for preservation. All containers needing preservation are found to be in compliance with EPA recommendation.	✓ ✓			15. pH<2
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed KH Date/time of preservation; Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	16.
Trip Blank Present: Trip Blank Custody Seals Present			✓ ✓	17.
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: KH Date: 5/30/17

Client Notification/ Resolution:

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

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

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

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

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-228
Analyst:	JLW
Date:	6/9/2017
Worklist:	36018
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1284599
MB concentration:	0.187
M/B Counting Uncertainty:	0.333
MB MDC:	0.733
MB Numerical Performance Indicator:	1.10
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS36018	LCSD36018
Count Date:	6/14/2017	
Spike I.D.:	17-005	
Spike Concentration (pCi/mL):	24.293	
Volume Used (mL):	0.20	
Aliquot Volume (L, g, F):	0.805	
Target Conc. (pCi/L, g, F):	6.036	
Uncertainty (Calculated):	0.435	
Result (pCi/L, g, F):	5.976	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.656	
Numerical Performance Indicator:	-0.15	
Percent Recovery:	99.02%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Sample Matrix Spike Control Assessment	
Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Sample I.D.:	30220163002	
Duplicate Sample I.D.	30220163002DUP	
Sample Result (pCi/L, g, F):	0.835	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.389	
Sample Duplicate Result (pCi/L, g, F):	1.347	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.390	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-1.822	30220163002
Duplicate RPD:	46.94%	30220163002DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

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

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

Comments:

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

emc 6/19/17

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	JC2
Date:	6/7/2017
Worklist:	36008
Matrix:	DW

Method Blank Assessment

MB Sample ID	1284545
MB concentration:	0.052
M/B Counting Uncertainty:	0.131
MB MDC:	0.318
MB Numerical Performance Indicator:	0.77
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment

	LCSD (Y or N)?	N
	LCS36008	LCSD36008
Count Date:	6/8/2017	
Spike I.D.:	13-033	
Spike Concentration (pCi/mL):	19.848	
Volume Used (mL):	0.40	
Aliquot Volume (L, g, F):	0.501	
Target Conc. (pCi/L, g, F):	15.852	
Uncertainty (Calculated):	0.746	
Result (pCi/L, g, F):	12.493	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.060	
Numerical Performance Indicator:	-5.08	
Percent Recovery:	78.81%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Duplicate Sample Assessment

Sample I.D.:	30220161002	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30220161002DUP	
Sample Result (pCi/L, g, F):	0.088	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.147	
Sample Duplicate Result (pCi/L, g, F):	0.331	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.214	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	-1.838	30220161002
Duplicate RPD:	115.95%	30220161002DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

LMDC

Sample Matrix Spike Control Assessment

Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Matrix Spike/Matrix Spike Duplicate Sample Assessment

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

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

Comments:

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

Jmc 6/19/17

PACE ANALYTICAL SERVICES, LLC.

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

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AAF0136
June 15, 2017
Project: CCR Event
Project #:Plant Hammond

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

Approved:

Project Manager

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 15, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HGWC-121A	AAF0136-01	Ground Water	06/03/17 11:45	06/05/17 10:55
FB-1	AAF0136-02	Water	06/03/17 11:15	06/05/17 10:55
FERB-1	AAF0136-03	Water	06/03/17 12:00	06/05/17 10:55

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
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Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 15, 2017

Case Narrative

The Radium analysis by methods EPA 9315/9320 was performed by Pace-Pittsburgh, 1638 Roseytown Road - Suites 2, 3, 4, Greensburg PA 15601. The Pace-Pittsburgh lab contact is Jacquelyn Collins at 724-850-5612.

PACE ANALYTICAL SERVICES, LLC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 15, 2017

Report No.: AAF0136
Client ID: HGWC-121A
Date/Time Sampled: 6/3/2017 11:45:00AM
Matrix: Ground Water

Project: CCR Event
Lab Number ID: AAF0136-01
Date/Time Received: 6/5/2017 10:55:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	846	25	10	mg/L	SM 2540 C		1	06/07/17 17:40	06/07/17 17:40	7060176	JPT
Inorganic Anions											
Chloride	43	0.25	0.01	mg/L	EPA 300.0		1	06/08/17 10:45	06/08/17 17:59	7060254	RLC
Fluoride	0.15	0.30	0.004	mg/L	EPA 300.0	J	1	06/08/17 10:45	06/08/17 17:59	7060254	RLC
Sulfate	270	50	4.6	mg/L	EPA 300.0		50	06/08/17 10:45	06/09/17 13:27	7060254	RLC
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	06/08/17 09:20	06/09/17 20:05	7060221	KLH
Arsenic	0.0010	0.0050	0.0004	mg/L	EPA 6020B	J	1	06/08/17 09:20	06/09/17 20:05	7060221	KLH
Barium	0.0933	0.0100	0.0003	mg/L	EPA 6020B		1	06/08/17 09:20	06/09/17 20:05	7060221	KLH
Beryllium	ND	0.0030	0.00007	mg/L	EPA 6020B		1	06/08/17 09:20	06/10/17 23:11	7060221	KLH
Boron	2.62	2.00	0.302	mg/L	EPA 6020B		50	06/08/17 09:20	06/13/17 11:30	7060221	KLH
Cadmium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	06/08/17 09:20	06/09/17 20:05	7060221	KLH
Calcium	172	25.0	0.522	mg/L	EPA 6020B	B-01	50	06/08/17 09:20	06/09/17 20:11	7060221	KLH
Chromium	ND	0.0100	0.0003	mg/L	EPA 6020B		1	06/08/17 09:20	06/09/17 20:05	7060221	KLH
Cobalt	0.0005	0.0100	0.0005	mg/L	EPA 6020B	J	1	06/08/17 09:20	06/09/17 20:05	7060221	KLH
Lead	0.00007	0.0050	0.00007	mg/L	EPA 6020B	J	1	06/08/17 09:20	06/09/17 20:05	7060221	KLH
Molybdenum	ND	0.0100	0.0006	mg/L	EPA 6020B		1	06/08/17 09:20	06/09/17 20:05	7060221	KLH
Selenium	ND	0.0100	0.0014	mg/L	EPA 6020B		1	06/08/17 09:20	06/09/17 20:05	7060221	KLH
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/08/17 09:20	06/09/17 20:05	7060221	KLH
Lithium	0.0104	0.0500	0.0011	mg/L	EPA 6020B	J	1	06/08/17 09:20	06/10/17 23:11	7060221	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	06/06/17 10:35	06/06/17 15:20	7060108	MTC

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 15, 2017

Report No.: AAF0136
Client ID: FB-1
Date/Time Sampled: 6/3/2017 11:15:00AM
Matrix: Water

Project: CCR Event
Lab Number ID: AAF0136-02
Date/Time Received: 6/5/2017 10:55:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	06/07/17 17:40	06/07/17 17:40	7060176	JPT
Inorganic Anions											
Chloride	0.04	0.25	0.01	mg/L	EPA 300.0	J	1	06/08/17 10:45	06/08/17 18:20	7060254	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	06/08/17 10:45	06/08/17 18:20	7060254	RLC
Sulfate	0.26	1.0	0.09	mg/L	EPA 300.0	J	1	06/08/17 10:45	06/08/17 18:20	7060254	RLC
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	06/08/17 09:20	06/09/17 20:28	7060221	KLH
Arsenic	0.0005	0.0050	0.0004	mg/L	EPA 6020B	J	1	06/08/17 09:20	06/10/17 23:17	7060221	KLH
Barium	ND	0.0100	0.0003	mg/L	EPA 6020B		1	06/08/17 09:20	06/09/17 20:28	7060221	KLH
Beryllium	ND	0.0030	0.00007	mg/L	EPA 6020B		1	06/08/17 09:20	06/10/17 23:17	7060221	KLH
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	06/08/17 09:20	06/13/17 12:40	7060221	KLH
Cadmium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	06/08/17 09:20	06/09/17 20:28	7060221	KLH
Calcium	0.0188	0.500	0.0104	mg/L	EPA 6020B	B-01, J	1	06/08/17 09:20	06/09/17 20:28	7060221	KLH
Chromium	ND	0.0100	0.0003	mg/L	EPA 6020B		1	06/08/17 09:20	06/10/17 23:17	7060221	KLH
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	06/08/17 09:20	06/10/17 23:17	7060221	KLH
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	06/08/17 09:20	06/09/17 20:28	7060221	KLH
Molybdenum	ND	0.0100	0.0006	mg/L	EPA 6020B		1	06/08/17 09:20	06/09/17 20:28	7060221	KLH
Selenium	ND	0.0100	0.0014	mg/L	EPA 6020B		1	06/08/17 09:20	06/10/17 23:17	7060221	KLH
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/08/17 09:20	06/09/17 20:28	7060221	KLH
Lithium	ND	0.0500	0.0011	mg/L	EPA 6020B		1	06/08/17 09:20	06/10/17 23:17	7060221	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	06/06/17 10:35	06/06/17 15:22	7060108	MTC

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 15, 2017

Report No.: AAF0136
Client ID: FERB-1
Date/Time Sampled: 6/3/2017 12:00:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAF0136-03
Date/Time Received: 6/5/2017 10:55:00AM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	06/07/17 17:40	06/07/17 17:40	7060176	JPT
Inorganic Anions											
Chloride	0.03	0.25	0.01	mg/L	EPA 300.0	J	1	06/08/17 10:45	06/08/17 18:41	7060254	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	06/08/17 10:45	06/08/17 18:41	7060254	RLC
Sulfate	ND	1.0	0.09	mg/L	EPA 300.0		1	06/08/17 10:45	06/08/17 18:41	7060254	RLC
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	06/08/17 09:20	06/09/17 20:34	7060221	KLH
Arsenic	ND	0.0050	0.0004	mg/L	EPA 6020B		1	06/08/17 09:20	06/10/17 23:22	7060221	KLH
Barium	0.0007	0.0100	0.0003	mg/L	EPA 6020B	J	1	06/08/17 09:20	06/09/17 20:34	7060221	KLH
Beryllium	ND	0.0030	0.00007	mg/L	EPA 6020B		1	06/08/17 09:20	06/10/17 23:22	7060221	KLH
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	06/08/17 09:20	06/13/17 12:46	7060221	KLH
Cadmium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	06/08/17 09:20	06/09/17 20:34	7060221	KLH
Calcium	0.134	0.500	0.0104	mg/L	EPA 6020B	B-01, J	1	06/08/17 09:20	06/09/17 20:34	7060221	KLH
Chromium	ND	0.0100	0.0003	mg/L	EPA 6020B		1	06/08/17 09:20	06/10/17 23:22	7060221	KLH
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	06/08/17 09:20	06/10/17 23:22	7060221	KLH
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	06/08/17 09:20	06/09/17 20:34	7060221	KLH
Molybdenum	ND	0.0100	0.0006	mg/L	EPA 6020B		1	06/08/17 09:20	06/09/17 20:34	7060221	KLH
Selenium	ND	0.0100	0.0014	mg/L	EPA 6020B		1	06/08/17 09:20	06/10/17 23:22	7060221	KLH
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	06/08/17 09:20	06/09/17 20:34	7060221	KLH
Lithium	ND	0.0500	0.0011	mg/L	EPA 6020B		1	06/08/17 09:20	06/10/17 23:22	7060221	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	06/06/17 10:35	06/06/17 15:25	7060108	MTC

PACE ANALYTICAL SERVICES, LLC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 15, 2017

Report No.: AAF0136

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060176 - SM 2540 C											
Blank (7060176-BLK1)						Prepared & Analyzed: 06/07/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7060176-BS1)						Prepared & Analyzed: 06/07/17					
Total Dissolved Solids	383	25	10	mg/L	400.00		96	84-108			
Duplicate (7060176-DUP1)		**Source: AAF0065-02**				Prepared & Analyzed: 06/07/17					
Total Dissolved Solids	2980	25	10	mg/L		2970			0.6	10	
Duplicate (7060176-DUP2)		**Source: AAF0136-03**				Prepared & Analyzed: 06/07/17					
Total Dissolved Solids	ND	25	10	mg/L		ND				10	

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June 15, 2017

Report No.: AAF0136

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060254 - EPA 300.0											
Blank (7060254-BLK1)						Prepared & Analyzed: 06/08/17					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.004	mg/L							
Sulfate	ND	1.0	0.09	mg/L							
LCS (7060254-BS1)						Prepared & Analyzed: 06/08/17					
Chloride	9.82	0.25	0.01	mg/L	10.020		98	90-110			
Fluoride	9.93	0.30	0.004	mg/L	10.020		99	90-110			
Sulfate	9.94	1.0	0.09	mg/L	10.050		99	90-110			
Matrix Spike (7060254-MS1)			**Source: AAF0227-01**			Prepared & Analyzed: 06/08/17					
Chloride	205	0.25	0.01	mg/L	10.020	236	NR	90-110			QM-02
Fluoride	10.1	0.30	0.004	mg/L	10.020	0.32	98	90-110			
Sulfate	247	1.0	0.09	mg/L	10.050	259	NR	90-110			QM-02
Matrix Spike Dup (7060254-MSD1)			**Source: AAF0227-01**			Prepared & Analyzed: 06/08/17					
Chloride	204	0.25	0.01	mg/L	10.020	236	NR	90-110	0.2	15	QM-02
Fluoride	10.2	0.30	0.004	mg/L	10.020	0.32	98	90-110	0.02	15	
Sulfate	246	1.0	0.09	mg/L	10.050	259	NR	90-110	0.02	15	QM-02

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 15, 2017

Report No.: AAF0136

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060108 - EPA 7470A											
Blank (7060108-BLK1)						Prepared & Analyzed: 06/06/17					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (7060108-BS1)						Prepared & Analyzed: 06/06/17					
Mercury	0.00228	0.00050	0.000041	mg/L	2.5000E-3		91	80-120			
Matrix Spike (7060108-MS1)		**Source: AAF0136-01**				Prepared & Analyzed: 06/06/17					
Mercury	0.00218	0.00050	0.000041	mg/L	2.5000E-3	ND	87	75-125			
Matrix Spike Dup (7060108-MSD1)		**Source: AAF0136-01**				Prepared & Analyzed: 06/06/17					
Mercury	0.00219	0.00050	0.000041	mg/L	2.5000E-3	ND	88	75-125	0.7	20	
Post Spike (7060108-PS1)		**Source: AAF0136-01**				Prepared & Analyzed: 06/06/17					
Mercury	1.64			ug/L	1.6667	-0.0292	98	80-120			
Batch 7060221 - EPA 3005A											
Blank (7060221-BLK1)						Prepared: 06/08/17 Analyzed: 06/09/17					
Antimony	ND	0.0030	0.0003	mg/L							
Arsenic	ND	0.0050	0.0004	mg/L							
Barium	ND	0.0100	0.0003	mg/L							
Beryllium	ND	0.0030	0.00007	mg/L							
Boron	ND	0.0400	0.0060	mg/L							
Cadmium	ND	0.0010	0.00006	mg/L							
Calcium	0.0179	0.500	0.0104	mg/L							J
Chromium	ND	0.0100	0.0003	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0250	0.0003	mg/L							
Lead	ND	0.0050	0.00007	mg/L							
Molybdenum	ND	0.0100	0.0006	mg/L							
Nickel	ND	0.0100	0.0003	mg/L							
Selenium	ND	0.0100	0.0014	mg/L							
Silver	ND	0.0100	0.0003	mg/L							
Thallium	ND	0.0010	0.00005	mg/L							
Vanadium	ND	0.0100	0.0014	mg/L							
Zinc	ND	0.0100	0.0013	mg/L							
Lithium	ND	0.0500	0.0011	mg/L							

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Georgia Power
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Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 15, 2017

Report No.: AAF0136

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060221 - EPA 3005A											
LCS (7060221-BS1)						Prepared: 06/08/17 Analyzed: 06/09/17					
Antimony	0.106	0.0030	0.0003	mg/L	0.10000		106	80-120			
Arsenic	0.104	0.0050	0.0004	mg/L	0.10000		104	80-120			
Barium	0.103	0.0100	0.0003	mg/L	0.10000		103	80-120			
Beryllium	0.107	0.0030	0.00007	mg/L	0.10000		107	80-120			
Boron	1.08	0.0400	0.0060	mg/L	1.0000		108	80-120			
Cadmium	0.102	0.0010	0.00006	mg/L	0.10000		102	80-120			
Calcium	0.993	0.500	0.0104	mg/L	1.0000		99	80-120			
Chromium	0.101	0.0100	0.0003	mg/L	0.10000		101	80-120			
Cobalt	0.0939	0.0100	0.0005	mg/L	0.10000		94	80-120			
Copper	0.102	0.0250	0.0003	mg/L	0.10000		102	80-120			
Lead	0.0990	0.0050	0.00007	mg/L	0.10000		99	80-120			
Molybdenum	0.0988	0.0100	0.0006	mg/L	0.10000		99	80-120			
Nickel	0.0985	0.0100	0.0003	mg/L	0.10000		99	80-120			
Selenium	0.0995	0.0100	0.0014	mg/L	0.10000		100	80-120			
Silver	0.104	0.0100	0.0003	mg/L	0.10000		104	80-120			
Thallium	0.102	0.0010	0.00005	mg/L	0.10000		102	80-120			
Vanadium	0.0953	0.0100	0.0014	mg/L	0.10000		95	80-120			
Zinc	0.105	0.0100	0.0013	mg/L	0.10000		105	80-120			
Lithium	0.109	0.0500	0.0011	mg/L	0.10000		109	80-120			
Matrix Spike (7060221-MS1)			**Source: AAF0227-01**			Prepared: 06/08/17 Analyzed: 06/09/17					
Antimony	0.107	0.0030	0.0003	mg/L	0.10000	ND	107	75-125			
Arsenic	0.109	0.0050	0.0004	mg/L	0.10000	0.0039	105	75-125			
Barium	0.296	0.0100	0.0003	mg/L	0.10000	0.201	96	75-125			
Beryllium	0.0956	0.0030	0.00007	mg/L	0.10000	ND	96	75-125			
Boron	19.5	2.00	0.302	mg/L	1.0000	18.6	94	75-125			
Cadmium	0.102	0.0010	0.00006	mg/L	0.10000	0.0003	101	75-125			
Calcium	406	25.0	0.522	mg/L	1.0000	413	NR	75-125			QM-02
Chromium	0.102	0.0100	0.0003	mg/L	0.10000	0.0004	102	75-125			
Cobalt	0.100	0.0100	0.0005	mg/L	0.10000	0.0008	99	75-125			
Copper	0.0942	0.0250	0.0003	mg/L	0.10000	ND	94	75-125			
Lead	0.0921	0.0050	0.00007	mg/L	0.10000	ND	92	75-125			
Molybdenum	0.128	0.0100	0.0006	mg/L	0.10000	0.0191	109	75-125			
Nickel	0.103	0.0100	0.0003	mg/L	0.10000	0.0026	100	75-125			
Selenium	0.115	0.0100	0.0014	mg/L	0.10000	0.0118	103	75-125			
Silver	0.0946	0.0100	0.0003	mg/L	0.10000	ND	95	75-125			
Thallium	0.100	0.0010	0.00005	mg/L	0.10000	0.0007	100	75-125			
Vanadium	0.102	0.0100	0.0014	mg/L	0.10000	ND	102	75-125			
Zinc	0.0989	0.0100	0.0013	mg/L	0.10000	0.0014	98	75-125			
Lithium	0.117	0.0500	0.0011	mg/L	0.10000	0.0177	99	75-125			

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 15, 2017

Report No.: AAF0136

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060221 - EPA 3005A											
Matrix Spike Dup (7060221-MSD1)		**Source: AAF0227-01**			Prepared: 06/08/17 Analyzed: 06/09/17						
Antimony	0.109	0.0030	0.0003	mg/L	0.10000	ND	109	75-125	1	20	
Arsenic	0.107	0.0050	0.0004	mg/L	0.10000	0.0039	103	75-125	2	20	
Barium	0.306	0.0100	0.0003	mg/L	0.10000	0.201	105	75-125	3	20	
Beryllium	0.0977	0.0030	0.00007	mg/L	0.10000	ND	98	75-125	2	20	
Boron	19.6	2.00	0.302	mg/L	1.0000	18.6	110	75-125	0.8	20	
Cadmium	0.0989	0.0010	0.00006	mg/L	0.10000	0.0003	99	75-125	3	20	
Calcium	423	25.0	0.522	mg/L	1.0000	413	NR	75-125	4	20	QM-02
Chromium	0.101	0.0100	0.0003	mg/L	0.10000	0.0004	101	75-125	0.6	20	
Cobalt	0.101	0.0100	0.0005	mg/L	0.10000	0.0008	101	75-125	1	20	
Copper	0.0915	0.0250	0.0003	mg/L	0.10000	ND	92	75-125	3	20	
Lead	0.0929	0.0050	0.00007	mg/L	0.10000	ND	93	75-125	0.9	20	
Molybdenum	0.122	0.0100	0.0006	mg/L	0.10000	0.0191	103	75-125	5	20	
Nickel	0.101	0.0100	0.0003	mg/L	0.10000	0.0026	99	75-125	1	20	
Selenium	0.116	0.0100	0.0014	mg/L	0.10000	0.0118	104	75-125	1	20	
Silver	0.0931	0.0100	0.0003	mg/L	0.10000	ND	93	75-125	2	20	
Thallium	0.101	0.0010	0.00005	mg/L	0.10000	0.0007	100	75-125	0.3	20	
Vanadium	0.111	0.0100	0.0014	mg/L	0.10000	ND	111	75-125	8	20	
Zinc	0.0943	0.0100	0.0013	mg/L	0.10000	0.0014	93	75-125	5	20	
Lithium	0.121	0.0500	0.0011	mg/L	0.10000	0.0177	103	75-125	3	20	
Post Spike (7060221-PS1)		**Source: AAF0227-01**			Prepared: 06/08/17 Analyzed: 06/09/17						
Antimony	107			ug/L	100.00	0.290	106	80-120			
Arsenic	105			ug/L	100.00	3.87	101	80-120			
Barium	298			ug/L	100.00	201	98	80-120			
Beryllium	97.6			ug/L	100.00	0.0183	98	80-120			
Boron	19300			ug/L	1000.0	18600	76	80-120			QM-02
Cadmium	98.2			ug/L	100.00	0.341	98	80-120			
Calcium	441000			ug/L	1000.0	413000	NR	80-120			QM-02
Chromium	96.4			ug/L	100.00	0.434	96	80-120			
Cobalt	93.8			ug/L	100.00	0.764	93	80-120			
Copper	85.7			ug/L	100.00	0.168	86	80-120			
Lead	91.8			ug/L	100.00	0.0222	92	80-120			
Molybdenum	123			ug/L	100.00	19.1	104	80-120			
Nickel	93.2			ug/L	100.00	2.58	91	80-120			
Selenium	111			ug/L	100.00	11.8	99	80-120			
Silver	92.4			ug/L	100.00	0.0207	92	80-120			
Thallium	98.6			ug/L	100.00	0.749	98	80-120			
Vanadium	98.6			ug/L	100.00	0.267	98	80-120			
Zinc	94.1			ug/L	100.00	1.36	93	80-120			
Lithium	118			ug/L	100.00	17.7	101	80-120			

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 15, 2017

Legend

Definition of Laboratory Terms

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

Sample Information

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

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

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

Definition of Qualifiers

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

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

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

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

CHAIN OF CUSTODY RECORD

PaceAnalytical®

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

CLIENT NAME: Georgia Power

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

REPORT TO: Lauren Petty — CC: Maria Padilla, Heath McCorkle

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

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)						LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
					CONTAINER TYPE:			P	P	P							
					PRESERVATION:			3	7	3							
06/03/17	1145	GW		X	HGWC-121A	4		1	1	2						1	
06/03/17	1115	W		X	FB-1	4		1	1	2						2	
06/03/17	1200	W		X	FERB-1	4		1	1	2						3	

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

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

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

SAMPLED BY AND TITLE: T.Payne TP C. Hurdle CH — DATE/TIME: 6/3/2017 - 1200

RELINQUISHED BY: [signature] — DATE/TIME: 6/5/17 1055

RECEIVED BY: — DATE/TIME:

RELINQUISHED BY: — DATE/TIME:

RECEIVED BY LAB: [signature] — DATE/TIME: 06/05/17 1055

pH checked: Yes No NA — Ice: Yes No NA — Temperature: Min 3°C Max 3°C

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

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

FOR LAB USE ONLY — LAB#: AAF 0136 — Entered into LIMS: MR — Tracking #:

Hammond AP 34 HGWC-121A COC 6.3.17 (2).xlsx

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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LOG-IN CHECKLIST **Printed: 6/6/2017 9:53:33AM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 06/05/17 10:55

Work Order: AAF0136
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 3 **#Containers:** 12

Minimum Temp(C): 3.0 **Maximum Temp(C):** 3.0 **Custody Seal(s) Used:** N/A

CHECKLIST ITEMS

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

Comments:

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

June 26, 2017

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: AAF0136 Plant Hammond
Pace Project No.: 30220780

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on June 06, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

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

Enclosures

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

CERTIFICATIONS

Project: AAF0136 Plant Hammond
Pace Project No.: 30220780

Pennsylvania Certification IDs

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

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

SAMPLE SUMMARY

Project: AAF0136 Plant Hammond
Pace Project No.: 30220780

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30220780001	**HGWC-121A**	Water	06/03/17 11:45	06/06/17 10:15
30220780002	**FB-1**	Water	06/03/17 11:15	06/06/17 10:15
30220780003	**FERB-1**	Water	06/03/17 12:00	06/06/17 10:15

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Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: AAF0136 Plant Hammond
Pace Project No.: 30220780

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30220780001	**HGWC-121A**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30220780002	**FB-1**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1
30220780003	**FERB-1**	EPA 9315	JC2	1
		EPA 9320	JLW	1
		Total Radium Calculation	CMC	1

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Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAF0136 Plant Hammond
Pace Project No.: 30220780

Sample: HGWC-121A **Lab ID: 30220780001** Collected: 06/03/17 11:45 Received: 06/06/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**-0.0134 ± 0.140 (0.405) C:88% T:NA**	pCi/L	06/21/17 08:14	13982-63-3	
Radium-228	EPA 9320	**-0.0654 ± 0.374 (0.885) C:73% T:84%**	pCi/L	06/21/17 15:14	15262-20-1	
Total Radium	Total Radium Calculation	**0.000 ± 0.514 (1.29)**	pCi/L	06/23/17 12:18	7440-14-4	

Sample: FB-1 **Lab ID: 30220780002** Collected: 06/03/17 11:15 Received: 06/06/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**-0.0969 ± 0.126 (0.436) C:92% T:NA**	pCi/L	06/21/17 08:14	13982-63-3	
Radium-228	EPA 9320	**0.154 ± 0.352 (0.781) C:76% T:81%**	pCi/L	06/21/17 15:14	15262-20-1	
Total Radium	Total Radium Calculation	**0.154 ± 0.478 (1.22)**	pCi/L	06/23/17 12:18	7440-14-4	

Sample: FERB-1 **Lab ID: 30220780003** Collected: 06/03/17 12:00 Received: 06/06/17 10:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.176 ± 0.214 (0.446) C:90% T:NA**	pCi/L	06/21/17 08:15	13982-63-3	
Radium-228	EPA 9320	**0.154 ± 0.471 (1.05) C:77% T:78%**	pCi/L	06/21/17 15:14	15262-20-1	
Total Radium	Total Radium Calculation	**0.330 ± 0.685 (1.50)**	pCi/L	06/23/17 12:18	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAF0136 Plant Hammond
Pace Project No.: 30220780

QC Batch: 261654 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30220780001, 30220780002, 30220780003

METHOD BLANK: 1288485 Matrix: Water
Associated Lab Samples: 30220780001, 30220780002, 30220780003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.228 ± 0.334 (0.719) C:77% T:81%	pCi/L	06/21/17 15:13	

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAF0136 Plant Hammond
Pace Project No.: 30220780

QC Batch: 261827 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30220780001, 30220780002, 30220780003

METHOD BLANK: 1289194 Matrix: Water
Associated Lab Samples: 30220780001, 30220780002, 30220780003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0925 ± 0.145 (0.314) C:89% T:NA	pCi/L	06/21/17 08:14	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: AAF0136 Plant Hammond
Pace Project No.: 30220780

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

30220780

CHAIN OF CUSTODY RECORD

Pace Analytical®

Pace Analytical Services, Inc.
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201 : www.asi-lab.com

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd SE B10185
Atlanta, GA 30308
404-506-7239

REPORT TO: Lauren Petty

CC: Maria Padilla, Heath McCorkle

REQUESTED COMPLETION DATE:

PO #: laburch@southernco.com

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)						LAB ID NUMBER
					CONTAINER TYPE:			P	P	P						
					PRESERVATION:			3	7	3						
06/03/17	1145	GW		X	HGWC-121A	4		1	1	2						1
06/03/17	1115	W		X	FB-1	4		1	1	2						2
06/03/17	1200	W		X	FERB-1	4		1	1	2						3

CONTAINER TYPE
- P - PLASTIC
- A - AMBER GLASS
- G - CLEAR GLASS
- V - VOA VIAL
- S - STERILE
- O - OTHER

PRESERVATION
- 1 - HCl, ≤6°C
- 2 - H_2SO_4, ≤6°C
- 3 - HNO_3
- 4 - NaOH, ≤6°C
- 5 - NaOH/ZnAc, ≤6°C
- 6 - $Na_2S_2O_3$, ≤6°C
- 7 - ≤6°C not frozen

*MATRIX CODES:
- DW - DRINKING WATER
- WW - WASTEWATER
- GW - GROUNDWATER
- SW - SURFACE WATER
- ST - STORM WATER
- W - WATER
- S - SOIL
- SL - SLUDGE
- SD - SOLID
- A - AIR
- L - LIQUID
- P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: T.Payne TP C. Hurdle CH — DATE/TIME: 6/3/2017 - 1200

RELINQUISHED BY: [signature] — DATE/TIME: 6/5/17 1055

RECEIVED BY: — DATE/TIME:

RELINQUISHED BY: — DATE/TIME:

RECEIVED BY LAB: M Lahman — DATE/TIME: 06/05/17 1055

pH checked: Yes No NA — Ice: Yes No NA — Temperature: Min 3C Max 3C

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS

Custody Seal: Intact Broken Not Present (N/A) — # of Coolers — Cooler ID:

FOR LAB USE ONLY
LAB #: AAF 0136
Entered into LIMS: MR
Tracking #:

Hammond AP 34 HGWC-121A COC 6.3.17 (2).xlsx

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAF0136 Workorder Name: Plant Hammond Owner Received Date: Results Requested By: 6/28/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

WO#: 30220780

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis: Radium 226, 228, Total	LAB USE ONLY
1	HGWC-121A	G	6/3/2017 11:45	AAF0136-01	GW	2	X	001
2	FB-1	G	6/3/2017 11:15	AAF0136-02	W	2	X	002
3	FERB-1	G	6/3/2017 12:00	AAF0136-03	W	2	X	003
4								
5								
6								
7								
8								
9								
10								

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	M. RAHMAN	6/5/17	Pace	6/6/17 10	15 EQuIS deliverable required (Profile 7564)
2					
3					

Cooler Temperature on Receipt N/A °C	Custody Seal Y or (N)	Received on Ice Y or (N)	Sample Intact (Y) or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC
This chain of custody is considered complete as is since this information is available in the owner laboratory.

RTB

Sample Condition Upon Receipt Pittsburgh

30220780

Pace Analytical

Client Name: Pace GA Project #

Courier: [X] Fed Ex [ ] UPS [ ] USPS [ ] Client [ ] Commercial [ ] Pace Other

Tracking #: 6812 5104 7830

Custody Seal on Cooler/Box Present: [ ] yes [X] no Seals intact: [ ] yes [ ] no

Thermometer Used N/A Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp N/A °C Correction Factor: N/A °C Final Temp: N/A °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: RTB 6/6/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC: RTB 6/6/17	~~X~~	X		5. 001 ID: HGWC-16
-Includes date/time/ID Matrix: WT				
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:		X		8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:	X			
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Organic Samples checked for dechlorination:			X	13.
Filtered volume received for Dissolved tests			X	14.
All containers have been checked for preservation.	X			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	X			pH<2
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed 6/6/17 RTB; Date/time of preservation; Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	16.
Trip Blank Present:			X	17.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr		X		Initial when completed: RTB Date: 6/6/17

Client Notification/ Resolution:

Person Contacted: B. Mathews Date/Time: 6/6/17 7:53 p.m. Contacted By: [illegible]

Comments/ Resolution: Client confirmed sample ID are not important. Container incorrectly labeled.

[✓] **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-226
Analyst:	JC2
Date:	6/20/2017
Worklist:	36182
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1289194
MB concentration:	0.093
M/B Counting Uncertainty:	0.144
MB MDC:	0.314
MB Numerical Performance Indicator:	1.26
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS36182	LCSD36182
Count Date:	6/21/2017	
Spike I.D.:	13-033	
Spike Concentration (pCi/mL):	19.847	
Volume Used (mL):	0.40	
Aliquot Volume (L, g, F):	0.510	
Target Conc. (pCi/L, g, F):	15.552	
Uncertainty (Calculated):	0.732	
Result (pCi/L, g, F):	13.860	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.168	
Numerical Performance Indicator:	-2.41	
Percent Recovery:	89.12%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Sample Matrix Spike Control Assessment	
Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30220781003	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30220781003DUP	
Sample Result (pCi/L, g, F):	0.265	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.216	
Sample Duplicate Result (pCi/L, g, F):	0.064	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.189	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	1.377	30220781003
Duplicate RPD:	122.54%	30220781003DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

***Batch must be re-prepped due to unacceptable precision.

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test: Ra-228
Analyst: JLW
Date: 6/16/2017
Worklist: 36133
Matrix: DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1288485
MB concentration:	0.228
M/B Counting Uncertainty:	0.331
MB MDC:	0.719
MB Numerical Performance Indicator:	1.35
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)? LCS36133	N LCSD36133
Count Date:	6/21/2017	
Spike I.D.:	17-005	
Spike Concentration (pCi/mL):	24.236	
Volume Used (mL):	0.20	
Aliquot Volume (L, g, F):	0.802	
Target Conc. (pCi/L, g, F):	6.047	
Uncertainty (Calculated):	0.435	
Result (pCi/L, g, F):	6.252	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.744	
Numerical Performance Indicator:	0.47	
Percent Recovery:	103.39%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Sample Matrix Spike Control Assessment	
Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30221115001	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30221115001DUP	
Sample Result (pCi/L, g, F):	0.557	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.324	
Sample Duplicate Result (pCi/L, g, F):	0.155	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.381	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	1.576	30221115001
Duplicate RPD:	112.96%	30221115001DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

***Batch must be re-prepped due to unacceptable precision.

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

August 21, 2017

Legend

Definition of Laboratory Terms

ND - Not Detected at levels equal to or greater than the MDL
BRL - Not Detected at levels equal to or greater than the RL
RL - Reporting Limit **MDL** - Method Detection Limit
SOP - Method run per Pace Standard Operating Procedure
CFU - Colony Forming Units
DF - Dilution Factor **TIC** - Tentatively Identified Compound

Sample Information

N-Nitrosodiphenylamine breaks down to diphenylamine in the GCMS; both analytes are reported as N-Nitrososdiphenylamine. Pace is not NELAC certified for N-Nitrososdiphenylamine.

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

1,2-Diphenylhydrazine breaks down to azobenzene in the GCMS; both analytes are reported as azobenzene

Definition of Qualifiers

QM-02 The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.

J Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

B-01 Analyte was detected in the associated method blank at an estimated level equal to or greater than the MDL. Sample values reported as greater than the MDL and less than 10x the method blank value are reported as estimated values.

Note: Unless otherwise noted, all results are reported on an as received basis.

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AAH0433
August 18, 2017
Project: CCR Event
Project #:Plant Hammond

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Approved:

Project Manager

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

August 18, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HGWA-122	AAH0433-01	Water	08/11/17 10:10	08/11/17 13:25
HGWC-124	AAH0433-02	Water	08/11/17 10:15	08/11/17 13:25

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

August 18, 2017

Case Narrative

The Radium analysis by methods EPA 9315/9320 was performed by Pace-Pittsburgh, 1638 Roseytown Road - Suites 2, 3, 4, Greensburg PA 15601. The Pace-Pittsburgh lab contact is Jacquelyn Collins at 724-850-5612.

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

August 18, 2017

Report No.: AAH0433
Client ID: HGWA-122
Date/Time Sampled: 8/11/2017 10:10:00AM
Matrix: Water

Project: CCR Event
Lab Number ID: AAH0433-01
Date/Time Received: 8/11/2017 1:25:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	253	25	10	mg/L	SM 2540 C		1	08/15/17 16:20	08/15/17 16:20	7080392	JPT
Inorganic Anions											
Chloride	3.0	0.25	0.02	mg/L	EPA 300.0		1	08/14/17 11:41	08/14/17 15:05	7080352	RLC
Fluoride	0.12	0.30	0.03	mg/L	EPA 300.0	B-01, J	1	08/14/17 11:41	08/14/17 15:05	7080352	RLC
Sulfate	47	1.0	0.02	mg/L	EPA 300.0		1	08/14/17 11:41	08/14/17 15:05	7080352	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 15:35	7080373	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 15:35	7080373	CSW
Barium	0.0451	0.0100	0.0004	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 15:35	7080373	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 15:35	7080373	CSW
Boron	0.285	0.0400	0.0060	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 15:35	7080373	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 15:35	7080373	CSW
Calcium	79.5	25.0	2.02	mg/L	EPA 6020B		50	08/17/17 09:25	08/17/17 15:41	7080373	CSW
Chromium	0.0007	0.0100	0.0005	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 15:35	7080373	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 15:35	7080373	CSW
Lead	0.0001	0.0050	0.00007	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 15:35	7080373	CSW
Molybdenum	0.0029	0.0100	0.0010	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 15:35	7080373	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 15:35	7080373	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 15:35	7080373	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 15:35	7080373	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	08/15/17 08:40	08/15/17 15:56	7080361	MTC

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August 18, 2017

Report No.: AAH0433
Client ID: HGWC-124
Date/Time Sampled: 8/11/2017 10:15:00AM
Matrix: Water

Project: CCR Event
Lab Number ID: AAH0433-02
Date/Time Received: 8/11/2017 1:25:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	322	25	10	mg/L	SM 2540 C		1	08/15/17 16:20	08/15/17 16:20	7080392	JPT
Inorganic Anions											
Chloride	2.9	0.25	0.02	mg/L	EPA 300.0		1	08/14/17 11:41	08/14/17 15:25	7080352	RLC
Fluoride	0.10	0.30	0.03	mg/L	EPA 300.0	B-01, J	1	08/14/17 11:41	08/14/17 15:25	7080352	RLC
Sulfate	71	2.0	0.03	mg/L	EPA 300.0		2	08/14/17 11:41	08/16/17 21:28	7080352	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 16:15	7080373	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 16:15	7080373	CSW
Barium	0.0672	0.0100	0.0004	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 16:15	7080373	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 16:15	7080373	CSW
Boron	0.524	0.0400	0.0060	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 16:15	7080373	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 16:15	7080373	CSW
Calcium	99.1	25.0	2.02	mg/L	EPA 6020B		50	08/17/17 09:25	08/17/17 16:20	7080373	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 16:15	7080373	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 16:15	7080373	CSW
Lead	0.00008	0.0050	0.00007	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 16:15	7080373	CSW
Molybdenum	0.0013	0.0100	0.0010	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 16:15	7080373	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 16:15	7080373	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 16:15	7080373	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 16:15	7080373	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	08/15/17 08:40	08/15/17 15:58	7080361	MTC

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Report No.: AAH0433

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7080392 - SM 2540 C											
Blank (7080392-BLK1)						Prepared & Analyzed: 08/15/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7080392-BS1)						Prepared & Analyzed: 08/15/17					
Total Dissolved Solids	369	25	10	mg/L	400.00		92	84-108			
Duplicate (7080392-DUP1)		**Source: AAH0439-10**				Prepared & Analyzed: 08/15/17					
Total Dissolved Solids	198	25	10	mg/L		208			5	10	
Duplicate (7080392-DUP2)		**Source: AAH0439-13**				Prepared & Analyzed: 08/15/17					
Total Dissolved Solids	ND	25	10	mg/L		ND				10	

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Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7080352 - EPA 300.0											
Blank (7080352-BLK1)						Prepared & Analyzed: 08/14/17					
Chloride	ND	0.25	0.02	mg/L							
Fluoride	0.17	0.30	0.03	mg/L							J
Sulfate	ND	1.0	0.02	mg/L							
LCS (7080352-BS1)						Prepared & Analyzed: 08/14/17					
Chloride	10.0	0.25	0.02	mg/L	10.020		100	90-110			
Fluoride	9.95	0.30	0.03	mg/L	10.020		99	90-110			
Sulfate	10.1	1.0	0.02	mg/L	10.050		101	90-110			
Matrix Spike (7080352-MS1)		**Source: AAH0433-02**				Prepared & Analyzed: 08/14/17					
Chloride	12.9	0.25	0.02	mg/L	10.020	2.88	100	90-110			
Fluoride	10.3	0.30	0.03	mg/L	10.020	0.10	102	90-110			
Sulfate	71.9	1.0	0.02	mg/L	10.050	69.7	22	90-110			QM-02
Matrix Spike (7080352-MS2)		**Source: AAH0439-02**				Prepared & Analyzed: 08/14/17					
Chloride	15.4	0.25	0.02	mg/L	10.020	5.24	101	90-110			
Fluoride	10.2	0.30	0.03	mg/L	10.020	0.03	102	90-110			
Sulfate	10.9	1.0	0.02	mg/L	10.050	0.66	102	90-110			
Matrix Spike Dup (7080352-MSD1)		**Source: AAH0433-02**				Prepared & Analyzed: 08/14/17					
Chloride	12.9	0.25	0.02	mg/L	10.020	2.88	100	90-110	0.02	15	
Fluoride	10.3	0.30	0.03	mg/L	10.020	0.10	102	90-110	0.1	15	
Sulfate	71.8	1.0	0.02	mg/L	10.050	69.7	21	90-110	0.1	15	QM-02

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7080361 - EPA 7470A											
Blank (7080361-BLK1)						Prepared & Analyzed: 08/15/17					
Mercury	ND	0.00050	0.000036	mg/L							
LCS (7080361-BS1)						Prepared & Analyzed: 08/15/17					
Mercury	0.00241	0.00050	0.000036	mg/L	2.5000E-3		96	80-120			
Matrix Spike (7080361-MS1)		**Source: AAH0433-01**				Prepared & Analyzed: 08/15/17					
Mercury	0.00245	0.00050	0.000036	mg/L	2.5000E-3	ND	98	75-125			
Matrix Spike Dup (7080361-MSD1)		**Source: AAH0433-01**				Prepared & Analyzed: 08/15/17					
Mercury	0.00242	0.00050	0.000036	mg/L	2.5000E-3	ND	97	75-125	1	20	
Post Spike (7080361-PS1)		**Source: AAH0433-01**				Prepared & Analyzed: 08/15/17					
Mercury	1.71			ug/L	1.6667	0.00991	102	80-120			
Batch 7080373 - EPA 3005A											
Blank (7080373-BLK1)						Prepared & Analyzed: 08/17/17					
Antimony	ND	0.0030	0.0006	mg/L							
Arsenic	ND	0.0050	0.0005	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00009	mg/L							
Boron	ND	0.0400	0.0060	mg/L							
Cadmium	ND	0.0010	0.0001	mg/L							
Calcium	ND	0.500	0.0404	mg/L							
Chromium	ND	0.0100	0.0005	mg/L							
Cobalt	ND	0.0100	0.0003	mg/L							
Copper	ND	0.0250	0.0003	mg/L							
Lead	ND	0.0050	0.00007	mg/L							
Molybdenum	ND	0.0100	0.0010	mg/L							
Nickel	ND	0.0100	0.0005	mg/L							
Selenium	ND	0.0100	0.0018	mg/L							
Silver	ND	0.0100	0.0002	mg/L							
Thallium	ND	0.0010	0.00005	mg/L							
Vanadium	ND	0.0100	0.0012	mg/L							
Zinc	ND	0.0100	0.0012	mg/L							
Lithium	ND	0.0500	0.0015	mg/L							

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Report No.: AAH0433

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7080373 - EPA 3005A											
LCS (7080373-BS1)						Prepared & Analyzed: 08/17/17					
Antimony	0.0989	0.0030	0.0006	mg/L	0.10000		99	80-120			
Arsenic	0.0977	0.0050	0.0005	mg/L	0.10000		98	80-120			
Barium	0.102	0.0100	0.0004	mg/L	0.10000		102	80-120			
Beryllium	0.105	0.0030	0.00009	mg/L	0.10000		105	80-120			
Boron	1.07	0.0400	0.0060	mg/L	1.0000		107	80-120			
Cadmium	0.101	0.0010	0.0001	mg/L	0.10000		101	80-120			
Calcium	1.02	0.500	0.0404	mg/L	1.0000		102	80-120			
Chromium	0.0987	0.0100	0.0005	mg/L	0.10000		99	80-120			
Cobalt	0.0982	0.0100	0.0003	mg/L	0.10000		98	80-120			
Copper	0.0984	0.0250	0.0003	mg/L	0.10000		98	80-120			
Lead	0.101	0.0050	0.00007	mg/L	0.10000		101	80-120			
Molybdenum	0.102	0.0100	0.0010	mg/L	0.10000		102	80-120			
Nickel	0.0976	0.0100	0.0005	mg/L	0.10000		98	80-120			
Selenium	0.0984	0.0100	0.0018	mg/L	0.10000		98	80-120			
Silver	0.101	0.0100	0.0002	mg/L	0.10000		101	80-120			
Thallium	0.102	0.0010	0.00005	mg/L	0.10000		102	80-120			
Vanadium	0.0990	0.0100	0.0012	mg/L	0.10000		99	80-120			
Zinc	0.0974	0.0100	0.0012	mg/L	0.10000		97	80-120			
Lithium	0.106	0.0500	0.0015	mg/L	0.10000		106	80-120			
Matrix Spike (7080373-MS1)		**Source: AAH0433-02**				Prepared & Analyzed: 08/17/17					
Antimony	0.102	0.0030	0.0006	mg/L	0.10000	ND	102	75-125			
Arsenic	0.104	0.0050	0.0005	mg/L	0.10000	ND	104	75-125			
Barium	0.165	0.0100	0.0004	mg/L	0.10000	0.0672	97	75-125			
Beryllium	0.0954	0.0030	0.00009	mg/L	0.10000	ND	95	75-125			
Boron	1.57	0.0400	0.0060	mg/L	1.0000	0.524	105	75-125			
Cadmium	0.104	0.0010	0.0001	mg/L	0.10000	ND	104	75-125			
Calcium	104	25.0	2.02	mg/L	1.0000	99.1	456	75-125			QM-02
Chromium	0.100	0.0100	0.0005	mg/L	0.10000	ND	100	75-125			
Cobalt	0.101	0.0100	0.0003	mg/L	0.10000	ND	101	75-125			
Copper	0.0984	0.0250	0.0003	mg/L	0.10000	ND	98	75-125			
Lead	0.0995	0.0050	0.00007	mg/L	0.10000	0.00008	99	75-125			
Molybdenum	0.107	0.0100	0.0010	mg/L	0.10000	0.0013	106	75-125			
Nickel	0.102	0.0100	0.0005	mg/L	0.10000	ND	102	75-125			
Selenium	0.107	0.0100	0.0018	mg/L	0.10000	ND	107	75-125			
Silver	0.100	0.0100	0.0002	mg/L	0.10000	ND	100	75-125			
Thallium	0.103	0.0010	0.00005	mg/L	0.10000	ND	103	75-125			
Vanadium	0.102	0.0100	0.0012	mg/L	0.10000	ND	102	75-125			
Zinc	0.0997	0.0100	0.0012	mg/L	0.10000	0.0012	98	75-125			
Lithium	0.0960	0.0500	0.0015	mg/L	0.10000	ND	96	75-125			

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Report No.: AAH0433

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7080373 - EPA 3005A											
Matrix Spike Dup (7080373-MSD1)		**Source: AAH0433-02**			Prepared & Analyzed: 08/17/17						
Antimony	0.102	0.0030	0.0006	mg/L	0.10000	ND	102	75-125	0.05	20	
Arsenic	0.102	0.0050	0.0005	mg/L	0.10000	ND	102	75-125	2	20	
Barium	0.163	0.0100	0.0004	mg/L	0.10000	0.0672	96	75-125	0.9	20	
Beryllium	0.0899	0.0030	0.00009	mg/L	0.10000	ND	90	75-125	6	20	
Boron	1.49	0.0400	0.0060	mg/L	1.0000	0.524	96	75-125	5	20	
Cadmium	0.104	0.0010	0.0001	mg/L	0.10000	ND	104	75-125	0.2	20	
Calcium	110	25.0	2.02	mg/L	1.0000	99.1	NR	75-125	6	20	QM-02
Chromium	0.100	0.0100	0.0005	mg/L	0.10000	ND	100	75-125	0.07	20	
Cobalt	0.0983	0.0100	0.0003	mg/L	0.10000	ND	98	75-125	3	20	
Copper	0.0969	0.0250	0.0003	mg/L	0.10000	ND	97	75-125	2	20	
Lead	0.0986	0.0050	0.00007	mg/L	0.10000	0.00008	99	75-125	0.9	20	
Molybdenum	0.107	0.0100	0.0010	mg/L	0.10000	0.0013	105	75-125	0.4	20	
Nickel	0.0992	0.0100	0.0005	mg/L	0.10000	ND	99	75-125	3	20	
Selenium	0.104	0.0100	0.0018	mg/L	0.10000	ND	104	75-125	3	20	
Silver	0.0980	0.0100	0.0002	mg/L	0.10000	ND	98	75-125	2	20	
Thallium	0.102	0.0010	0.00005	mg/L	0.10000	ND	102	75-125	1	20	
Vanadium	0.105	0.0100	0.0012	mg/L	0.10000	ND	105	75-125	2	20	
Zinc	0.101	0.0100	0.0012	mg/L	0.10000	0.0012	99	75-125	0.8	20	
Lithium	0.0922	0.0500	0.0015	mg/L	0.10000	ND	92	75-125	4	20	
Post Spike (7080373-PS1)		**Source: AAH0433-02**			Prepared & Analyzed: 08/17/17						
Antimony	92.9			ug/L	100.00	0.116	93	80-120			
Arsenic	101			ug/L	100.00	0.161	101	80-120			
Barium	159			ug/L	100.00	67.2	91	80-120			
Beryllium	92.1			ug/L	100.00	0.0081	92	80-120			
Boron	1510			ug/L	1000.0	524	98	80-120			
Cadmium	103			ug/L	100.00	-0.0059	103	80-120			
Calcium	102000			ug/L	1000.0	99100	340	80-120			QM-02
Chromium	98.7			ug/L	100.00	0.227	98	80-120			
Cobalt	97.5			ug/L	100.00	0.100	97	80-120			
Copper	95.8			ug/L	100.00	0.196	96	80-120			
Lead	97.4			ug/L	100.00	0.0751	97	80-120			
Molybdenum	105			ug/L	100.00	1.27	104	80-120			
Nickel	97.2			ug/L	100.00	0.342	97	80-120			
Selenium	103			ug/L	100.00	1.33	102	80-120			
Silver	95.9			ug/L	100.00	0.0027	96	80-120			
Thallium	99.1			ug/L	100.00	0.0030	99	80-120			
Vanadium	104			ug/L	100.00	-0.345	104	80-120			
Zinc	98.6			ug/L	100.00	1.21	97	80-120			
Lithium	93.2			ug/L	100.00	1.02	92	80-120			

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Legend

Definition of Laboratory Terms

ND - Not Detected at levels equal to or greater than the MDL
BRL - Not Detected at levels equal to or greater than the RL
RL - Reporting Limit **MDL** - Method Detection Limit
SOP - Method run per Pace Standard Operating Procedure
CFU - Colony Forming Units
DF - Dilution Factor **TIC** - Tentatively Identified Compound

Sample Information

N-Nitrosodiphenylamine breaks down to diphenylamine in the GCMS; both analytes are reported as N-Nitrososdiphenylamine. Pace is not NELAC certified for N-Nitrososdiphenylamine.

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

1,2-Diphenylhydrazine breaks down to azobenzene in the GCMS; both analytes are reported as azobenzene

Definition of Qualifiers

QM-02 The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.

J Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

B-01 Analyte was detected in the associated method blank at an estimated level equal to or greater than the MDL. Sample values reported as greater than the MDL and less than 10x the method blank value are reported as estimated values.

Note: Unless otherwise noted, all results are reported on an as received basis.

CHAIN OF CUSTODY RECORD

Pace Analytical

Pace Analytical Services, Inc.
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201 : www.asi-lab.com

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd SE B10185
Atlanta, GA 30308
404-508-7239

REPORT TO: Lauren Petty

CC: Maria Padilla, Heath McCorkle

REQUESTED COMPLETION DATE:

PO #: laburch@southernco.com

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: Phase II - CCR

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)							LAB ID NUMBER
CONTAINER TYPE:								P	P	P							
PRESERVATION:								3	7	3							
8/11/17	1010	W		X	HGWA-122	4		1	1	2							1
8/11/17	1015	W		X	HGWC-124	5		1	2	2							2

ANALYSIS REQUESTED

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
	7 - ≤6°C not frozen

*MATRIX CODES:

DW - DRINKING WATER	S - SOIL
WW - WASTEWATER	SL - SLUDGE
GW - GROUNDWATER	SD - SOLID
SW - SURFACE WATER	A - AIR
ST - STORM WATER	L - LIQUID
W - WATER	P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: W.Virgo WFT M.Thomas MT

DATE/TIME: 8/11/17 1020

RELINQUISHED BY: (W.) Virgo (ERM)

DATE/TIME: 8/11/17 1323

RECEIVED BY:

DATE/TIME:

RELINQUISHED BY:

DATE/TIME:

RECEIVED BY LAB: Zalman

DATE/TIME: 8/11/17 1325

Client Drop off

Custody Seal: (Yes) No NA

Ice: (Yes) No NA

Ice present

Seal- Intact

Temp- 1.3

FOR LAB USE ONLY
LAB #: AA40433
Entered into LIMS: MR
Tracking #:

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power Project # AA40433

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace Other _____

Optional: Proj. Due Date: Proj. Name:

Tracking #: _____

Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals intact: ☒ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other _____

Thermometer Used IR-4 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 1.3 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 8/11/17 MR

Temp should be above freezing to 6°C

			Comments:
Chain of Custody Present:	☒Yes	☐No ☐N/A	1.
Chain of Custody Filled Out:	☒Yes	☐No ☐N/A	2.
Chain of Custody Relinquished:	☒Yes	☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes	☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes	☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☒No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☒No ☐N/A	7
Sufficient Volume:	☒Yes	☐No ☐N/A	8.
Correct Containers Used:	☒Yes	☐No ☐N/A	9.
-Pace Containers Used:	☒Yes	☐No ☐N/A	
Containers Intact:	☒Yes	☐No ☐N/A	10
Filtered volume received for Dissolved tests	☐Yes	☐No ☒N/A	11
Sample Labels match COC:	☒Yes	☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: 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-ALL-C-010rev.3 11September2006

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

LOG-IN CHECKLIST **Printed: 8/14/2017 10:26:01AM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 08/11/17 13:25

Work Order: AAH0433
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 2 **#Containers:** 9

Minimum Temp(C): 1.3 **Maximum Temp(C):** 1.3 **Custody Seal(s) Used:** Yes

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	YES
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

September 01, 2017

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: AAH0433 Plant Hammond
Pace Project No.: 30227120

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on August 14, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: AAH0433 Plant Hammond
Pace Project No.: 30227120

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: AAH0433 Plant Hammond
Pace Project No.: 30227120

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30227120001	**HGWA-122**	Water	08/11/17 10:10	08/14/17 09:30
30227120002	**HGWC-124**	Water	08/11/17 10:15	08/14/17 09:30

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: AAH0433 Plant Hammond
Pace Project No.: 30227120

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30227120001	**HGWA-122**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1
30227120002	**HGWC-124**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAH0433 Plant Hammond
Pace Project No.: 30227120

Sample: HGWA-122 **Lab ID: 30227120001** Collected: 08/11/17 10:10 Received: 08/14/17 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.351 ± 0.262 (0.468) C:90% T:NA**	pCi/L	08/18/17 08:15	13982-63-3	
Radium-228	EPA 9320	**0.557 ± 0.438 (0.880) C:80% T:83%**	pCi/L	08/22/17 16:00	15262-20-1	
Total Radium	Total Radium Calculation	**0.908 ± 0.700 (1.35)**	pCi/L	08/31/17 14:22	7440-14-4	

Sample: HGWC-124 **Lab ID: 30227120002** Collected: 08/11/17 10:15 Received: 08/14/17 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.356 ± 0.246 (0.403) C:86% T:NA**	pCi/L	08/18/17 08:16	13982-63-3	
Radium-228	EPA 9320	**0.472 ± 0.419 (0.846) C:79% T:87%**	pCi/L	08/22/17 18:15	15262-20-1	
Total Radium	Total Radium Calculation	**0.828 ± 0.665 (1.25)**	pCi/L	08/31/17 14:22	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAH0433 Plant Hammond
Pace Project No.: 30227120

QC Batch: 268401 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30227120001, 30227120002

METHOD BLANK: 1321110 Matrix: Water
Associated Lab Samples: 30227120001, 30227120002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.207 ± 0.167 (0.268) C:98% T:NA	pCi/L	08/18/17 08:15	

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
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAH0433 Plant Hammond
Pace Project No.: 30227120

QC Batch: 268400 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30227120001, 30227120002

METHOD BLANK: 1321109 Matrix: Water
Associated Lab Samples: 30227120001, 30227120002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.758 ± 0.377 (0.651) C:78% T:88%	pCi/L	08/22/17 15:56	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: AAH0433 Plant Hammond
Pace Project No.: 30227120

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAH0433 Workorder Name: Plant Hammond Owner Received Date: Results Requested By: 9/6/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3					Requested Analysis Radium 226, 228, Total															LAB USE ONLY
1	HGWA-122	G	8/11/2017 10:10	AAH0433-01	GW	2					X															001
2	HGWC-124	G	8/11/2017 10:15	AAH0433-02	GW	2					X															002
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	M. RAHMAN	8/11/17	Ben Thompson	8-14-17 0830	EQuIS deliverable required (Profile 7564)
2					
3					

Cooler Temperature on Receipt N/A °C | Custody Seal Y or (N) | Received on Ice Y or (N) | Sample Intact (Y) or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC
This chain of custody is considered complete as is since this information is available in the owner laboratory.

Friday, June 17, 2016 11:01:34 AM WO#:30227120

FMT-ALL-C-002rev.00 24March2009

Sample Condition Upon Receipt Pittsburgh

30227120

Pace Analytical

Client Name: Pace-GA Project #

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other

Label CA

LIMS Login AM

Tracking #: 7413 6657 8394

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals Intact: ☐ yes ☐ no

Thermometer Used N/A Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp N/A °C Correction Factor: — °C Final Temp: — °C

Temp should be above freezing to 6°C

Date and initials of person examining contents: BLM 8-14-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:	✓			4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used: -Pace Containers Used:	✓ ✓			10.
Containers Intact:	✓			11.
Orthophosphate field filtered				12.
Organic Samples checked for dechlorination:			✓	13.
Filtered volume received for Dissolved tests			✓	14.
All containers have been checked for preservation. All containers needing preservation are found to be in compliance with EPA recommendation. exceptions: VOA, coliform, TOC, O&G, Phenolics	✓ ✓			15. pH<2 Initial when completed BLM Date/time of preservation Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	16.
Trip Blank Present:			✓	17.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: BLM Date: 8-14-17

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

30227120

Pace Analytical

Sample Condition Upon Receipt

Client Name: GA Power   Project # AAH0433

Optional
Proj. Due Date:
Proj. Name:

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace Other ____

Tracking #: ____

Custody Seal on Cooler/Box Present: ☒ yes ☐ no   Seals intact: ☒ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other ____

Thermometer Used: IR-4   Type of Ice: (Wet) Blue None   ☐ Samples on ice, cooling process has begun

Cooler Temperature: 1.3   Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 8/11/17 MR

	Yes	No	N/A	Comments:
Chain of Custody Present:	☒	☐	☐	1.
Chain of Custody Filled Out:	☒	☐	☐	2.
Chain of Custody Relinquished:	☒	☐	☐	3.
Sampler Name & Signature on COC:	☒	☐	☐	4.
Samples Arrived within Hold Time:	☒	☐	☐	5.
Short Hold Time Analysis (<72hr):	☐	☒	☐	6.
Rush Turn Around Time Requested:	☐	☒	☐	7.
Sufficient Volume:	☒	☐	☐	8.
Correct Containers Used:	☒	☐	☐	9.
-Pace Containers Used:	☒	☐	☐	
Containers Intact:	☒	☐	☐	10.
Filtered volume received for Dissolved tests	☐	☐	☒	11.
Sample Labels match COC:	☒	☐	☐	12.
-Includes date/time/ID/Analysis Matrix: W				
All containers needing preservation have been checked.	☒	☐	☐	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☒	☐	☐	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☒	☐		Initial when completed / Lot # of added preservative
Samples checked for dechlorination.	☐	☐	☒	14.
Headspace in VOA Vials (>6mm):	☐	☐	☒	15.
Trip Blank Present:	☐	☐	☒	16.
Trip Blank Custody Seals Present	☐	☐	☒	
Pace Trip Blank Lot # (if purchased): ____				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: ____ Date/Time: ____

Comments/ Resolution: ____

Project Manager Review: ____   **Date:** ____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

F-ALL-C-003rev.3, 11September2006

CHAIN OF CUSTODY RECORD

Pace Analytical

Pace Analytical Services, Inc.
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201 : www.asi-lab.com

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd SE B10185
Atlanta, GA 30308
404-508-7239

REPORT TO: Lauren Petty
CC: Maria Padilla, Heath McCorkle
REQUESTED COMPLETION DATE:
PO #: laburch@southernco.com

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: Phase II - CCR

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO4, & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)	LAB ID NUMBER
8/11/17	1010	W		X	HGWA-122	4	1	1	2	1
8/11/17	1015	W		X	HGWC-124	5	1	2	2	2

ANALYSIS REQUESTED

CONTAINER TYPE:	P	P	P
PRESERVATION:	3	7	3

CONTAINER TYPE / PRESERVATION
- P - PLASTIC — 1 - HCl, ≤6°C
- A - AMBER GLASS — 2 - H_2SO_4, ≤6°C
- G - CLEAR GLASS — 3 - HNO_3
- V - VOA VIAL — 4 - NaOH, ≤6°C
- S - STERILE — 5 - NaOH/ZnAc, ≤6°C
- O - OTHER — 6 - $Na_2S_2O_3$, ≤6°C
- 7 - ≤6°C not frozen

*MATRIX CODES:
- DW - DRINKING WATER
- WW - WASTEWATER
- GW - GROUNDWATER
- SW - SURFACE WATER
- ST - STORM WATER
- W - WATER
- S - SOIL
- SL - SLUDGE
- SD - SOLID
- A - AIR
- L - LIQUID
- P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

30227120

SAMPLED BY AND TITLE: W.Virgo WFT M.Thomas MT
DATE/TIME: 8/11/17 1020

RELINQUISHED BY: (W.) Virgo (EZM)
DATE/TIME: 8/11/17 1323

RECEIVED BY:
DATE/TIME:

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY LAB: N Rahman
DATE/TIME: 08/11/17 1325
Client Drop off
Ice present
Seal Intact
pH checked: Yes No NA
Ice: Yes No NA

FOR LAB USE ONLY
LAB #: AA40433
Entered into LIMS: MR
Tracking #:

Temp 1.3

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AAH0439
August 21, 2017
Project: CCR Event
Project #:Plant Hammond

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Approved:

Project Manager

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

August 21, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HGWA-111	AAH0439-01	Water	08/10/17 09:55	08/11/17 14:30
HGWA-112	AAH0439-02	Water	08/10/17 11:00	08/11/17 14:30
HGWA-113	AAH0439-03	Water	08/10/17 13:07	08/11/17 14:30
HGWC-117	AAH0439-04	Water	08/10/17 09:30	08/11/17 14:30
HGWC-118	AAH0439-05	Water	08/10/17 10:50	08/11/17 14:30
HGWC-101	AAH0439-06	Water	08/10/17 12:25	08/11/17 14:30
HGWC-103	AAH0439-07	Water	08/10/17 13:25	08/11/17 14:30
HGWC-105	AAH0439-08	Water	08/10/17 14:25	08/11/17 14:30
HGWC-107	AAH0439-09	Water	08/10/17 14:35	08/11/17 14:30
HGWC-109	AAH0439-10	Water	08/10/17 15:20	08/11/17 14:30
Dup-1	AAH0439-11	Water	08/10/17 00:00	08/11/17 14:30
FB-1	AAH0439-12	Water	08/10/17 15:25	08/11/17 14:30
FERB-1	AAH0439-13	Water	08/10/17 15:30	08/11/17 14:30

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Case Narrative

The Radium analysis by methods EPA 9315/9320 was performed by Pace-Pittsburgh, 1638 Roseytown Road - Suites 2, 3, 4, Greensburg PA 15601. The Pace-Pittsburgh lab contact is Jacquelyn Collins at 724-850-5612.

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

August 21, 2017

Report No.: AAH0439
Client ID: HGWA-111
Date/Time Sampled: 8/10/2017 9:55:00AM
Matrix: Water

Project: CCR Event
Lab Number ID: AAH0439-01
Date/Time Received: 8/11/2017 2:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	174	25	10	mg/L	SM 2540 C		1	08/15/17 16:20	08/15/17 16:20	7080392	JPT
Inorganic Anions											
Chloride	2.8	0.25	0.02	mg/L	EPA 300.0		1	08/14/17 11:41	08/14/17 17:29	7080352	RLC
Fluoride	0.06	0.30	0.03	mg/L	EPA 300.0	B-01, J	1	08/14/17 11:41	08/14/17 17:29	7080352	RLC
Sulfate	1.6	1.0	0.02	mg/L	EPA 300.0		1	08/14/17 11:41	08/14/17 17:29	7080352	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:00	7080373	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:00	7080373	CSW
Barium	0.0306	0.0100	0.0004	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:00	7080373	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:00	7080373	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:00	7080373	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:00	7080373	CSW
Calcium	48.6	25.0	2.02	mg/L	EPA 6020B		50	08/17/17 09:25	08/17/17 17:06	7080373	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:00	7080373	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:00	7080373	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:00	7080373	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:00	7080373	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:00	7080373	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:00	7080373	CSW
Lithium	0.0017	0.0500	0.0015	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 17:00	7080373	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	08/15/17 08:40	08/15/17 16:12	7080361	MTC

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Attention: Mr. Joju Abraham

August 21, 2017

Report No.: AAH0439
Client ID: HGWA-112
Date/Time Sampled: 8/10/2017 11:00:00AM
Matrix: Water

Project: CCR Event
Lab Number ID: AAH0439-02
Date/Time Received: 8/11/2017 2:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	60	25	10	mg/L	SM 2540 C		1	08/15/17 16:20	08/15/17 16:20	7080392	JPT
Inorganic Anions											
Chloride	5.2	0.25	0.02	mg/L	EPA 300.0		1	08/14/17 11:41	08/14/17 17:50	7080352	RLC
Fluoride	0.03	0.30	0.03	mg/L	EPA 300.0	B-01, J	1	08/14/17 11:41	08/14/17 17:50	7080352	RLC
Sulfate	0.66	1.0	0.02	mg/L	EPA 300.0	J	1	08/14/17 11:41	08/14/17 17:50	7080352	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:42	7080373	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:42	7080373	CSW
Barium	0.0274	0.0100	0.0004	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:42	7080373	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:42	7080373	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:42	7080373	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:42	7080373	CSW
Calcium	6.54	0.500	0.0404	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:42	7080373	CSW
Chromium	0.0039	0.0100	0.0005	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 17:42	7080373	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:42	7080373	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:42	7080373	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:42	7080373	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:42	7080373	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:42	7080373	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:42	7080373	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	08/15/17 08:40	08/15/17 16:15	7080361	MTC

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August 21, 2017

Report No.: AAH0439
Client ID: HGWA-113
Date/Time Sampled: 8/10/2017 1:07:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAH0439-03
Date/Time Received: 8/11/2017 2:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	94	25	10	mg/L	SM 2540 C		1	08/15/17 16:20	08/15/17 16:20	7080392	JPT
Inorganic Anions											
Chloride	1.7	0.25	0.02	mg/L	EPA 300.0		1	08/14/17 11:41	08/14/17 19:54	7080352	RLC
Fluoride	0.19	0.30	0.03	mg/L	EPA 300.0	B-01, J	1	08/14/17 11:41	08/14/17 19:54	7080352	RLC
Sulfate	11	1.0	0.02	mg/L	EPA 300.0		1	08/14/17 11:41	08/14/17 19:54	7080352	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:54	7080373	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:54	7080373	CSW
Barium	0.0310	0.0100	0.0004	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:54	7080373	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:54	7080373	CSW
Boron	0.0061	0.0400	0.0060	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 17:54	7080373	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:54	7080373	CSW
Calcium	6.71	0.500	0.0404	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:54	7080373	CSW
Chromium	0.0019	0.0100	0.0005	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 17:54	7080373	CSW
Cobalt	0.0004	0.0100	0.0003	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 17:54	7080373	CSW
Lead	0.0001	0.0050	0.00007	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 17:54	7080373	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:54	7080373	CSW
Selenium	0.0023	0.0100	0.0018	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 17:54	7080373	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:54	7080373	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 17:54	7080373	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	08/15/17 08:40	08/15/17 16:17	7080361	MTC

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August 21, 2017

Report No.: AAH0439
Client ID: HGWC-117
Date/Time Sampled: 8/10/2017 9:30:00AM
Matrix: Water

Project: CCR Event
Lab Number ID: AAH0439-04
Date/Time Received: 8/11/2017 2:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	359	25	10	mg/L	SM 2540 C		1	08/15/17 16:20	08/15/17 16:20	7080392	JPT
Inorganic Anions											
Chloride	5.9	0.25	0.02	mg/L	EPA 300.0		1	08/14/17 11:41	08/14/17 20:15	7080352	RLC
Fluoride	0.10	0.30	0.03	mg/L	EPA 300.0	B-01, J	1	08/14/17 11:41	08/14/17 20:15	7080352	RLC
Sulfate	140	10	0.17	mg/L	EPA 300.0		10	08/14/17 11:41	08/18/17 12:13	7080352	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:05	7080373	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:05	7080373	CSW
Barium	0.0457	0.0100	0.0004	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:05	7080373	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:05	7080373	CSW
Boron	0.821	0.0400	0.0060	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:05	7080373	CSW
Cadmium	0.0004	0.0010	0.0001	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 18:05	7080373	CSW
Calcium	78.9	25.0	2.02	mg/L	EPA 6020B		50	08/17/17 09:25	08/17/17 18:11	7080373	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:05	7080373	CSW
Cobalt	0.0031	0.0100	0.0003	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 18:05	7080373	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:05	7080373	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:05	7080373	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:05	7080373	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:05	7080373	CSW
Lithium	0.0021	0.0500	0.0015	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 18:05	7080373	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	08/15/17 08:40	08/15/17 16:19	7080361	MTC

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Atlanta GA, 30339

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August 21, 2017

Report No.: AAH0439
Client ID: HGWC-118
Date/Time Sampled: 8/10/2017 10:50:00AM
Matrix: Water

Project: CCR Event
Lab Number ID: AAH0439-05
Date/Time Received: 8/11/2017 2:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	325	25	10	mg/L	SM 2540 C		1	08/15/17 16:20	08/15/17 16:20	7080392	JPT
Inorganic Anions											
Chloride	4.2	0.25	0.02	mg/L	EPA 300.0		1	08/14/17 11:41	08/14/17 20:35	7080352	RLC
Fluoride	0.11	0.30	0.03	mg/L	EPA 300.0	B-01, J	1	08/14/17 11:41	08/14/17 20:35	7080352	RLC
Sulfate	78	10	0.17	mg/L	EPA 300.0		10	08/14/17 11:41	08/16/17 17:20	7080352	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:16	7080373	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:16	7080373	CSW
Barium	0.0638	0.0100	0.0004	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:16	7080373	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:16	7080373	CSW
Boron	0.608	0.0400	0.0060	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:16	7080373	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:16	7080373	CSW
Calcium	83.1	25.0	2.02	mg/L	EPA 6020B		50	08/17/17 09:25	08/17/17 18:22	7080373	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:16	7080373	CSW
Cobalt	0.0003	0.0100	0.0003	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 18:16	7080373	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:16	7080373	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:16	7080373	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:16	7080373	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:16	7080373	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:16	7080373	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	08/15/17 08:40	08/15/17 16:22	7080361	MTC

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Attention: Mr. Joju Abraham

August 21, 2017

Report No.: AAH0439
Client ID: HGWC-101
Date/Time Sampled: 8/10/2017 12:25:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAH0439-06
Date/Time Received: 8/11/2017 2:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	175	25	10	mg/L	SM 2540 C		1	08/15/17 16:20	08/15/17 16:20	7080392	JPT
Inorganic Anions											
Chloride	5.4	0.25	0.02	mg/L	EPA 300.0		1	08/14/17 11:41	08/14/17 20:56	7080352	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	08/14/17 11:41	08/14/17 20:56	7080352	RLC
Sulfate	96	10	0.17	mg/L	EPA 300.0		10	08/14/17 11:41	08/16/17 17:41	7080352	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:28	7080373	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:28	7080373	CSW
Barium	0.0419	0.0100	0.0004	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:28	7080373	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:28	7080373	CSW
Boron	0.0814	0.0400	0.0060	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:28	7080373	CSW
Cadmium	0.0002	0.0010	0.0001	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 18:28	7080373	CSW
Calcium	20.9	5.00	2.02	mg/L	EPA 6020B		50	08/17/17 09:25	08/17/17 18:34	7080373	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:28	7080373	CSW
Cobalt	0.0029	0.0100	0.0003	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 18:28	7080373	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:28	7080373	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:28	7080373	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:28	7080373	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:28	7080373	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:28	7080373	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	08/15/17 08:40	08/15/17 16:24	7080361	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

August 21, 2017

Report No.: AAH0439
Client ID: HGWC-103
Date/Time Sampled: 8/10/2017 1:25:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAH0439-07
Date/Time Received: 8/11/2017 2:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	459	25	10	mg/L	SM 2540 C		1	08/15/17 16:20	08/15/17 16:20	7080392	JPT
Inorganic Anions											
Chloride	5.8	0.25	0.02	mg/L	EPA 300.0		1	08/14/17 11:41	08/14/17 21:17	7080352	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0	B-01	1	08/14/17 11:41	08/14/17 21:17	7080352	RLC
Sulfate	300	10	0.17	mg/L	EPA 300.0		10	08/14/17 11:41	08/16/17 18:01	7080352	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:51	7080373	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:51	7080373	CSW
Barium	0.0396	0.0100	0.0004	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:51	7080373	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:51	7080373	CSW
Boron	2.28	0.0400	0.0060	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:51	7080373	CSW
Cadmium	0.0007	0.0010	0.0001	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 18:51	7080373	CSW
Calcium	81.2	25.0	2.02	mg/L	EPA 6020B		50	08/17/17 09:25	08/17/17 18:56	7080373	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:51	7080373	CSW
Cobalt	0.0025	0.0100	0.0003	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 18:51	7080373	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:51	7080373	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:51	7080373	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:51	7080373	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 18:51	7080373	CSW
Lithium	0.0016	0.0500	0.0015	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 18:51	7080373	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	08/15/17 08:40	08/15/17 16:27	7080361	MTC

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

August 21, 2017

Report No.: AAH0439
Client ID: HGWC-105
Date/Time Sampled: 8/10/2017 2:25:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAH0439-08
Date/Time Received: 8/11/2017 2:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	356	25	10	mg/L	SM 2540 C		1	08/15/17 16:20	08/15/17 16:20	7080392	JPT
Inorganic Anions											
Chloride	2.9	0.25	0.02	mg/L	EPA 300.0		1	08/14/17 11:41	08/14/17 21:37	7080352	RLC
Fluoride	0.03	0.30	0.03	mg/L	EPA 300.0	B-01, J	1	08/14/17 11:41	08/14/17 21:37	7080352	RLC
Sulfate	180	10	0.17	mg/L	EPA 300.0		10	08/14/17 11:41	08/16/17 18:22	7080352	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:02	7080373	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:02	7080373	CSW
Barium	0.0670	0.0100	0.0004	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:02	7080373	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:02	7080373	CSW
Boron	1.28	0.0400	0.0060	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:02	7080373	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:02	7080373	CSW
Calcium	84.0	25.0	2.02	mg/L	EPA 6020B		50	08/17/17 09:25	08/17/17 19:08	7080373	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:02	7080373	CSW
Cobalt	0.0006	0.0100	0.0003	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 19:02	7080373	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:02	7080373	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:02	7080373	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:02	7080373	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:02	7080373	CSW
Lithium	0.0040	0.0500	0.0015	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 19:02	7080373	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	08/15/17 08:40	08/15/17 16:29	7080361	MTC

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

August 21, 2017

Report No.: AAH0439
Client ID: HGWC-107
Date/Time Sampled: 8/10/2017 2:35:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAH0439-09
Date/Time Received: 8/11/2017 2:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	254	25	10	mg/L	SM 2540 C		1	08/15/17 16:20	08/15/17 16:20	7080392	JPT
Inorganic Anions											
Chloride	2.8	0.25	0.02	mg/L	EPA 300.0		1	08/14/17 11:41	08/14/17 21:58	7080352	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	08/14/17 11:41	08/14/17 21:58	7080352	RLC
Sulfate	130	10	0.17	mg/L	EPA 300.0		10	08/14/17 11:41	08/16/17 18:43	7080352	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:13	7080373	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:13	7080373	CSW
Barium	0.0385	0.0100	0.0004	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:13	7080373	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:13	7080373	CSW
Boron	0.702	0.0400	0.0060	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:13	7080373	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:13	7080373	CSW
Calcium	54.2	25.0	2.02	mg/L	EPA 6020B		50	08/17/17 09:25	08/17/17 19:19	7080373	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:13	7080373	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:13	7080373	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:13	7080373	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:13	7080373	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:13	7080373	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:13	7080373	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:13	7080373	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	08/15/17 08:40	08/15/17 16:31	7080361	MTC

PACE ANALYTICAL SERVICES, LLC.

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

August 21, 2017

Report No.: AAH0439
Client ID: HGWC-109
Date/Time Sampled: 8/10/2017 3:20:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAH0439-10
Date/Time Received: 8/11/2017 2:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	208	25	10	mg/L	SM 2540 C		1	08/15/17 16:20	08/15/17 16:20	7080392	JPT
Inorganic Anions											
Chloride	4.6	0.25	0.02	mg/L	EPA 300.0		1	08/14/17 11:41	08/14/17 22:19	7080352	RLC
Fluoride	0.12	0.30	0.03	mg/L	EPA 300.0	B-01, J	1	08/14/17 11:41	08/14/17 22:19	7080352	RLC
Sulfate	40	1.0	0.02	mg/L	EPA 300.0		1	08/14/17 11:41	08/14/17 22:19	7080352	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:25	7080373	CSW
Arsenic	0.0016	0.0050	0.0005	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 19:25	7080373	CSW
Barium	0.0903	0.0100	0.0004	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:25	7080373	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:25	7080373	CSW
Boron	0.397	0.0400	0.0060	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:25	7080373	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:25	7080373	CSW
Calcium	43.1	25.0	2.02	mg/L	EPA 6020B		50	08/17/17 09:25	08/17/17 19:31	7080373	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:25	7080373	CSW
Cobalt	0.0012	0.0100	0.0003	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 19:25	7080373	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:25	7080373	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:25	7080373	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:25	7080373	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:25	7080373	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:25	7080373	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	08/15/17 08:40	08/15/17 16:34	7080361	MTC

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

August 21, 2017

Report No.: AAH0439
Client ID: Dup-1
Date/Time Sampled: 8/10/2017 12:00:00AM
Matrix: Water

Project: CCR Event
Lab Number ID: AAH0439-11
Date/Time Received: 8/11/2017 2:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	346	25	10	mg/L	SM 2540 C		1	08/15/17 16:20	08/15/17 16:20	7080392	JPT
Inorganic Anions											
Chloride	6.0	0.25	0.02	mg/L	EPA 300.0		1	08/14/17 11:41	08/14/17 22:39	7080352	RLC
Fluoride	0.06	0.30	0.03	mg/L	EPA 300.0	B-01, J	1	08/14/17 11:41	08/14/17 22:39	7080352	RLC
Sulfate	130	10	0.17	mg/L	EPA 300.0		10	08/14/17 11:41	08/16/17 19:03	7080352	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:36	7080373	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:36	7080373	CSW
Barium	0.0472	0.0100	0.0004	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:36	7080373	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:36	7080373	CSW
Boron	0.809	0.0400	0.0060	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:36	7080373	CSW
Cadmium	0.0004	0.0010	0.0001	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 19:36	7080373	CSW
Calcium	82.3	25.0	2.02	mg/L	EPA 6020B		50	08/17/17 09:25	08/17/17 19:42	7080373	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:36	7080373	CSW
Cobalt	0.0029	0.0100	0.0003	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 19:36	7080373	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:36	7080373	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:36	7080373	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:36	7080373	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:36	7080373	CSW
Lithium	0.0020	0.0500	0.0015	mg/L	EPA 6020B	J	1	08/17/17 09:25	08/17/17 19:36	7080373	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	08/15/17 08:40	08/15/17 16:41	7080361	MTC

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Attention: Mr. Joju Abraham

August 21, 2017

Report No.: AAH0439
Client ID: FB-1
Date/Time Sampled: 8/10/2017 3:25:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAH0439-12
Date/Time Received: 8/11/2017 2:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	08/15/17 16:20	08/15/17 16:20	7080392	JPT
Inorganic Anions											
Chloride	0.08	0.25	0.02	mg/L	EPA 300.0	J	1	08/14/17 11:41	08/14/17 23:00	7080352	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	08/14/17 11:41	08/14/17 23:00	7080352	RLC
Sulfate	ND	1.0	0.02	mg/L	EPA 300.0		1	08/14/17 11:41	08/14/17 23:00	7080352	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:59	7080373	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:59	7080373	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:59	7080373	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:59	7080373	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:59	7080373	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:59	7080373	CSW
Calcium	ND	0.500	0.0404	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:59	7080373	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:59	7080373	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:59	7080373	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:59	7080373	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:59	7080373	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:59	7080373	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:59	7080373	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 19:59	7080373	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	08/15/17 08:40	08/15/17 16:43	7080361	MTC

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Attention: Mr. Joju Abraham

August 21, 2017

Report No.: AAH0439
Client ID: FERB-1
Date/Time Sampled: 8/10/2017 3:30:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAH0439-13
Date/Time Received: 8/11/2017 2:30:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	08/15/17 16:20	08/15/17 16:20	7080392	JPT
Inorganic Anions											
Chloride	0.10	0.25	0.02	mg/L	EPA 300.0	J	1	08/14/17 11:41	08/15/17 01:04	7080352	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	08/14/17 11:41	08/15/17 01:04	7080352	RLC
Sulfate	ND	1.0	0.02	mg/L	EPA 300.0		1	08/14/17 11:41	08/15/17 01:04	7080352	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 20:05	7080373	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 20:05	7080373	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 20:05	7080373	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 20:05	7080373	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 20:05	7080373	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 20:05	7080373	CSW
Calcium	ND	0.500	0.0404	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 20:05	7080373	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 20:05	7080373	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 20:05	7080373	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 20:05	7080373	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 20:05	7080373	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 20:05	7080373	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 20:05	7080373	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	08/17/17 09:25	08/17/17 20:05	7080373	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	08/15/17 08:40	08/15/17 16:45	7080361	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

August 21, 2017

Report No.: AAH0439

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7080392 - SM 2540 C											
Blank (7080392-BLK1)						Prepared & Analyzed: 08/15/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7080392-BS1)						Prepared & Analyzed: 08/15/17					
Total Dissolved Solids	369	25	10	mg/L	400.00		92	84-108			
Duplicate (7080392-DUP1)		**Source: AAH0439-10**				Prepared & Analyzed: 08/15/17					
Total Dissolved Solids	198	25	10	mg/L		208			5	10	
Duplicate (7080392-DUP2)		**Source: AAH0439-13**				Prepared & Analyzed: 08/15/17					
Total Dissolved Solids	ND	25	10	mg/L		ND				10	

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Attention: Mr. Joju Abraham

August 21, 2017

Report No.: AAH0439

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7080352 - EPA 300.0											
Blank (7080352-BLK1)						Prepared & Analyzed: 08/14/17					
Chloride	ND	0.25	0.02	mg/L							
Fluoride	0.17	0.30	0.03	mg/L							J
Sulfate	ND	1.0	0.02	mg/L							
LCS (7080352-BS1)						Prepared & Analyzed: 08/14/17					
Chloride	10.0	0.25	0.02	mg/L	10.020		100	90-110			
Fluoride	9.95	0.30	0.03	mg/L	10.020		99	90-110			
Sulfate	10.1	1.0	0.02	mg/L	10.050		101	90-110			
Matrix Spike (7080352-MS1)		**Source: AAH0433-02**				Prepared & Analyzed: 08/14/17					
Chloride	12.9	0.25	0.02	mg/L	10.020	2.88	100	90-110			
Fluoride	10.3	0.30	0.03	mg/L	10.020	0.10	102	90-110			
Sulfate	71.9	1.0	0.02	mg/L	10.050	69.7	22	90-110			QM-02
Matrix Spike (7080352-MS2)		**Source: AAH0439-02**				Prepared & Analyzed: 08/14/17					
Chloride	15.4	0.25	0.02	mg/L	10.020	5.24	101	90-110			
Fluoride	10.2	0.30	0.03	mg/L	10.020	0.03	102	90-110			
Sulfate	10.9	1.0	0.02	mg/L	10.050	0.66	102	90-110			
Matrix Spike Dup (7080352-MSD1)		**Source: AAH0433-02**				Prepared & Analyzed: 08/14/17					
Chloride	12.9	0.25	0.02	mg/L	10.020	2.88	100	90-110	0.02	15	
Fluoride	10.3	0.30	0.03	mg/L	10.020	0.10	102	90-110	0.1	15	
Sulfate	71.8	1.0	0.02	mg/L	10.050	69.7	21	90-110	0.1	15	QM-02

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August 21, 2017

Report No.: AAH0439

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7080361 - EPA 7470A											
Blank (7080361-BLK1)						Prepared & Analyzed: 08/15/17					
Mercury	ND	0.00050	0.000036	mg/L							
LCS (7080361-BS1)						Prepared & Analyzed: 08/15/17					
Mercury	0.00241	0.00050	0.000036	mg/L	2.5000E-3		96	80-120			
Matrix Spike (7080361-MS1)		**Source: AAH0433-01**				Prepared & Analyzed: 08/15/17					
Mercury	0.00245	0.00050	0.000036	mg/L	2.5000E-3	ND	98	75-125			
Matrix Spike Dup (7080361-MSD1)		**Source: AAH0433-01**				Prepared & Analyzed: 08/15/17					
Mercury	0.00242	0.00050	0.000036	mg/L	2.5000E-3	ND	97	75-125	1	20	
Post Spike (7080361-PS1)		**Source: AAH0433-01**				Prepared & Analyzed: 08/15/17					
Mercury	1.71			ug/L	1.6667	0.00991	102	80-120			
Batch 7080373 - EPA 3005A											
Blank (7080373-BLK1)						Prepared & Analyzed: 08/17/17					
Antimony	ND	0.0030	0.0006	mg/L							
Arsenic	ND	0.0050	0.0005	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00009	mg/L							
Boron	ND	0.0400	0.0060	mg/L							
Cadmium	ND	0.0010	0.0001	mg/L							
Calcium	ND	0.500	0.0404	mg/L							
Chromium	ND	0.0100	0.0005	mg/L							
Cobalt	ND	0.0100	0.0003	mg/L							
Copper	ND	0.0250	0.0003	mg/L							
Lead	ND	0.0050	0.00007	mg/L							
Molybdenum	ND	0.0100	0.0010	mg/L							
Nickel	ND	0.0100	0.0005	mg/L							
Selenium	ND	0.0100	0.0018	mg/L							
Silver	ND	0.0100	0.0002	mg/L							
Thallium	ND	0.0010	0.00005	mg/L							
Vanadium	ND	0.0100	0.0012	mg/L							
Zinc	ND	0.0100	0.0012	mg/L							
Lithium	ND	0.0500	0.0015	mg/L							

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August 21, 2017

Report No.: AAH0439

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7080373 - EPA 3005A											
LCS (7080373-BS1)						Prepared & Analyzed: 08/17/17					
Antimony	0.0989	0.0030	0.0006	mg/L	0.10000		99	80-120			
Arsenic	0.0977	0.0050	0.0005	mg/L	0.10000		98	80-120			
Barium	0.102	0.0100	0.0004	mg/L	0.10000		102	80-120			
Beryllium	0.105	0.0030	0.00009	mg/L	0.10000		105	80-120			
Boron	1.07	0.0400	0.0060	mg/L	1.0000		107	80-120			
Cadmium	0.101	0.0010	0.0001	mg/L	0.10000		101	80-120			
Calcium	1.02	0.500	0.0404	mg/L	1.0000		102	80-120			
Chromium	0.0987	0.0100	0.0005	mg/L	0.10000		99	80-120			
Cobalt	0.0982	0.0100	0.0003	mg/L	0.10000		98	80-120			
Copper	0.0984	0.0250	0.0003	mg/L	0.10000		98	80-120			
Lead	0.101	0.0050	0.00007	mg/L	0.10000		101	80-120			
Molybdenum	0.102	0.0100	0.0010	mg/L	0.10000		102	80-120			
Nickel	0.0976	0.0100	0.0005	mg/L	0.10000		98	80-120			
Selenium	0.0984	0.0100	0.0018	mg/L	0.10000		98	80-120			
Silver	0.101	0.0100	0.0002	mg/L	0.10000		101	80-120			
Thallium	0.102	0.0010	0.00005	mg/L	0.10000		102	80-120			
Vanadium	0.0990	0.0100	0.0012	mg/L	0.10000		99	80-120			
Zinc	0.0974	0.0100	0.0012	mg/L	0.10000		97	80-120			
Lithium	0.106	0.0500	0.0015	mg/L	0.10000		106	80-120			
Matrix Spike (7080373-MS1)		**Source: AAH0433-02**				Prepared & Analyzed: 08/17/17					
Antimony	0.102	0.0030	0.0006	mg/L	0.10000	ND	102	75-125			
Arsenic	0.104	0.0050	0.0005	mg/L	0.10000	ND	104	75-125			
Barium	0.165	0.0100	0.0004	mg/L	0.10000	0.0672	97	75-125			
Beryllium	0.0954	0.0030	0.00009	mg/L	0.10000	ND	95	75-125			
Boron	1.57	0.0400	0.0060	mg/L	1.0000	0.524	105	75-125			
Cadmium	0.104	0.0010	0.0001	mg/L	0.10000	ND	104	75-125			
Calcium	104	25.0	2.02	mg/L	1.0000	99.1	456	75-125			QM-02
Chromium	0.100	0.0100	0.0005	mg/L	0.10000	ND	100	75-125			
Cobalt	0.101	0.0100	0.0003	mg/L	0.10000	ND	101	75-125			
Copper	0.0984	0.0250	0.0003	mg/L	0.10000	ND	98	75-125			
Lead	0.0995	0.0050	0.00007	mg/L	0.10000	0.00008	99	75-125			
Molybdenum	0.107	0.0100	0.0010	mg/L	0.10000	0.0013	106	75-125			
Nickel	0.102	0.0100	0.0005	mg/L	0.10000	ND	102	75-125			
Selenium	0.107	0.0100	0.0018	mg/L	0.10000	ND	107	75-125			
Silver	0.100	0.0100	0.0002	mg/L	0.10000	ND	100	75-125			
Thallium	0.103	0.0010	0.00005	mg/L	0.10000	ND	103	75-125			
Vanadium	0.102	0.0100	0.0012	mg/L	0.10000	ND	102	75-125			
Zinc	0.0997	0.0100	0.0012	mg/L	0.10000	0.0012	98	75-125			
Lithium	0.0960	0.0500	0.0015	mg/L	0.10000	ND	96	75-125			

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

August 21, 2017

Report No.: AAH0439

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7080373 - EPA 3005A											
Matrix Spike Dup (7080373-MSD1)		**Source: AAH0433-02**			Prepared & Analyzed: 08/17/17						
Antimony	0.102	0.0030	0.0006	mg/L	0.10000	ND	102	75-125	0.05	20	
Arsenic	0.102	0.0050	0.0005	mg/L	0.10000	ND	102	75-125	2	20	
Barium	0.163	0.0100	0.0004	mg/L	0.10000	0.0672	96	75-125	0.9	20	
Beryllium	0.0899	0.0030	0.00009	mg/L	0.10000	ND	90	75-125	6	20	
Boron	1.49	0.0400	0.0060	mg/L	1.0000	0.524	96	75-125	5	20	
Cadmium	0.104	0.0010	0.0001	mg/L	0.10000	ND	104	75-125	0.2	20	
Calcium	110	25.0	2.02	mg/L	1.0000	99.1	NR	75-125	6	20	QM-02
Chromium	0.100	0.0100	0.0005	mg/L	0.10000	ND	100	75-125	0.07	20	
Cobalt	0.0983	0.0100	0.0003	mg/L	0.10000	ND	98	75-125	3	20	
Copper	0.0969	0.0250	0.0003	mg/L	0.10000	ND	97	75-125	2	20	
Lead	0.0986	0.0050	0.00007	mg/L	0.10000	0.00008	99	75-125	0.9	20	
Molybdenum	0.107	0.0100	0.0010	mg/L	0.10000	0.0013	105	75-125	0.4	20	
Nickel	0.0992	0.0100	0.0005	mg/L	0.10000	ND	99	75-125	3	20	
Selenium	0.104	0.0100	0.0018	mg/L	0.10000	ND	104	75-125	3	20	
Silver	0.0980	0.0100	0.0002	mg/L	0.10000	ND	98	75-125	2	20	
Thallium	0.102	0.0010	0.00005	mg/L	0.10000	ND	102	75-125	1	20	
Vanadium	0.105	0.0100	0.0012	mg/L	0.10000	ND	105	75-125	2	20	
Zinc	0.101	0.0100	0.0012	mg/L	0.10000	0.0012	99	75-125	0.8	20	
Lithium	0.0922	0.0500	0.0015	mg/L	0.10000	ND	92	75-125	4	20	
Post Spike (7080373-PS1)		**Source: AAH0433-02**			Prepared & Analyzed: 08/17/17						
Antimony	92.9			ug/L	100.00	0.116	93	80-120			
Arsenic	101			ug/L	100.00	0.161	101	80-120			
Barium	159			ug/L	100.00	67.2	91	80-120			
Beryllium	92.1			ug/L	100.00	0.0081	92	80-120			
Boron	1510			ug/L	1000.0	524	98	80-120			
Cadmium	103			ug/L	100.00	-0.0059	103	80-120			
Calcium	102000			ug/L	1000.0	99100	340	80-120			QM-02
Chromium	98.7			ug/L	100.00	0.227	98	80-120			
Cobalt	97.5			ug/L	100.00	0.100	97	80-120			
Copper	95.8			ug/L	100.00	0.196	96	80-120			
Lead	97.4			ug/L	100.00	0.0751	97	80-120			
Molybdenum	105			ug/L	100.00	1.27	104	80-120			
Nickel	97.2			ug/L	100.00	0.342	97	80-120			
Selenium	103			ug/L	100.00	1.33	102	80-120			
Silver	95.9			ug/L	100.00	0.0027	96	80-120			
Thallium	99.1			ug/L	100.00	0.0030	99	80-120			
Vanadium	104			ug/L	100.00	-0.345	104	80-120			
Zinc	98.6			ug/L	100.00	1.21	97	80-120			
Lithium	93.2			ug/L	100.00	1.02	92	80-120			

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Attention: Mr. Joju Abraham

August 21, 2017

Legend

Definition of Laboratory Terms

ND - Not Detected at levels equal to or greater than the MDL
BRL - Not Detected at levels equal to or greater than the RL
RL - Reporting Limit **MDL** - Method Detection Limit
SOP - Method run per Pace Standard Operating Procedure
CFU - Colony Forming Units
DF - Dilution Factor **TIC** - Tentatively Identified Compound

Sample Information

N-Nitrosodiphenylamine breaks down to diphenylamine in the GCMS; both analytes are reported as N-Nitrososdiphenylamine. Pace is not NELAC certified for N-Nitrososdiphenylamine.

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

1,2-Diphenylhydrazine breaks down to azobenzene in the GCMS; both analytes are reported as azobenzene

Definition of Qualifiers

QM-02 The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.

J Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

B-01 Analyte was detected in the associated method blank at an estimated level equal to or greater than the MDL. Sample values reported as greater than the MDL and less than 10x the method blank value are reported as estimated values.

Note: Unless otherwise noted, all results are reported on an as received basis.

CHAIN OF CUSTODY RECORD

Pace Analytical®

Pace Analytical Services, Inc.
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201 : www.asi-lab.com

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd SE B10185
Atlanta, GA 30308
404-506-7239

REPORT TO: Lauren Petty
CC: Maria Padilla, Heath McCorkle
REQUESTED COMPLETION DATE:
PO #: laburch@southernco.com

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: Phase II - CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4, & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)							LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
CONTAINER TYPE:								P	P	P								
PRESERVATION:								3	7	3								
08/10/17	9:55	W		X	HGWA-111	4		1	1	2							1	
08/10/17	11:00	W		X	HGWA-112	4		1	1	2							2	
08/10/17	13:07	W		X	HGWA-113	4		1	1	2							3	
08/10/17	9:30	W		X	HGWC-117	4		1	1	2							4	
08/10/17	10:50	W		X	HGWC-118	6		1	1	4							5	2nd Radium volume collected for Lab QA/QC
08/10/17	12:25	W		X	HGWC-101	4		1	1	2							6	
08/10/17	13:25	W		X	HGWC-103	4		1	1	2							7	
08/10/17	14:25	W		X	HGWC-105	4		1	1	2							8	
08/10/17	14:35	W		X	HGWC-107	4		1	1	2							9	
08/10/17	15:20	W		X	HGWC-109	4		1	1	2							10	
08/10/17	–	W		X	DUP-1	4		1	1	2							11	
08/10/17	15:25	W		X	FB-1	4		1	1	2							12	

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
	7 - ≤6°C not frozen

*MATRIX CODES:

DW -	DRINKING WATER	S -	SOIL
WW -	WASTEWATER	SL -	SLUDGE
GW -	GROUNDWATER	SD -	SOLID
SW -	SURFACE WATER	A -	AIR
ST -	STORM WATER	L -	LIQUID
W -	WATER	P -	PRODUCT

SAMPLED BY AND TITLE: W.Virgo WFP M.Thomas MT
DATE/TIME: 8/10/17 1530

RELINQUISHED BY: Will Virgo (FRM)
DATE/TIME: 8/10/17 2100

RECEIVED BY:
DATE/TIME:

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY/LAB: Laburman
DATE/TIME: 08/11/17 1430

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS

Checked: Yes No NA
Ice: Yes No NA
Temperature: Min 1°C Max
Custody Seal: Intact Broken Not Present
# of Coolers
Cooler ID

FOR LAB USE ONLY
LAB #: 44140439
Entered into LIMS:
Tracking #:

CHAIN OF CUSTODY RECORD

Pace Analytical Services, Inc.
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
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CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
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404-506-7239

REPORT TO: Lauren Petty
CC: Maria Padilla, Heath McCorkle
REQUESTED COMPLETION DATE:
PO #: laburch@southernco.com

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: Phase II - CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)	LAB ID NUMBER
CONTAINER TYPE:								P	P	P	
PRESERVATION:								3	7	3	
08/10/17	15:30	W		X	FERB-1	4		1	1	2	13

CONTAINER TYPE / PRESERVATION

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
	7 - ≤6°C not frozen

*MATRIX CODES:

DW - DRINKING WATER	S - SOIL
WW - WASTEWATER	SL - SLUDGE
GW - GROUNDWATER	SD - SOLID
SW - SURFACE WATER	A - AIR
ST - STORM WATER	L - LIQUID
W - WATER	P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: W.Virgo WFP M.Thomas MT
DATE/TIME: 8/10/17 1530
RELINQUISHED BY: W.Virgo (ERM)
DATE/TIME: 8/10/17 2100

RECEIVED BY:
DATE/TIME:
RELINQUISHED BY:
DATE/TIME:

RECEIVED BY LAB: Holtman
DATE/TIME: 08/11/17 1430
SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS

Checked: Yes No NA
Temperature: Min: 1.1 Max: 1.6
Custody Seal: Intact Broken Not Present
# of Coolers:
Cooler ID:

FOR LAB USE ONLY
LAB #: AA40439
Entered into LIMS:
Tracking #:

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power Project # AAH0439

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other _____

Optional: Proj. Due Date: Proj. Name:

Tracking #: _____

Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals intact: ☒ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other _____

Thermometer Used IR-4 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 1.1 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 8/11/17 MR

Temp should be above freezing to 6°C

			Comments:
Chain of Custody Present:	☒Yes	☐No ☐N/A	1.
Chain of Custody Filled Out:	☒Yes	☐No ☐N/A	2.
Chain of Custody Relinquished:	☒Yes	☐No ☐N/A	3
Sampler Name & Signature on COC:	☒Yes	☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes	☐No ☐N/A	5
Short Hold Time Analysis (<72hr):	☐Yes	☒No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☒No ☐N/A	7
Sufficient Volume:	☒Yes	☐No ☐N/A	8
Correct Containers Used:	☒Yes	☐No ☐N/A	9.
-Pace Containers Used:	☒Yes	☐No ☐N/A	
Containers Intact:	☒Yes	☐No ☐N/A	10
Filtered volume received for Dissolved tests	☐Yes	☐No ☒N/A	11
Sample Labels match COC:	☒Yes	☐No ☐N/A	12
-Includes date/time/ID/Analysis Matrix: GW			
All containers needing preservation have been checked.	☒Yes	☐No ☐N/A	13
All containers needing preservation are found to be in compliance with EPA recommendation.	☒Yes	☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☒Yes	☐No	Initial when completed: _____ Lot # of added preservative: _____
Samples checked for dechlorination:	☐Yes	☐No ☒N/A	14
Headspace in VOA Vials (>6mm):	☐Yes	☐No ☒N/A	15
Trip Blank Present:	☐Yes	☐No ☒N/A	16
Trip Blank Custody Seals Present	☐Yes	☐No ☒N/A	
Pace Trip Blank Lot # (if purchased): _____			

Client Notification/ Resolution: Field Data Required? Y N

Person Contacted _____ Date/Time _____

Comments/ Resolution _____

Project Manager Review: _____ Date: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

FALL-Q-001rev.3, 11September2006

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

LOG-IN CHECKLIST **Printed: 8/14/2017 11:34:52AM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 08/11/17 14:30

Work Order: AAH0439
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 13 **#Containers:** 54

Minimum Temp(C): 1.1 **Maximum Temp(C):** 1.1 **Custody Seal(s) Used:** Yes

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	YES
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

September 05, 2017

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: AAH0439 Plant Hammond
Pace Project No.: 30227121

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on August 14, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Revision 1: This report replaces the September 1, 2017 report. Project reissued September 5, 2017 to reflect correction of Client Sample ID for 30227121011.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: AAH0439 Plant Hammond
Pace Project No.: 30227121

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: AAH0439 Plant Hammond
Pace Project No.: 30227121

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30227121001	**HGWA-111**	Water	08/10/17 09:55	08/14/17 09:30
30227121002	**HGWA-112**	Water	08/10/17 11:00	08/14/17 09:30
30227121003	**HGWA-113**	Water	08/10/17 13:07	08/14/17 09:30
30227121004	**HGWC-117**	Water	08/10/17 09:30	08/14/17 09:30
30227121005	**HGWC-118**	Water	08/10/17 10:50	08/14/17 09:30
30227121006	**HGWC-101**	Water	08/10/17 12:25	08/14/17 09:30
30227121007	**HGWC-103**	Water	08/10/17 13:25	08/14/17 09:30
30227121008	**HGWC-105**	Water	08/10/17 14:25	08/14/17 09:30
30227121009	**HGWC-107**	Water	08/10/17 14:35	08/14/17 09:30
30227121010	**HGWC-109**	Water	08/10/17 15:20	08/14/17 09:30
30227121011	**Dup-1**	Water	08/10/17 00:00	08/14/17 09:30
30227121012	**FB-1**	Water	08/10/17 15:25	08/14/17 09:30
30227121013	**FERB-1**	Water	08/10/17 15:30	08/14/17 09:30

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SAMPLE ANALYTE COUNT

Project: AAH0439 Plant Hammond
Pace Project No.: 30227121

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30227121001	**HGWA-111**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1
30227121002	**HGWA-112**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1
30227121003	**HGWA-113**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1
30227121004	**HGWC-117**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1
30227121005	**HGWC-118**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1
30227121006	**HGWC-101**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1
30227121007	**HGWC-103**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1
30227121008	**HGWC-105**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1
30227121009	**HGWC-107**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1
30227121010	**HGWC-109**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1
30227121011	**Dup-1**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1
30227121012	**FB-1**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1
30227121013	**FERB-1**	EPA 9315	JC2	1

Pace Analytical Services, LLC
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(724)850-5600

SAMPLE ANALYTE COUNT

Project: AAH0439 Plant Hammond
Pace Project No.: 30227121

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAH0439 Plant Hammond
Pace Project No.: 30227121

Sample: HGWA-111 **Lab ID: 30227121001** Collected: 08/10/17 09:55 Received: 08/14/17 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.329 ± 0.232 (0.373) C:89% T:NA**	pCi/L	08/18/17 08:16	13982-63-3	
Radium-228	EPA 9320	**0.416 ± 0.414 (0.850) C:81% T:81%**	pCi/L	08/22/17 18:15	15262-20-1	
Total Radium	Total Radium Calculation	**0.745 ± 0.646 (1.22)**	pCi/L	08/31/17 14:22	7440-14-4	

Sample: HGWA-112 **Lab ID: 30227121002** Collected: 08/10/17 11:00 Received: 08/14/17 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.439 ± 0.257 (0.367) C:92% T:NA**	pCi/L	08/18/17 08:16	13982-63-3	
Radium-228	EPA 9320	**0.0970 ± 0.365 (0.830) C:82% T:82%**	pCi/L	08/22/17 18:15	15262-20-1	
Total Radium	Total Radium Calculation	**0.536 ± 0.622 (1.20)**	pCi/L	08/31/17 14:22	7440-14-4	

Sample: HGWA-113 **Lab ID: 30227121003** Collected: 08/10/17 13:07 Received: 08/14/17 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.454 ± 0.281 (0.446) C:95% T:NA**	pCi/L	08/18/17 08:16	13982-63-3	
Radium-228	EPA 9320	**0.305 ± 0.352 (0.732) C:79% T:81%**	pCi/L	08/22/17 18:15	15262-20-1	
Total Radium	Total Radium Calculation	**0.759 ± 0.633 (1.18)**	pCi/L	08/31/17 14:22	7440-14-4	

Sample: HGWC-117 **Lab ID: 30227121004** Collected: 08/10/17 09:30 Received: 08/14/17 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.452 ± 0.249 (0.317) C:97% T:NA**	pCi/L	08/18/17 08:16	13982-63-3	
Radium-228	EPA 9320	**0.243 ± 0.376 (0.814) C:76% T:85%**	pCi/L	08/22/17 18:15	15262-20-1	
Total Radium	Total Radium Calculation	**0.695 ± 0.625 (1.13)**	pCi/L	08/31/17 14:22	7440-14-4	

Sample: HGWC-118 **Lab ID: 30227121005** Collected: 08/10/17 10:50 Received: 08/14/17 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.282 ± 0.219 (0.370) C:86% T:NA**	pCi/L	08/18/17 08:16	13982-63-3	
Radium-228	EPA 9320	**0.656 ± 0.442 (0.839) C:75% T:87%**	pCi/L	08/22/17 18:15	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAH0439 Plant Hammond
Pace Project No.: 30227121

Sample: HGWC-118 **Lab ID: 30227121005** Collected: 08/10/17 10:50 Received: 08/14/17 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	**0.938 ± 0.661 (1.21)**	pCi/L	08/31/17 14:22	7440-14-4	

Sample: HGWC-101 **Lab ID: 30227121006** Collected: 08/10/17 12:25 Received: 08/14/17 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.310 ± 0.224 (0.374) C:90% T:NA**	pCi/L	08/18/17 08:16	13982-63-3	
Radium-228	EPA 9320	**0.719 ± 0.460 (0.864) C:80% T:84%**	pCi/L	08/22/17 18:15	15262-20-1	
Total Radium	Total Radium Calculation	**1.03 ± 0.684 (1.24)**	pCi/L	08/31/17 14:22	7440-14-4	

Sample: HGWC-103 **Lab ID: 30227121007** Collected: 08/10/17 13:25 Received: 08/14/17 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.406 ± 0.292 (0.525) C:91% T:NA**	pCi/L	08/18/17 08:16	13982-63-3	
Radium-228	EPA 9320	**0.195 ± 0.401 (0.886) C:77% T:84%**	pCi/L	08/22/17 18:15	15262-20-1	
Total Radium	Total Radium Calculation	**0.601 ± 0.693 (1.41)**	pCi/L	08/31/17 14:22	7440-14-4	

Sample: HGWC-105 **Lab ID: 30227121008** Collected: 08/10/17 14:25 Received: 08/14/17 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.423 ± 0.255 (0.385) C:94% T:NA**	pCi/L	08/18/17 08:16	13982-63-3	
Radium-228	EPA 9320	**0.931 ± 0.473 (0.808) C:78% T:83%**	pCi/L	08/22/17 18:16	15262-20-1	
Total Radium	Total Radium Calculation	**1.35 ± 0.728 (1.19)**	pCi/L	08/31/17 14:22	7440-14-4	

Sample: HGWC-107 **Lab ID: 30227121009** Collected: 08/10/17 14:35 Received: 08/14/17 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.423 ± 0.259 (0.397) C:90% T:NA**	pCi/L	08/18/17 08:17	13982-63-3	
Radium-228	EPA 9320	**0.417 ± 0.445 (0.927) C:80% T:83%**	pCi/L	08/22/17 18:16	15262-20-1	
Total Radium	Total Radium Calculation	**0.840 ± 0.704 (1.32)**	pCi/L	08/31/17 14:22	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAH0439 Plant Hammond
Pace Project No.: 30227121

Sample: HGWC-109 **Lab ID: 30227121010** Collected: 08/10/17 15:20 Received: 08/14/17 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.202 ± 0.207 (0.406) C:93% T:NA**	pCi/L	08/18/17 08:17	13982-63-3	
Radium-228	EPA 9320	**0.489 ± 0.387 (0.757) C:78% T:87%**	pCi/L	08/22/17 18:16	15262-20-1	
Total Radium	Total Radium Calculation	**0.691 ± 0.594 (1.16)**	pCi/L	08/31/17 14:22	7440-14-4	

Sample: Dup-1 **Lab ID: 30227121011** Collected: 08/10/17 00:00 Received: 08/14/17 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.206 ± 0.193 (0.363) C:94% T:NA**	pCi/L	08/18/17 08:17	13982-63-3	
Radium-228	EPA 9320	**0.508 ± 0.404 (0.789) C:80% T:80%**	pCi/L	08/22/17 18:16	15262-20-1	
Total Radium	Total Radium Calculation	**0.714 ± 0.597 (1.15)**	pCi/L	08/31/17 14:22	7440-14-4	

Sample: FB-1 **Lab ID: 30227121012** Collected: 08/10/17 15:25 Received: 08/14/17 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.131 ± 0.178 (0.380) C:94% T:NA**	pCi/L	08/18/17 08:17	13982-63-3	
Radium-228	EPA 9320	**0.307 ± 0.354 (0.737) C:77% T:80%**	pCi/L	08/22/17 18:16	15262-20-1	
Total Radium	Total Radium Calculation	**0.438 ± 0.532 (1.12)**	pCi/L	08/31/17 14:22	7440-14-4	

Sample: FERB-1 **Lab ID: 30227121013** Collected: 08/10/17 15:30 Received: 08/14/17 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.199 ± 0.199 (0.390) C:95% T:NA**	pCi/L	08/18/17 08:17	13982-63-3	
Radium-228	EPA 9320	**0.636 ± 0.461 (0.889) C:78% T:79%**	pCi/L	08/22/17 18:16	15262-20-1	
Total Radium	Total Radium Calculation	**0.835 ± 0.660 (1.28)**	pCi/L	08/31/17 14:22	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAH0439 Plant Hammond
Pace Project No.: 30227121

QC Batch: 268401 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30227121001, 30227121002, 30227121003, 30227121004, 30227121005, 30227121006, 30227121007, 30227121008, 30227121009, 30227121010, 30227121011, 30227121012, 30227121013

METHOD BLANK: 1321110 Matrix: Water
Associated Lab Samples: 30227121001, 30227121002, 30227121003, 30227121004, 30227121005, 30227121006, 30227121007, 30227121008, 30227121009, 30227121010, 30227121011, 30227121012, 30227121013

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.207 ± 0.167 (0.268) C:98% T:NA	pCi/L	08/18/17 08:15	

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
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAH0439 Plant Hammond
Pace Project No.: 30227121

QC Batch: 268400 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30227121001, 30227121002, 30227121003, 30227121004, 30227121005, 30227121006, 30227121007, 30227121008, 30227121009, 30227121010, 30227121011, 30227121012, 30227121013

METHOD BLANK: 1321109 Matrix: Water
Associated Lab Samples: 30227121001, 30227121002, 30227121003, 30227121004, 30227121005, 30227121006, 30227121007, 30227121008, 30227121009, 30227121010, 30227121011, 30227121012, 30227121013

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.758 ± 0.377 (0.651) C:78% T:88%	pCi/L	08/22/17 15:56	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: AAH0439 Plant Hammond
Pace Project No.: 30227121

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAH0439 Workorder Name: Plant Hammond Owner Received Date: Results Requested By: 9/6/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis Radium 226, 228, Total	LAB USE ONLY
1	HGWA-111	G	8/10/2017 9:55	AAH0439-01	GW	2	X	001
2	HGWA-112	G	8/10/2017 11:00	AAH0439-02	GW	2	X	002
3	HGWA-113	G	8/10/2017 13:07	AAH0439-03	GW	2	X	003
4	HGWC-117	G	8/10/2017 9:30	AAH0439-04	GW	2	X	004
5	HGWC-118	G	8/10/2017 10:50	AAH0439-05	GW	4	X	005
6	HGWC-101	G	8/10/2017 12:25	AAH0439-06	GW	2	X	006
7	HGWC-103	G	8/10/2017 13:25	AAH0439-07	GW	2	X	007
8	HGWC-105	G	8/10/2017 14:25	AAH0439-08	GW	2	X	008
9	HGWC-107	G	8/10/2017 14:35	AAH0439-09	GW	2	X	009
10	HGWC-109	G	8/10/2017 15:20	AAH0439-10	GW	2	X	010

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	M. RAHMAN	8/11/17	[signature]	8/14/17 1008	EQuIS deliverable required (Profile 7564)
2					
3					

Cooler Temperature on Receipt	°C	Custody Seal Y or N	Received on Ice Y or N	Sample Intact Y or N
	NR			

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC
This chain of custody is considered complete as is since this information is available in the owner laboratory.

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAH0439 Workorder Name: Plant Hammond Owner Received Date: Results Requested By: 9/6/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis: Radium 226, 228, Total	30227121	LAB USE ONLY
11	Dup-1-1-4-17	G	8/10/2017 0:00	AAH0439-11	GW	2	X		01
12	FB-1	G	8/10/2017 15:25	AAH0439-12	W	2	X		012
13	FERB-1	G	8/10/2017 15:30	AAH0439-13	W	2	X		013
14									
15									
16									
17									
18									
19									
20									

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	M. RAHMAN	8/11/17	C. Carney	8/14/17 0930	EQuIS deliverable required (Profile 7564)
2					
3					

Cooler Temperature on Receipt NA °C	Custody Seal Y or N	Received on Ice Y or N	Sample Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC. This chain of custody is considered complete as is since this information is available in the owner laboratory.

CHAIN OF CUSTODY RECORD

PaceAnalytical

Pace Analytical Services, Inc.
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201 : www.asi-lab.com

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 241 Ralph McGill Blvd SE B10185, Atlanta, GA 30308, 404-506-7239

REPORT TO: Lauren Petty

CC: Maria Padilla, Heath McCorkle

REQUESTED COMPLETION DATE:

PO #: laburch@southernco.com

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: Phase II - CCR

ANALYSIS REQUESTED

	Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)
CONTAINER TYPE:	P	P	P
PRESERVATION:	3	7	3

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)	LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
08/10/17	9:55	W		X	HGWA-111	4	1	1	2	1	
08/10/17	11:00	W		X	HGWA-112	4	1	1	2	2	30227121
08/10/17	13:07	W		X	HGWA-113	4	1	1	2	3	
08/10/17	9:30	W		X	HGWC-117	4	1	1	2	4	
08/10/17	10:50	W		X	HGWC-118	6	1	1	4	5	2nd Radium volume collected for Lab QA/QC
08/10/17	12:25	W		X	HGWC-101	4	1	1	2	6	
08/10/17	13:25	W		X	HGWC-103	4	1	1	2	7	
08/10/17	14:25	W		X	HGWC-105	4	1	1	2	8	
08/10/17	14:35	W		X	HGWC-107	4	1	1	2	9	
08/10/17	15:20	W		X	HGWC-109	4	1	1	2	10	
08/10/17	–	W		X	DUP-1	4	1	1	2	11	
08/10/17	15:25	W		X	FB-1	4	1	1	2	12	

CONTAINER TYPE: P - PLASTIC; A - AMBER GLASS; G - CLEAR GLASS; V - VOA VIAL; S - STERILE; O - OTHER

PRESERVATION: 1 - HCl, ≤6°C; 2 - H_2SO_4, ≤6°C; 3 - HNO_3; 4 - NaOH, ≤6°C; 5 - NaOH/ZnAc, ≤6°C; 6 - $Na_2S_2O_3$, ≤6°C; 7 - ≤6°C not frozen

*MATRIX CODES: DW - DRINKING WATER; WW - WASTEWATER; GW - GROUNDWATER; SW - SURFACE WATER; ST - STORM WATER; W - WATER; S - SOIL; SL - SLUDGE; SD - SOLID; A - AIR; L - LIQUID; P - PRODUCT

SAMPLED BY AND TITLE: W.Virgo WFP M.Thomas MT — DATE/TIME: 8/10/17 1530

RELINQUISHED BY: Will Virgo (ERM) — DATE/TIME: 8/10/17 2100

RECEIVED BY: — DATE/TIME:

RELINQUISHED BY: — DATE/TIME:

RECEIVED BY LAB: M. Rattman — DATE/TIME: 08/11/17 1430

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER PS — Pace

pH checked: Yes No NA — Ice: Yes No NA — Temperature: Min: 1.1 Max: — Custody Seal: Intact Broken Not Present — # of Coolers: — Cooler ID:

FOR LAB USE ONLY — LAB #: AAH0439 — Entered into LIMS: MR — Tracking #:

20170810 AP 3&4 COC_Sample Management Form.xlsx

CHAIN OF CUSTODY RECORD

Pace Analytical®

Pace Analytical Services, Inc.
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201 : www.asi-lab.com

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
241 Ralph McGill Blvd SE B10185
Atlanta, GA 30308
404-506-7239

REPORT TO: Lauren Petty
CC: Maria Padilla, Heath McCorkle
REQUESTED COMPLETION DATE:
PO #: laburch@southernco.com

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: Phase II - CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)	LAB ID NUMBER
CONTAINER TYPE:							P	P	P	
PRESERVATION:							3	7	3	
08/10/17	15:30	W		X	FERB-1	4	1	1	2	13

CONTAINER TYPE / PRESERVATION

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
	7 - ≤6°C not frozen

*MATRIX CODES:

DW - DRINKING WATER	S - SOIL
WW - WASTEWATER	SL - SLUDGE
GW - GROUNDWATER	SD - SOLID
SW - SURFACE WATER	A - AIR
ST - STORM WATER	L - LIQUID
W - WATER	P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

30227121

SAMPLED BY AND TITLE: W.Virgo WFT M.Thomas JCT
DATE/TIME: 8/10/17 1530

RELINQUISHED BY: W.Virgo (ERM)
DATE/TIME: 8/10/17 2100

RECEIVED BY:
DATE/TIME:

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY LAB: M.Robinson
DATE/TIME: 08/11/17 1430

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS

pH checked: Yes No NA
Ice: Yes No NA
Temperature: Min 1.1 Max
Custody Seal: Intact Broken Not Present
Coolers:
Cooler ID:

FOR LAB USE ONLY
LAB #: AALI0459
Entered into LIMS:
Tracking #:

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power Project # AAH0439

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other ____

Optional: Proj. Due Date: ____ Proj. Name: ____

Tracking #: ____

Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals intact: ☒ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other ____

Thermometer Used: IR-4 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 1.1 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 8/11/17 DR

Temp should be above freezing to 6°C

			Comments:
Chain of Custody Present:	☒Yes	☐No ☐N/A	1. 30227121
Chain of Custody Filled Out:	☒Yes	☐No ☐N/A	2.
Chain of Custody Relinquished:	☒Yes	☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes	☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes	☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☒No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☒No ☐N/A	7
Sufficient Volume:	☒Yes	☐No ☐N/A	8
Correct Containers Used:	☒Yes	☐No ☐N/A	9.
-Pace Containers Used:	☒Yes	☐No ☐N/A	
Containers Intact:	☒Yes	☐No ☐N/A	10
Filtered volume received for Dissolved tests	☐Yes	☐No ☒N/A	11
Sample Labels match COC:	☒Yes	☐No ☐N/A	12
-Includes date/time/ID/Analysis Matrix: GW			
All containers needing preservation have been checked.	☒Yes	☐No ☐N/A	13
All containers needing preservation are found to be in compliance with EPA recommendation.	☒Yes	☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO, water)	☒Yes	☐No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No ☒N/A	14
Headspace in VOA Vials (>6mm):	☐Yes	☐No ☒N/A	15
Trip Blank Present:	☐Yes	☐No ☒N/A	16
Trip Blank Custody Seals Present	☐Yes	☐No ☒N/A	
Pace Trip Blank Lot # (if purchased) ____			

Client Notification/ Resolution: Field Data Required? Y N

Person Contacted ____ Date/Time ____

Comments/ Resolution ____

Project Manager Review: ____ **Date:** ____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

F-ALL-C002rev.3, 11September2006

Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: Pace-GA Project # 30227121

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Label A M

Tracking #: 7413 6657 8399, 7413 6657 8414

LIMS Login AM

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals Intact: ☐ yes ☐ no

Thermometer Used N/A Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp N/A °C Correction Factor: — °C Final Temp: — °C

Temp should be above freezing to 6°C

Date and initials of person examining contents: BLM 8-14-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:	✓			4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:	✓			
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Organic Samples checked for dechlorination:			✓	13.
Filtered volume received for Dissolved tests			✓	14.
All containers have been checked for preservation.	✓			15. PH<2
All containers needing preservation are found to be in compliance with EPA recommendation.	✓			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed: BLM Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	16.
Trip Blank Present:			✓	17.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: BLM Date: 8-14-17

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-228
Analyst:	VAL
Date:	8/16/2017
Worklist:	37229
Matrix:	DW

Method Blank Assessment	
MB Sample ID	1321109
MB concentration:	0.758
M/B Counting Uncertainty:	0.352
MB MDC:	0.651
MB Numerical Performance Indicator:	4.22
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	See Comment*

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS37229	LCSD37229
Count Date:	8/22/2017	
Spike I.D.:	17-005	
Spike Concentration (pCi/mL):	23.745	
Volume Used (mL):	0.20	
Aliquot Volume (L, g, F):	0.808	
Target Conc. (pCi/L, g, F):	5.879	
Uncertainty (Calculated):	0.423	
Result (pCi/L, g, F):	6.433	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.646	
Numerical Performance Indicator:	1.41	
Percent Recovery:	109.42%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Sample Matrix Spike Control Assessment	
Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30226784001	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30226784001DUP	
Sample Result (pCi/L, g, F):	1.034	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.360	
Sample Duplicate Result (pCi/L, g, F):	0.883	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.352	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	0.588	30226784001
Duplicate RPD:	15.76%	30226784001DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:
*The method blank result is below the reporting limit for this analysis and is acceptable.

9/1/17

Quality Control Sample Performance Assessment

Pace Analytical™
www.pacelabs.com

Test:	Ra-226
Analyst:	JC2
Date:	8/17/2017
Worklist:	37230
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1321110
MB concentration:	0.207
M/B Counting Uncertainty:	0.164
MB MDC:	0.268
MB Numerical Performance Indicator:	2.47
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS37230	LCSD37230
Count Date:	8/18/2017	
Spike I.D.:	17-030	
Spike Concentration (pCi/mL):	80.195	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.501	
Target Conc. (pCi/L, g, F):	16.002	
Uncertainty (Calculated):	1.474	
Result (pCi/L, g, F):	12.791	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.073	
Numerical Performance Indicator:	-3.45	
Percent Recovery:	79.94%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Sample Matrix Spike Control Assessment	
Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30226784001	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30226784001DUP	
Sample Result (pCi/L, g, F):	0.448	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.286	
Sample Duplicate Result (pCi/L, g, F):	0.303	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.225	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	0.783	30226784001
Duplicate RPD:	38.71%	30226784001DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	

Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

***Batch must be re-prepped due to unacceptable precision.

8/17/17

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AAJ0054
October 11, 2017
Project: CCR Event
Project #:Plant Hammond

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Approved:

Project Manager

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

October 11, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HGWC-120	AAJ0054-01	Water	10/02/17 12:35	10/03/17 13:45
HGWC-121A	AAJ0054-02	Water	10/02/17 15:05	10/03/17 13:45

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October 11, 2017

Report No.: AAJ0054
Client ID: HGWC-120
Date/Time Sampled: 10/2/2017 12:35:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAJ0054-01
Date/Time Received: 10/3/2017 1:45:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	672	25	10	mg/L	SM 2540 C		1	10/05/17 18:25	10/05/17 18:25	7100141	JPT
Inorganic Anions											
Chloride	4.2	0.25	0.02	mg/L	EPA 300.0		1	10/05/17 08:52	10/05/17 14:58	7100133	RLC
Fluoride	1.0	0.30	0.03	mg/L	EPA 300.0		1	10/05/17 08:52	10/05/17 14:58	7100133	RLC
Sulfate	300	10	0.17	mg/L	EPA 300.0		10	10/05/17 08:52	10/10/17 16:52	7100133	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	10/04/17 14:45	10/04/17 20:32	7100074	CSW
Arsenic	0.0007	0.0050	0.0005	mg/L	EPA 6020B	J	1	10/04/17 14:45	10/04/17 20:32	7100074	CSW
Barium	0.0479	0.0100	0.0004	mg/L	EPA 6020B		1	10/04/17 14:45	10/04/17 20:32	7100074	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	10/04/17 14:45	10/04/17 20:32	7100074	CSW
Boron	1.19	0.0400	0.0060	mg/L	EPA 6020B		1	10/04/17 14:45	10/04/17 20:32	7100074	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	10/04/17 14:45	10/04/17 20:32	7100074	CSW
Calcium	168	25.0	2.02	mg/L	EPA 6020B		50	10/04/17 14:45	10/04/17 20:37	7100074	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/04/17 14:45	10/04/17 20:32	7100074	CSW
Cobalt	0.0036	0.0100	0.0003	mg/L	EPA 6020B	J	1	10/04/17 14:45	10/04/17 20:32	7100074	CSW
Lead	0.00008	0.0050	0.00007	mg/L	EPA 6020B	J	1	10/04/17 14:45	10/04/17 20:32	7100074	CSW
Molybdenum	0.0259	0.0100	0.0010	mg/L	EPA 6020B		1	10/04/17 14:45	10/04/17 20:32	7100074	CSW
Selenium	0.0020	0.0100	0.0018	mg/L	EPA 6020B	J	1	10/04/17 14:45	10/04/17 20:32	7100074	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	10/04/17 14:45	10/04/17 20:32	7100074	CSW
Lithium	0.0337	0.0500	0.0015	mg/L	EPA 6020B	J	1	10/04/17 14:45	10/04/17 20:32	7100074	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	10/09/17 10:55	10/09/17 16:42	7100215	MTC

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Report No.: AAJ0054
Client ID: HGWC-121A
Date/Time Sampled: 10/2/2017 3:05:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAJ0054-02
Date/Time Received: 10/3/2017 1:45:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	884	25	10	mg/L	SM 2540 C		1	10/05/17 18:25	10/05/17 18:25	7100141	JPT
Inorganic Anions											
Chloride	42	0.25	0.02	mg/L	EPA 300.0		1	10/05/17 08:52	10/05/17 15:18	7100133	RLC
Fluoride	1.2	0.30	0.03	mg/L	EPA 300.0		1	10/05/17 08:52	10/05/17 15:18	7100133	RLC
Sulfate	330	10	0.17	mg/L	EPA 300.0		10	10/05/17 08:52	10/10/17 17:12	7100133	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	10/04/17 14:45	10/04/17 20:43	7100074	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	10/04/17 14:45	10/04/17 20:43	7100074	CSW
Barium	0.0815	0.0100	0.0004	mg/L	EPA 6020B		1	10/04/17 14:45	10/04/17 20:43	7100074	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	10/04/17 14:45	10/04/17 20:43	7100074	CSW
Boron	2.92	2.00	0.298	mg/L	EPA 6020B		50	10/04/17 14:45	10/04/17 20:49	7100074	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	10/04/17 14:45	10/04/17 20:43	7100074	CSW
Calcium	195	25.0	2.02	mg/L	EPA 6020B		50	10/04/17 14:45	10/04/17 20:49	7100074	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/04/17 14:45	10/04/17 20:43	7100074	CSW
Cobalt	0.0003	0.0100	0.0003	mg/L	EPA 6020B	J	1	10/04/17 14:45	10/04/17 20:43	7100074	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	10/04/17 14:45	10/04/17 20:43	7100074	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/04/17 14:45	10/04/17 20:43	7100074	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	10/04/17 14:45	10/04/17 20:43	7100074	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	10/04/17 14:45	10/04/17 20:43	7100074	CSW
Lithium	0.0095	0.0500	0.0015	mg/L	EPA 6020B	J	1	10/04/17 14:45	10/04/17 20:43	7100074	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	10/09/17 10:55	10/09/17 16:44	7100215	MTC

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General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7100141 - SM 2540 C											
Blank (7100141-BLK1)						Prepared & Analyzed: 10/05/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7100141-BS1)						Prepared & Analyzed: 10/05/17					
Total Dissolved Solids	389	25	10	mg/L	400.00		97	84-108			
Duplicate (7100141-DUP1)		**Source: AAJ0109-01**				Prepared & Analyzed: 10/05/17					
Total Dissolved Solids	ND	25	10	mg/L		ND				10	
Duplicate (7100141-DUP2)		**Source: AAJ0109-10**				Prepared & Analyzed: 10/05/17					
Total Dissolved Solids	414	25	10	mg/L		420			1	10	

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Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7100133 - EPA 300.0											
Blank (7100133-BLK1)						Prepared & Analyzed: 10/05/17					
Chloride	ND	0.25	0.02	mg/L							
Fluoride	ND	0.30	0.03	mg/L							
Sulfate	ND	1.0	0.02	mg/L							
LCS (7100133-BS1)						Prepared & Analyzed: 10/05/17					
Chloride	10.6	0.25	0.02	mg/L	10.020		105	90-110			
Fluoride	9.78	0.30	0.03	mg/L	10.020		98	90-110			
Sulfate	10.8	1.0	0.02	mg/L	10.050		107	90-110			
Matrix Spike (7100133-MS1)			**Source: AAJ0055-02**			Prepared & Analyzed: 10/05/17					
Chloride	11.1	0.25	0.02	mg/L	10.020	0.94	102	90-110			
Fluoride	9.76	0.30	0.03	mg/L	10.020	ND	97	90-110			
Sulfate	13.7	1.0	0.02	mg/L	10.050	3.54	101	90-110			
Matrix Spike (7100133-MS2)			**Source: AAJ0055-05**			Prepared & Analyzed: 10/05/17					
Chloride	11.1	0.25	0.02	mg/L	10.020	0.94	101	90-110			
Fluoride	9.86	0.30	0.03	mg/L	10.020	ND	98	90-110			
Sulfate	11.5	1.0	0.02	mg/L	10.050	1.08	104	90-110			
Matrix Spike Dup (7100133-MSD1)			**Source: AAJ0055-02**			Prepared & Analyzed: 10/05/17					
Chloride	11.3	0.25	0.02	mg/L	10.020	0.94	104	90-110	2	15	
Fluoride	9.96	0.30	0.03	mg/L	10.020	ND	99	90-110	2	15	
Sulfate	13.8	1.0	0.02	mg/L	10.050	3.54	102	90-110	0.2	15	

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7100074 - EPA 3005A											
Blank (7100074-BLK1)						Prepared & Analyzed: 10/04/17					
Antimony	ND	0.0030	0.0006	mg/L							
Arsenic	ND	0.0050	0.0005	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00009	mg/L							
Boron	ND	0.0400	0.0060	mg/L							
Cadmium	ND	0.0010	0.0001	mg/L							
Calcium	ND	0.500	0.0404	mg/L							
Chromium	ND	0.0100	0.0005	mg/L							
Cobalt	ND	0.0100	0.0003	mg/L							
Copper	ND	0.0250	0.0003	mg/L							
Lead	ND	0.0050	0.00007	mg/L							
Molybdenum	ND	0.0100	0.0010	mg/L							
Nickel	ND	0.0100	0.0005	mg/L							
Selenium	ND	0.0100	0.0018	mg/L							
Silver	ND	0.0100	0.0002	mg/L							
Thallium	ND	0.0010	0.00005	mg/L							
Vanadium	ND	0.0100	0.0012	mg/L							
Zinc	ND	0.0100	0.0012	mg/L							
Lithium	ND	0.0500	0.0015	mg/L							
LCS (7100074-BS1)						Prepared & Analyzed: 10/04/17					
Antimony	0.101	0.0030	0.0006	mg/L	0.10000		101	80-120			
Arsenic	0.0992	0.0050	0.0005	mg/L	0.10000		99	80-120			
Barium	0.0995	0.0100	0.0004	mg/L	0.10000		100	80-120			
Beryllium	0.0985	0.0030	0.00009	mg/L	0.10000		98	80-120			
Cadmium	0.0986	0.0010	0.0001	mg/L	0.10000		99	80-120			
Chromium	0.107	0.0100	0.0005	mg/L	0.10000		107	80-120			
Cobalt	0.104	0.0100	0.0003	mg/L	0.10000		104	80-120			
Copper	0.108	0.0250	0.0003	mg/L	0.10000		108	80-120			
Lead	0.0981	0.0050	0.00007	mg/L	0.10000		98	80-120			
Nickel	0.107	0.0100	0.0005	mg/L	0.10000		107	80-120			
Selenium	0.101	0.0100	0.0018	mg/L	0.10000		101	80-120			
Silver	0.102	0.0100	0.0002	mg/L	0.10000		102	80-120			
Thallium	0.100	0.0010	0.00005	mg/L	0.10000		100	80-120			
Vanadium	0.110	0.0100	0.0012	mg/L	0.10000		110	80-120			
Zinc	0.102	0.0100	0.0012	mg/L	0.10000		102	80-120			
Lithium	0.104	0.0500	0.0015	mg/L	0.10000		104	80-120			

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7100074 - EPA 3005A											
Matrix Spike (7100074-MS1)		**Source: AAJ0055-04**				Prepared & Analyzed: 10/04/17					
Antimony	0.102	0.0030	0.0006	mg/L	0.10000	ND	102	75-125			
Arsenic	0.0993	0.0050	0.0005	mg/L	0.10000	ND	99	75-125			
Barium	0.113	0.0100	0.0004	mg/L	0.10000	0.0122	101	75-125			
Beryllium	0.100	0.0030	0.00009	mg/L	0.10000	ND	100	75-125			
Cadmium	0.101	0.0010	0.0001	mg/L	0.10000	ND	101	75-125			
Chromium	0.106	0.0100	0.0005	mg/L	0.10000	ND	106	75-125			
Cobalt	0.103	0.0100	0.0003	mg/L	0.10000	ND	103	75-125			
Copper	0.109	0.0250	0.0003	mg/L	0.10000	0.0031	106	75-125			
Lead	0.100	0.0050	0.00007	mg/L	0.10000	0.0003	100	75-125			
Nickel	0.108	0.0100	0.0005	mg/L	0.10000	0.0013	107	75-125			
Selenium	0.0962	0.0100	0.0018	mg/L	0.10000	ND	96	75-125			
Silver	0.101	0.0100	0.0002	mg/L	0.10000	0.0006	100	75-125			
Thallium	0.100	0.0010	0.00005	mg/L	0.10000	ND	100	75-125			
Vanadium	0.109	0.0100	0.0012	mg/L	0.10000	ND	109	75-125			
Zinc	0.106	0.0100	0.0012	mg/L	0.10000	0.0015	105	75-125			
Lithium	0.105	0.0500	0.0015	mg/L	0.10000	ND	105	75-125			
Matrix Spike Dup (7100074-MSD1)		**Source: AAJ0055-04**				Prepared & Analyzed: 10/04/17					
Antimony	0.106	0.0030	0.0006	mg/L	0.10000	ND	106	75-125	4	20	
Arsenic	0.100	0.0050	0.0005	mg/L	0.10000	ND	100	75-125	0.6	20	
Barium	0.118	0.0100	0.0004	mg/L	0.10000	0.0122	106	75-125	4	20	
Beryllium	0.104	0.0030	0.00009	mg/L	0.10000	ND	104	75-125	3	20	
Cadmium	0.102	0.0010	0.0001	mg/L	0.10000	ND	102	75-125	0.7	20	
Chromium	0.106	0.0100	0.0005	mg/L	0.10000	ND	106	75-125	0.4	20	
Cobalt	0.102	0.0100	0.0003	mg/L	0.10000	ND	102	75-125	0.3	20	
Copper	0.106	0.0250	0.0003	mg/L	0.10000	0.0031	103	75-125	3	20	
Lead	0.100	0.0050	0.00007	mg/L	0.10000	0.0003	100	75-125	0.2	20	
Nickel	0.107	0.0100	0.0005	mg/L	0.10000	0.0013	106	75-125	0.6	20	
Selenium	0.100	0.0100	0.0018	mg/L	0.10000	ND	100	75-125	4	20	
Silver	0.105	0.0100	0.0002	mg/L	0.10000	0.0006	104	75-125	4	20	
Thallium	0.101	0.0010	0.00005	mg/L	0.10000	ND	101	75-125	0.6	20	
Vanadium	0.108	0.0100	0.0012	mg/L	0.10000	ND	108	75-125	1	20	
Zinc	0.102	0.0100	0.0012	mg/L	0.10000	0.0015	101	75-125	4	20	
Lithium	0.108	0.0500	0.0015	mg/L	0.10000	ND	108	75-125	3	20	

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7100074 - EPA 3005A											
Post Spike (7100074-PS1)			**Source: AAJ0055-04**				Prepared & Analyzed: 10/04/17				
Antimony	93.8			ug/L	100.00	0.0270	94	80-120			
Arsenic	102			ug/L	100.00	-0.313	102	80-120			
Barium	112			ug/L	100.00	12.2	100	80-120			
Beryllium	97.5			ug/L	100.00	0.0166	98	80-120			
Cadmium	99.6			ug/L	100.00	0.0205	100	80-120			
Chromium	108			ug/L	100.00	0.0390	108	80-120			
Cobalt	105			ug/L	100.00	0.0144	105	80-120			
Copper	109			ug/L	100.00	3.06	106	80-120			
Lead	101			ug/L	100.00	0.291	101	80-120			
Nickel	108			ug/L	100.00	1.34	107	80-120			
Selenium	100			ug/L	100.00	1.05	99	80-120			
Silver	103			ug/L	100.00	0.555	103	80-120			
Thallium	99.0			ug/L	100.00	0.0065	99	80-120			
Vanadium	109			ug/L	100.00	-1.72	109	80-120			
Zinc	104			ug/L	100.00	1.45	103	80-120			
Lithium	103			ug/L	100.00	0.219	103	80-120			
Batch 7100215 - EPA 7470A											
Blank (7100215-BLK1)							Prepared & Analyzed: 10/09/17				
Mercury	ND	0.00050	0.000036	mg/L							
LCS (7100215-BS1)							Prepared & Analyzed: 10/09/17				
Mercury	0.00263	0.00050	0.000036	mg/L	2.5000E-3		105	80-120			
Matrix Spike (7100215-MS1)			**Source: AAJ0054-01**				Prepared & Analyzed: 10/09/17				
Mercury	0.00256	0.00050	0.000036	mg/L	2.5000E-3	ND	102	75-125			

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7100215 - EPA 7470A											
Matrix Spike Dup (7100215-MSD1)		**Source: AAJ0054-01**				Prepared & Analyzed: 10/09/17					
Mercury	0.00247	0.00050	0.000036	mg/L	2.5000E-3	ND	99	75-125	3	20	
Post Spike (7100215-PS1)		**Source: AAJ0054-01**				Prepared & Analyzed: 10/09/17					
Mercury	1.73			ug/L	1.6667	0.0145	103	80-120			

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Legend

Definition of Laboratory Terms

ND - Not Detected at levels equal to or greater than the MDL
BRL - Not Detected at levels equal to or greater than the RL
RL - Reporting Limit **MDL** - Method Detection Limit
SOP - Method run per Pace Standard Operating Procedure
CFU - Colony Forming Units
DF - Dilution Factor **TIC** - Tentatively Identified Compound

Sample Information

N-Nitrosodiphenylamine breaks down to diphenylamine in the GCMS; both analytes are reported as N-Nitrososdiphenylamine. Pace is not NELAC certified for N-Nitrososdiphenylamine.

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

1,2-Diphenylhydrazine breaks down to azobenzene in the GCMS; both analytes are reported as azobenzene

Definition of Qualifiers

J Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

Note: Unless otherwise noted, all results are reported on an as received basis.

CHAIN OF CUSTODY RECORD

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, LLC - Atlanta GA
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
42 Inverness Center Parkway
Birmingham, AL 35242
(205)-992-5417

REPORT TO: Lauren Petty

CC: Maria Padilla, Heath McCorkle

REQUESTED COMPLETION DATE:

PO #: Lsburch@SouthernCo.com

PROJECT NAME/STATE: Plant Hammond - AP 3+4

PROJECT #: Phase II - CCR

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	Metals Part 257 App. III+IV (EPA 6020/7470)	Cl, F, SO4, TDS (EPA 300.0 + SM 2540C)	Radium 226 + 228 (SW-846 9315/9320)							LAB ID NUMBER
CONTAINER TYPE:							P	P	P							
PRESERVATION:							3	7	3							
10/2/17	12:35	W		X	HGWL-120	4	1	1	2							1
10/2/17	15:05	W		X	HGWL-121A	4	1	1	2							2

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
	7 - ≤6°C not frozen

*MATRIX CODES:

DW - DRINKING WATER	S - SOIL
WW - WASTEWATER	SL - SLUDGE
GW - GROUNDWATER	SD - SOLID
SW - SURFACE WATER	A - AIR
ST - STORM WATER	L - LIQUID
W - WATER	P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: William Virgo LV
DATE/TIME: 10/2/17 1700

RELINQUISHED BY: William Virgo (ERM)
DATE/TIME: 10/2/17 2130

RECEIVED BY:
DATE/TIME:

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY/LAB:
DATE/TIME: 10/3/17 1345

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS

Packed: No NA
Ice: Yes No NA
Temperature: Min: 1.1°C Max:
Custody Seal: Intact Broken Not Present N/A
# of Coolers
Cooler ID:

FOR LAB USE ONLY
LAB #: AAJ00054
Entered into LIMS: CH
Tracking #:

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power Project # AAJ0054

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☒ Pace Other _____

Optional
Proj. Due Date:
Proj. Name:

Tracking #: _____

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other _____

Thermometer Used IR-1 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 1.1 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 10/31/17 CAH

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. 4 day TA
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

LOG-IN CHECKLIST **Printed: 10/4/2017 11:11:58AM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 10/03/17 13:45

Work Order: AAJ0054
Logged In By: Charles Hawks

OBSERVATIONS

#Samples: 2 **#Containers:** 8

Minimum Temp(C): 1.1 **Maximum Temp(C):** 1.1 **Custody Seal(s) Used:** Yes

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	YES
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

October 18, 2017

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: AAJ0054 Plant Hammond
Pace Project No.: 30232039

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on October 05, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: AAJ0054 Plant Hammond
Pace Project No.: 30232039

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: AAJ0054 Plant Hammond
Pace Project No.: 30232039

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30232039001	**HGWC-120**	Water	10/02/17 12:35	10/05/17 10:05
30232039002	**HGWC-121A**	Water	10/02/17 15:05	10/05/17 10:05

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: AAJ0054 Plant Hammond
Pace Project No.: 30232039

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30232039001	**HGWC-120**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1
30232039002	**HGWC-121A**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	JAL	1

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAJ0054 Plant Hammond
Pace Project No.: 30232039

Sample: HGWC-120 **Lab ID: 30232039001** Collected: 10/02/17 12:35 Received: 10/05/17 10:05 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.422 ± 0.278 (0.493) C:90% T:NA**	pCi/L	10/11/17 08:21	13982-63-3	
Radium-228	EPA 9320	**0.210 ± 0.356 (0.776) C:82% T:87%**	pCi/L	10/13/17 15:09	15262-20-1	
Total Radium	Total Radium Calculation	**0.632 ± 0.634 (1.27)**	pCi/L	10/17/17 10:18	7440-14-4	

Sample: HGWC-121A **Lab ID: 30232039002** Collected: 10/02/17 15:05 Received: 10/05/17 10:05 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.599 ± 0.294 (0.454) C:95% T:NA**	pCi/L	10/11/17 08:21	13982-63-3	
Radium-228	EPA 9320	**0.0811 ± 0.338 (0.764) C:83% T:85%**	pCi/L	10/13/17 15:09	15262-20-1	
Total Radium	Total Radium Calculation	**0.680 ± 0.632 (1.22)**	pCi/L	10/17/17 10:18	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAJ0054 Plant Hammond
Pace Project No.: 30232039

QC Batch: 274636 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30232039001, 30232039002

METHOD BLANK: 1350987 Matrix: Water
Associated Lab Samples: 30232039001, 30232039002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.185 ± 0.314 (0.686) C:77% T:78%	pCi/L	10/13/17 10:45	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAJ0054 Plant Hammond
Pace Project No.: 30232039

QC Batch: 274635 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30232039001, 30232039002

METHOD BLANK: 1350986 Matrix: Water
Associated Lab Samples: 30232039001, 30232039002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.348 ± 0.222 (0.333) C:76% T:NA	pCi/L	10/11/17 08:25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: AAJ0054 Plant Hammond
Pace Project No.: 30232039

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAJ0054 Workorder Name: Plant Hammond Owner Received Date: 10/3/2017 Results Requested By: 11/1/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

WO# : 30232039

30232039

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis: Radium 226, 228, Total	LAB USE ONLY
1	HGWC-120	G	10/2/2017 12:35	AAJ0054-01	GW	2	X	001
2	HGWC-121A	G	10/2/2017 15:05	AAJ0054-02	GW	2	X	002
3		G						
4		G						
5		G						
6		G						
7		G						
8		G						
9		G						
10		G						

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	Charles Hunter	10/4/17 1640	L. Cooney	10/5/17 1005	EQuIS deliverable required (Profile 7564)
2					
3					

Cooler Temperature on Receipt 1.4 °C | Custody Seal Y or N | Received on Ice Y or N | Sample Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC
This chain of custody is considered complete as is since this information is available in the owner laboratory.

30232039

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project # AAJ0054

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace Other _____

Optional
Proj. Due Date:
Proj. Name:

Tracking #: _____

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other _____

Thermometer Used IR-1 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 1.1 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 10/31/17 CAH

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A
Rush Turn Around Time Requested:	☑Yes	☐No	☐N/A
Sufficient Volume:	☑Yes	☐No	☐N/A
Correct Containers Used:	☑Yes	☐No	☐N/A
-Pace Containers Used:	☑Yes	☐No	☐N/A
Containers Intact:	☑Yes	☐No	☐N/A
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A
Sample Labels match COC:	☑Yes	☐No	☐N/A
-Includes date/time/ID/Analysis Matrix:	W		
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A
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	
Samples checked for dechlorination:	☐Yes	☐No	☑N/A
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A
Trip Blank Present:	☐Yes	☐No	☑N/A
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A
Pace Trip Blank Lot # (if purchased):			

1.	
2.	
3.	
4.	
5.	
6.	
7. 4 day TAT	
8.	
9.	
10.	
11.	
12.	
13.	

Initial when completed	Lot # of added preservative

14.

15.

16.

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)

Pittsburgh Lab Sample Condition Upon Receipt

30232039

Pace Analytical

Client Name: Pace GA Project #

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other

Label CDC
LIMS Login ANL

Tracking #: 749366590334

Custody Seal on Cooler/Box Present: ☐ yes ☐ no Seals intact: ☐ yes ☐ no

Thermometer Used DA Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp DA °C Correction Factor: °C Final Temp: °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 10/5/17 CC

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used: -Pace Containers Used:	✓ ✓			10.
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. All containers needing preservation are found to be in compliance with EPA recommendation.	✓ ✓			16. pH<2
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed CDC Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present:			✓	18.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: CDC Date: 10/5/17

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-228
Analyst:	VAL
Date:	10/11/2017
Worklist:	38137
Matrix:	DW

Method Blank Assessment	
MB Sample ID	1350987
MB concentration:	0.185
M/B Counting Uncertainty:	0.313
MB MDC:	0.686
MB Numerical Performance Indicator:	1.16
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS38137	LCSD38137
Count Date:	10/13/2017	10/13/2017
Spike I.D.:	17-033	17-033
Spike Concentration (pCi/mL):	23.282	23.282
Volume Used (mL):	0.20	0.20
Aliquot Volume (L, g, F):	0.806	0.805
Target Conc. (pCi/L, g, F):	5.774	5.786
Uncertainty (Calculated):	0.416	0.417
Result (pCi/L, g, F):	6.195	5.113
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.744	0.681
Numerical Performance Indicator:	0.97	-1.65
Percent Recovery:	107.29%	88.37%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass

Sample Matrix Spike Control Assessment	
Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	LCS38137	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD38137	
Sample Result (pCi/L, g, F):	6.195	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.744	
Sample Duplicate Result (pCi/L, g, F):	5.113	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.681	
Are sample and/or duplicate results below MDC?	NO	
Duplicate Numerical Performance Indicator:	2.104	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	19.35%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

10/18/17

Quality Control Sample Performance Assessment

Pace Analytical™
www.pacelabs.com

Test:	Ra-226
Analyst:	JC2
Date:	10/10/2017
Worklist:	38136
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1350986
MB concentration:	0.348
M/B Counting Uncertainty:	0.216
MB MDC:	0.333
MB Numerical Performance Indicator:	3.16
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	See Comment*

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS38136	LCSD38136
Count Date:	10/11/2017	
Spike I.D.:	17-030	
Spike Concentration (pCi/mL):	80.190	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.506	
Target Conc. (pCi/L, g, F):	15.856	
Uncertainty (Calculated):	1.461	
Result (pCi/L, g, F):	13.314	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.040	
Numerical Performance Indicator:	-2.78	
Percent Recovery:	83.97%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	

Sample Matrix Spike Control Assessment	
Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	30231663007	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	30231663007DUP	
Sample Result (pCi/L, g, F):	0.376	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.209	
Sample Duplicate Result (pCi/L, g, F):	0.094	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.177	
Are sample and/or duplicate results below MDC?	See Below ##	
Duplicate Numerical Performance Indicator:	2.018	30231663007
Duplicate RPD:	120.18%	30231663007DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail*** OK	

Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:
*The method blank result is below the reporting limit for this analysis and is acceptable.

***Batch must be re-prepped due to unacceptable precision.

10/18/17

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AAK0534
November 22, 2017
Project: CCR Event
Project #:Plant Hammond

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Approved:

Project Manager

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 22, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HGWA-111	AAK0534-01	Water	11/13/17 15:10	11/15/17 13:15
HGWA-112	AAK0534-02	Water	11/13/17 15:15	11/15/17 13:15
HGWA-113	AAK0534-03	Water	11/14/17 09:10	11/15/17 13:15
HGWC-117	AAK0534-04	Water	11/14/17 10:30	11/15/17 13:15
HGWC-118	AAK0534-05	Water	11/14/17 11:30	11/15/17 13:15
HGWC-101	AAK0534-06	Water	11/14/17 12:32	11/15/17 13:15
HGWC-103	AAK0534-07	Water	11/14/17 12:25	11/15/17 13:15
HGWC-105	AAK0534-08	Water	11/14/17 13:30	11/15/17 13:15
HGWC-107	AAK0534-09	Water	11/14/17 13:35	11/15/17 13:15
HGWC-109	AAK0534-10	Water	11/14/17 14:52	11/15/17 13:15
FB-1	AAK0534-11	Water	11/14/17 14:40	11/15/17 13:15
FERB-1	AAK0534-12	Water	11/14/17 14:45	11/15/17 13:15

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Attention: Mr. Joju Abraham

November 22, 2017

Case Narrative

The Radium analysis by methods EPA 9315/9320 was performed by Pace-Pittsburgh, 1638 Roseytown Road - Suites 2, 3, 4, Greensburg PA 15601. The Pace-Pittsburgh lab contact is Jacquelyn Collins at 724-850-5612.

PACE ANALYTICAL SERVICES, LLC.

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110 Technology Parkway, Peachtree Corners, GA 30092
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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 22, 2017

Report No.: AAK0534
Client ID: HGWA-111
Date/Time Sampled: 11/13/2017 3:10:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAK0534-01
Date/Time Received: 11/15/2017 1:15:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	158	25	10	mg/L	SM 2540 C		1	11/17/17 14:00	11/17/17 14:00	7110506	JPT
Inorganic Anions											
Chloride	2.5	0.25	0.02	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 11:56	7110541	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 11:56	7110541	RLC
Sulfate	1.3	1.0	0.02	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 11:56	7110541	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:24	7110503	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:24	7110503	CSW
Barium	0.0217	0.0100	0.0004	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:24	7110503	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:24	7110503	CSW
Boron	0.0103	0.0400	0.0060	mg/L	EPA 6020B	J	1	11/17/17 10:15	11/21/17 19:24	7110503	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:24	7110503	CSW
Calcium	17.1	5.00	2.02	mg/L	EPA 6020B		50	11/17/17 10:15	11/21/17 19:30	7110503	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:24	7110503	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:24	7110503	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:24	7110503	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:24	7110503	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:24	7110503	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:24	7110503	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:24	7110503	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	11/20/17 12:30	11/21/17 12:06	7110549	MTC

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 22, 2017

Report No.: AAK0534
Client ID: HGWA-112
Date/Time Sampled: 11/13/2017 3:15:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAK0534-02
Date/Time Received: 11/15/2017 1:15:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	75	25	10	mg/L	SM 2540 C		1	11/17/17 14:00	11/17/17 14:00	7110506	JPT
Inorganic Anions											
Chloride	5.5	0.25	0.02	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 12:58	7110541	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 12:58	7110541	RLC
Sulfate	0.61	1.0	0.02	mg/L	EPA 300.0	J	1	11/18/17 13:24	11/20/17 12:58	7110541	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:47	7110503	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:47	7110503	CSW
Barium	0.0275	0.0100	0.0004	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:47	7110503	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:47	7110503	CSW
Boron	0.0089	0.0400	0.0060	mg/L	EPA 6020B	J	1	11/17/17 10:15	11/21/17 19:47	7110503	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:47	7110503	CSW
Calcium	6.26	0.500	0.0404	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:47	7110503	CSW
Chromium	0.0038	0.0100	0.0005	mg/L	EPA 6020B	J	1	11/17/17 10:15	11/21/17 19:47	7110503	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:47	7110503	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:47	7110503	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:47	7110503	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:47	7110503	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:47	7110503	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:47	7110503	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	11/20/17 12:30	11/21/17 12:08	7110549	MTC

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 22, 2017

Report No.: AAK0534
Client ID: HGWA-113
Date/Time Sampled: 11/14/2017 9:10:00AM
Matrix: Water

Project: CCR Event
Lab Number ID: AAK0534-03
Date/Time Received: 11/15/2017 1:15:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	89	25	10	mg/L	SM 2540 C		1	11/17/17 14:00	11/17/17 14:00	7110506	JPT
Inorganic Anions											
Chloride	2.0	0.25	0.02	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 13:19	7110541	RLC
Fluoride	0.16	0.30	0.03	mg/L	EPA 300.0	J	1	11/18/17 13:24	11/20/17 13:19	7110541	RLC
Sulfate	11	1.0	0.02	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 13:19	7110541	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:59	7110503	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:59	7110503	CSW
Barium	0.0289	0.0100	0.0004	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:59	7110503	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:59	7110503	CSW
Boron	0.0120	0.0400	0.0060	mg/L	EPA 6020B	J	1	11/17/17 10:15	11/21/17 19:59	7110503	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:59	7110503	CSW
Calcium	7.40	0.500	0.0404	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:59	7110503	CSW
Chromium	0.0016	0.0100	0.0005	mg/L	EPA 6020B	J	1	11/17/17 10:15	11/21/17 19:59	7110503	CSW
Cobalt	0.0003	0.0100	0.0003	mg/L	EPA 6020B	J	1	11/17/17 10:15	11/21/17 19:59	7110503	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:59	7110503	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:59	7110503	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:59	7110503	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:59	7110503	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 19:59	7110503	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	11/20/17 12:30	11/21/17 12:10	7110549	MTC

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 22, 2017

Report No.: AAK0534
Client ID: HGWC-117
Date/Time Sampled: 11/14/2017 10:30:00AM
Matrix: Water

Project: CCR Event
Lab Number ID: AAK0534-04
Date/Time Received: 11/15/2017 1:15:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	310	25	10	mg/L	SM 2540 C		1	11/17/17 14:00	11/17/17 14:00	7110506	JPT
Inorganic Anions											
Chloride	4.0	0.25	0.02	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 13:39	7110541	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 13:39	7110541	RLC
Sulfate	110	10	0.17	mg/L	EPA 300.0		10	11/18/17 13:24	11/21/17 03:50	7110541	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:10	7110503	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:10	7110503	CSW
Barium	0.0368	0.0100	0.0004	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:10	7110503	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:10	7110503	CSW
Boron	0.536	0.0400	0.0060	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:10	7110503	CSW
Cadmium	0.0005	0.0010	0.0001	mg/L	EPA 6020B	J	1	11/17/17 10:15	11/21/17 20:10	7110503	CSW
Calcium	46.9	25.0	2.02	mg/L	EPA 6020B		50	11/17/17 10:15	11/21/17 20:16	7110503	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:10	7110503	CSW
Cobalt	0.0062	0.0100	0.0003	mg/L	EPA 6020B	J	1	11/17/17 10:15	11/21/17 20:10	7110503	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:10	7110503	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:10	7110503	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:10	7110503	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:10	7110503	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:10	7110503	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	11/20/17 12:30	11/21/17 12:17	7110549	MTC

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 22, 2017

Report No.: AAK0534
Client ID: HGWC-118
Date/Time Sampled: 11/14/2017 11:30:00AM
Matrix: Water

Project: CCR Event
Lab Number ID: AAK0534-05
Date/Time Received: 11/15/2017 1:15:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	373	25	10	mg/L	SM 2540 C		1	11/17/17 14:00	11/17/17 14:00	7110506	JPT
Inorganic Anions											
Chloride	4.4	0.25	0.02	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 14:00	7110541	RLC
Fluoride	0.07	0.30	0.03	mg/L	EPA 300.0	J	1	11/18/17 13:24	11/20/17 14:00	7110541	RLC
Sulfate	79	10	0.17	mg/L	EPA 300.0		10	11/18/17 13:24	11/21/17 04:10	7110541	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:21	7110503	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:21	7110503	CSW
Barium	0.0700	0.0100	0.0004	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:21	7110503	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:21	7110503	CSW
Boron	0.691	0.0400	0.0060	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:21	7110503	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:21	7110503	CSW
Calcium	86.7	25.0	2.02	mg/L	EPA 6020B		50	11/17/17 10:15	11/21/17 20:27	7110503	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:21	7110503	CSW
Cobalt	0.0004	0.0100	0.0003	mg/L	EPA 6020B	J	1	11/17/17 10:15	11/21/17 20:21	7110503	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:21	7110503	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:21	7110503	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:21	7110503	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:21	7110503	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:21	7110503	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	11/20/17 12:30	11/21/17 12:20	7110549	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 22, 2017

Report No.: AAK0534
Client ID: HGWC-101
Date/Time Sampled: 11/14/2017 12:32:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAK0534-06
Date/Time Received: 11/15/2017 1:15:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	253	25	10	mg/L	SM 2540 C		1	11/17/17 14:00	11/17/17 14:00	7110506	JPT
Inorganic Anions											
Chloride	5.8	0.25	0.02	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 14:21	7110541	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 14:21	7110541	RLC
Sulfate	110	10	0.17	mg/L	EPA 300.0		10	11/18/17 13:24	11/21/17 04:31	7110541	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:33	7110503	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:33	7110503	CSW
Barium	0.0407	0.0100	0.0004	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:33	7110503	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:33	7110503	CSW
Boron	0.108	0.0400	0.0060	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:33	7110503	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:33	7110503	CSW
Calcium	21.7	5.00	2.02	mg/L	EPA 6020B		50	11/17/17 10:15	11/21/17 20:39	7110503	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:33	7110503	CSW
Cobalt	0.0030	0.0100	0.0003	mg/L	EPA 6020B	J	1	11/17/17 10:15	11/21/17 20:33	7110503	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:33	7110503	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:33	7110503	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:33	7110503	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:33	7110503	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:33	7110503	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	11/20/17 12:30	11/21/17 12:22	7110549	MTC

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 22, 2017

Report No.: AAK0534
Client ID: HGWC-103
Date/Time Sampled: 11/14/2017 12:25:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAK0534-07
Date/Time Received: 11/15/2017 1:15:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	545	25	10	mg/L	SM 2540 C		1	11/17/17 14:00	11/17/17 14:00	7110506	JPT
Inorganic Anions											
Chloride	6.0	0.25	0.02	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 15:02	7110541	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 15:02	7110541	RLC
Sulfate	310	20	0.34	mg/L	EPA 300.0		20	11/18/17 13:24	11/21/17 04:52	7110541	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:56	7110503	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:56	7110503	CSW
Barium	0.0385	0.0100	0.0004	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:56	7110503	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:56	7110503	CSW
Boron	2.32	0.0400	0.0060	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:56	7110503	CSW
Cadmium	0.0007	0.0010	0.0001	mg/L	EPA 6020B	J	1	11/17/17 10:15	11/21/17 20:56	7110503	CSW
Calcium	79.7	25.0	2.02	mg/L	EPA 6020B		50	11/17/17 10:15	11/21/17 21:01	7110503	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:56	7110503	CSW
Cobalt	0.0020	0.0100	0.0003	mg/L	EPA 6020B	J	1	11/17/17 10:15	11/21/17 20:56	7110503	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:56	7110503	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:56	7110503	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:56	7110503	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 20:56	7110503	CSW
Lithium	0.0015	0.0500	0.0015	mg/L	EPA 6020B	J	1	11/17/17 10:15	11/21/17 20:56	7110503	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	11/20/17 12:30	11/21/17 12:25	7110549	MTC

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 22, 2017

Report No.: AAK0534
Client ID: HGWC-105
Date/Time Sampled: 11/14/2017 1:30:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAK0534-08
Date/Time Received: 11/15/2017 1:15:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	375	25	10	mg/L	SM 2540 C		1	11/17/17 14:00	11/17/17 14:00	7110506	JPT
Inorganic Anions											
Chloride	4.0	0.25	0.02	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 16:45	7110541	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 16:45	7110541	RLC
Sulfate	170	10	0.17	mg/L	EPA 300.0		10	11/18/17 13:24	11/21/17 05:13	7110541	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:07	7110503	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:07	7110503	CSW
Barium	0.0643	0.0100	0.0004	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:07	7110503	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:07	7110503	CSW
Boron	1.29	0.0400	0.0060	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:07	7110503	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:07	7110503	CSW
Calcium	87.2	25.0	2.02	mg/L	EPA 6020B		50	11/17/17 10:15	11/21/17 21:13	7110503	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:07	7110503	CSW
Cobalt	0.0005	0.0100	0.0003	mg/L	EPA 6020B	J	1	11/17/17 10:15	11/21/17 21:07	7110503	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:07	7110503	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:07	7110503	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:07	7110503	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:07	7110503	CSW
Lithium	0.0044	0.0500	0.0015	mg/L	EPA 6020B	J	1	11/17/17 10:15	11/21/17 21:07	7110503	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	11/20/17 12:30	11/21/17 12:27	7110549	MTC

PACE ANALYTICAL SERVICES, LLC.

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 22, 2017

Report No.: AAK0534
Client ID: HGWC-107
Date/Time Sampled: 11/14/2017 1:35:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAK0534-09
Date/Time Received: 11/15/2017 1:15:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	313	25	10	mg/L	SM 2540 C		1	11/17/17 14:00	11/17/17 14:00	7110506	JPT
Inorganic Anions											
Chloride	3.4	0.25	0.02	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 17:06	7110541	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 17:06	7110541	RLC
Sulfate	130	10	0.17	mg/L	EPA 300.0		10	11/18/17 13:24	11/21/17 05:34	7110541	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:19	7110503	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:19	7110503	CSW
Barium	0.0390	0.0100	0.0004	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:19	7110503	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:19	7110503	CSW
Boron	0.780	0.0400	0.0060	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:19	7110503	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:19	7110503	CSW
Calcium	53.2	25.0	2.02	mg/L	EPA 6020B		50	11/17/17 10:15	11/21/17 21:24	7110503	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:19	7110503	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:19	7110503	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:19	7110503	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:19	7110503	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:19	7110503	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:19	7110503	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:19	7110503	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	11/20/17 12:30	11/21/17 12:29	7110549	MTC

PACE ANALYTICAL SERVICES, LLC.

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 22, 2017

Report No.: AAK0534
Client ID: HGWC-109
Date/Time Sampled: 11/14/2017 2:52:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAK0534-10
Date/Time Received: 11/15/2017 1:15:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	252	25	10	mg/L	SM 2540 C		1	11/17/17 14:00	11/17/17 14:00	7110506	JPT
Inorganic Anions											
Chloride	5.6	0.25	0.02	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 17:27	7110541	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 17:27	7110541	RLC
Sulfate	40	1.0	0.02	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 17:27	7110541	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:30	7110503	CSW
Arsenic	0.0011	0.0050	0.0005	mg/L	EPA 6020B	J	1	11/17/17 10:15	11/21/17 21:30	7110503	CSW
Barium	0.0830	0.0100	0.0004	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:30	7110503	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:30	7110503	CSW
Boron	0.366	0.0400	0.0060	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:30	7110503	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:30	7110503	CSW
Calcium	37.4	25.0	2.02	mg/L	EPA 6020B		50	11/17/17 10:15	11/21/17 21:36	7110503	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:30	7110503	CSW
Cobalt	0.0014	0.0100	0.0003	mg/L	EPA 6020B	J	1	11/17/17 10:15	11/21/17 21:30	7110503	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:30	7110503	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:30	7110503	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:30	7110503	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:30	7110503	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:30	7110503	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	11/20/17 12:30	11/21/17 12:32	7110549	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 22, 2017

Report No.: AAK0534
Client ID: FB-1
Date/Time Sampled: 11/14/2017 2:40:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAK0534-11
Date/Time Received: 11/15/2017 1:15:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	11/17/17 14:00	11/17/17 14:00	7110506	JPT
Inorganic Anions											
Chloride	ND	0.25	0.02	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 17:47	7110541	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 17:47	7110541	RLC
Sulfate	0.13	1.0	0.02	mg/L	EPA 300.0	J	1	11/18/17 13:24	11/20/17 17:47	7110541	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:41	7110503	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:41	7110503	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:41	7110503	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:41	7110503	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:41	7110503	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:41	7110503	CSW
Calcium	ND	0.500	0.0404	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:41	7110503	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:41	7110503	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:41	7110503	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:41	7110503	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:41	7110503	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:41	7110503	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:41	7110503	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:41	7110503	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	11/20/17 12:30	11/21/17 12:34	7110549	MTC

PACE ANALYTICAL SERVICES, LLC.

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2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 22, 2017

Report No.: AAK0534
Client ID: FERB-1
Date/Time Sampled: 11/14/2017 2:45:00PM
Matrix: Water

Project: CCR Event
Lab Number ID: AAK0534-12
Date/Time Received: 11/15/2017 1:15:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	11/17/17 14:00	11/17/17 14:00	7110506	JPT
Inorganic Anions											
Chloride	ND	0.25	0.02	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 18:08	7110541	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 18:08	7110541	RLC
Sulfate	ND	1.0	0.02	mg/L	EPA 300.0		1	11/18/17 13:24	11/20/17 18:08	7110541	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:47	7110503	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:47	7110503	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:47	7110503	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:47	7110503	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:47	7110503	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:47	7110503	CSW
Calcium	ND	0.500	0.0404	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:47	7110503	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:47	7110503	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:47	7110503	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:47	7110503	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:47	7110503	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:47	7110503	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:47	7110503	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 21:47	7110503	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	11/20/17 12:30	11/21/17 12:37	7110549	MTC

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 22, 2017

Report No.: AAK0534

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7110506 - SM 2540 C											
Blank (7110506-BLK1)						Prepared & Analyzed: 11/17/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7110506-BS1)						Prepared & Analyzed: 11/17/17					
Total Dissolved Solids	400	25	10	mg/L	400.00		100	84-108			
Duplicate (7110506-DUP1)		**Source: AAK0534-08**				Prepared & Analyzed: 11/17/17					
Total Dissolved Solids	392	25	10	mg/L		375			4	10	
Duplicate (7110506-DUP2)		**Source: AAK0534-12**				Prepared & Analyzed: 11/17/17					
Total Dissolved Solids	ND	25	10	mg/L		ND				10	

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November 22, 2017

Report No.: AAK0534

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7110541 - EPA 300.0											
Blank (7110541-BLK1)						Prepared: 11/18/17 Analyzed: 11/20/17					
Chloride	ND	0.25	0.02	mg/L							
Fluoride	ND	0.30	0.03	mg/L							
Sulfate	ND	1.0	0.02	mg/L							
LCS (7110541-BS1)						Prepared: 11/18/17 Analyzed: 11/20/17					
Chloride	10.9	0.25	0.02	mg/L	10.000		109	90-110			
Fluoride	10.5	0.30	0.03	mg/L	10.000		105	90-110			
Sulfate	10.2	1.0	0.02	mg/L	10.000		102	90-110			
Matrix Spike (7110541-MS1)		**Source: AAK0534-01**				Prepared: 11/18/17 Analyzed: 11/20/17					
Chloride	13.1	0.25	0.02	mg/L	10.000	2.54	106	90-110			
Fluoride	10.6	0.30	0.03	mg/L	10.000	ND	106	90-110			
Sulfate	11.5	1.0	0.02	mg/L	10.000	1.25	102	90-110			
Matrix Spike (7110541-MS2)		**Source: AAK0534-06**				Prepared: 11/18/17 Analyzed: 11/20/17					
Chloride	16.6	0.25	0.02	mg/L	10.000	5.82	108	90-110			
Fluoride	11.5	0.30	0.03	mg/L	10.000	ND	115	90-110			QM-05
Sulfate	101	1.0	0.02	mg/L	10.000	103	NR	90-110			QM-02
Matrix Spike Dup (7110541-MSD1)		**Source: AAK0534-01**				Prepared: 11/18/17 Analyzed: 11/20/17					
Chloride	13.3	0.25	0.02	mg/L	10.000	2.54	107	90-110	1	15	
Fluoride	10.7	0.30	0.03	mg/L	10.000	ND	107	90-110	1	15	
Sulfate	11.6	1.0	0.02	mg/L	10.000	1.25	103	90-110	1	15	

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Report No.: AAK0534

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7110503 - EPA 3005A											
Blank (7110503-BLK1)						Prepared: 11/17/17 Analyzed: 11/21/17					
Antimony	ND	0.0030	0.0006	mg/L							
Arsenic	ND	0.0050	0.0005	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00009	mg/L							
Boron	ND	0.0400	0.0060	mg/L							
Cadmium	ND	0.0010	0.0001	mg/L							
Calcium	ND	0.500	0.0404	mg/L							
Chromium	ND	0.0100	0.0005	mg/L							
Cobalt	ND	0.0100	0.0003	mg/L							
Copper	ND	0.0250	0.0003	mg/L							
Lead	ND	0.0050	0.00007	mg/L							
Molybdenum	ND	0.0100	0.0010	mg/L							
Nickel	ND	0.0100	0.0005	mg/L							
Selenium	ND	0.0100	0.0018	mg/L							
Silver	ND	0.0100	0.0002	mg/L							
Thallium	ND	0.0010	0.00005	mg/L							
Vanadium	ND	0.0100	0.0012	mg/L							
Zinc	ND	0.0100	0.0012	mg/L							
Lithium	ND	0.0500	0.0015	mg/L							
LCS (7110503-BS1)						Prepared: 11/17/17 Analyzed: 11/21/17					
Antimony	0.104	0.0030	0.0006	mg/L	0.10000		104	80-120			
Arsenic	0.0989	0.0050	0.0005	mg/L	0.10000		99	80-120			
Barium	0.102	0.0100	0.0004	mg/L	0.10000		102	80-120			
Beryllium	0.104	0.0030	0.00009	mg/L	0.10000		104	80-120			
Cadmium	0.103	0.0010	0.0001	mg/L	0.10000		103	80-120			
Chromium	0.0990	0.0100	0.0005	mg/L	0.10000		99	80-120			
Cobalt	0.0949	0.0100	0.0003	mg/L	0.10000		95	80-120			
Copper	0.0965	0.0250	0.0003	mg/L	0.10000		96	80-120			
Lead	0.100	0.0050	0.00007	mg/L	0.10000		100	80-120			
Nickel	0.0959	0.0100	0.0005	mg/L	0.10000		96	80-120			
Selenium	0.0994	0.0100	0.0018	mg/L	0.10000		99	80-120			
Silver	0.0943	0.0100	0.0002	mg/L	0.10000		94	80-120			
Thallium	0.103	0.0010	0.00005	mg/L	0.10000		103	80-120			
Vanadium	0.100	0.0100	0.0012	mg/L	0.10000		100	80-120			
Zinc	0.102	0.0100	0.0012	mg/L	0.10000		102	80-120			
Lithium	0.101	0.0500	0.0015	mg/L	0.10000		101	80-120			

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November 22, 2017

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7110503 - EPA 3005A											
Matrix Spike (7110503-MS1)		**Source: AAK0534-01**				Prepared: 11/17/17 Analyzed: 11/21/17					
Antimony	0.107	0.0030	0.0006	mg/L	0.10000	ND	107	75-125			
Arsenic	0.0995	0.0050	0.0005	mg/L	0.10000	ND	99	75-125			
Barium	0.124	0.0100	0.0004	mg/L	0.10000	0.0217	102	75-125			
Beryllium	0.105	0.0030	0.00009	mg/L	0.10000	ND	105	75-125			
Cadmium	0.103	0.0010	0.0001	mg/L	0.10000	ND	103	75-125			
Chromium	0.101	0.0100	0.0005	mg/L	0.10000	ND	101	75-125			
Cobalt	0.0976	0.0100	0.0003	mg/L	0.10000	ND	98	75-125			
Copper	0.0986	0.0250	0.0003	mg/L	0.10000	ND	99	75-125			
Lead	0.106	0.0050	0.00007	mg/L	0.10000	ND	106	75-125			
Nickel	0.0976	0.0100	0.0005	mg/L	0.10000	ND	98	75-125			
Selenium	0.101	0.0100	0.0018	mg/L	0.10000	ND	101	75-125			
Silver	0.0950	0.0100	0.0002	mg/L	0.10000	ND	95	75-125			
Thallium	0.108	0.0010	0.00005	mg/L	0.10000	ND	108	75-125			
Vanadium	0.105	0.0100	0.0012	mg/L	0.10000	ND	105	75-125			
Zinc	0.103	0.0100	0.0012	mg/L	0.10000	ND	103	75-125			
Lithium	0.101	0.0500	0.0015	mg/L	0.10000	ND	101	75-125			
Matrix Spike Dup (7110503-MSD1)		**Source: AAK0534-01**				Prepared: 11/17/17 Analyzed: 11/21/17					
Antimony	0.107	0.0030	0.0006	mg/L	0.10000	ND	107	75-125	0.4	20	
Arsenic	0.0989	0.0050	0.0005	mg/L	0.10000	ND	99	75-125	0.6	20	
Barium	0.124	0.0100	0.0004	mg/L	0.10000	0.0217	102	75-125	0.1	20	
Beryllium	0.103	0.0030	0.00009	mg/L	0.10000	ND	103	75-125	2	20	
Cadmium	0.104	0.0010	0.0001	mg/L	0.10000	ND	104	75-125	0.7	20	
Chromium	0.100	0.0100	0.0005	mg/L	0.10000	ND	100	75-125	0.4	20	
Cobalt	0.0944	0.0100	0.0003	mg/L	0.10000	ND	94	75-125	3	20	
Copper	0.0977	0.0250	0.0003	mg/L	0.10000	ND	98	75-125	1	20	
Lead	0.104	0.0050	0.00007	mg/L	0.10000	ND	104	75-125	1	20	
Nickel	0.0954	0.0100	0.0005	mg/L	0.10000	ND	95	75-125	2	20	
Selenium	0.0976	0.0100	0.0018	mg/L	0.10000	ND	98	75-125	4	20	
Silver	0.0929	0.0100	0.0002	mg/L	0.10000	ND	93	75-125	2	20	
Thallium	0.105	0.0010	0.00005	mg/L	0.10000	ND	105	75-125	2	20	
Vanadium	0.102	0.0100	0.0012	mg/L	0.10000	ND	102	75-125	3	20	
Zinc	0.102	0.0100	0.0012	mg/L	0.10000	ND	102	75-125	2	20	
Lithium	0.0999	0.0500	0.0015	mg/L	0.10000	ND	100	75-125	1	20	

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 22, 2017

Report No.: AAK0534

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7110503 - EPA 3005A											
Post Spike (7110503-PS1)			**Source: AAK0534-01**			Prepared: 11/17/17 Analyzed: 11/21/17					
Antimony	105			ug/L	100.00	0.0312	105	80-120			
Arsenic	99.7			ug/L	100.00	-0.252	100	80-120			
Barium	123			ug/L	100.00	21.7	101	80-120			
Beryllium	98.9			ug/L	100.00	0.0069	99	80-120			
Cadmium	101			ug/L	100.00	-0.0009	101	80-120			
Chromium	97.9			ug/L	100.00	0.122	98	80-120			
Cobalt	95.9			ug/L	100.00	0.0083	96	80-120			
Copper	97.3			ug/L	100.00	0.128	97	80-120			
Lead	101			ug/L	100.00	-0.0003	101	80-120			
Nickel	96.2			ug/L	100.00	0.248	96	80-120			
Selenium	99.3			ug/L	100.00	-0.153	99	80-120			
Silver	95.0			ug/L	100.00	-0.0001	95	80-120			
Thallium	103			ug/L	100.00	0.0070	103	80-120			
Vanadium	100			ug/L	100.00	-0.161	100	80-120			
Zinc	102			ug/L	100.00	0.283	102	80-120			
Lithium	101			ug/L	100.00	0.850	100	80-120			
Batch 7110549 - EPA 7470A											
Blank (7110549-BLK1)						Prepared: 11/20/17 Analyzed: 11/21/17					
Mercury	ND	0.00050	0.000036	mg/L							
LCS (7110549-BS1)						Prepared: 11/20/17 Analyzed: 11/21/17					
Mercury	0.00240	0.00050	0.000036	mg/L	2.5000E-3		96	80-120			
Matrix Spike (7110549-MS1)			**Source: AAK0534-02**			Prepared: 11/20/17 Analyzed: 11/21/17					
Mercury	0.00236	0.00050	0.000036	mg/L	2.5000E-3	ND	94	75-125			

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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7110549 - EPA 7470A											
Matrix Spike Dup (7110549-MSD1)			**Source: AAK0534-02**			Prepared: 11/20/17 Analyzed: 11/21/17					
Mercury	0.00238	0.00050	0.000036	mg/L	2.5000E-3	ND	95	75-125	1	20	
Post Spike (7110549-PS1)			**Source: AAK0534-02**			Prepared: 11/20/17 Analyzed: 11/21/17					
Mercury	1.66			ug/L	1.6667	-0.0350	99	80-120			

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Legend

Definition of Laboratory Terms

ND - Not Detected at levels equal to or greater than the MDL
BRL - Not Detected at levels equal to or greater than the RL
RL - Reporting Limit **MDL** - Method Detection Limit
SOP - Method run per Pace Standard Operating Procedure
CFU - Colony Forming Units
DF - Dilution Factor **TIC** - Tentatively Identified Compound

Sample Information

N-Nitrosodiphenylamine breaks down to diphenylamine in the GCMS; both analytes are reported as N-Nitrososdiphenylamine. Pace is not NELAC certified for N-Nitrososdiphenylamine.

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

1,2-Diphenylhydrazine breaks down to azobenzene in the GCMS; both analytes are reported as azobenzene

Definition of Qualifiers

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD and/or PDS due to suspected matrix interference. Sample results for the QC batch were accepted based on acceptable LCS recoveries.

QM-02 The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.

J Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

Note: Unless otherwise noted, all results are reported on an as received basis.

CHAIN OF CUSTODY RECORD

Pace Analytical
Pace Analytical Services, Inc.
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201 : www.asi-lab.com

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 42 Inverness Center Parkway, Birmingham, AL 35242, 205-992-5417

REPORT TO: Lauren Petty | CC: Maria Padilla, Heath McCorkle

REQUESTED COMPLETION DATE: | PO #: laburch@southernco.com

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: Phase II - CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)							LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
					CONTAINER TYPE:			P	P	P								
					PRESERVATION:			3	7	3								
11/13/17	15:10	W		X	HGWA-111	4		1	1	2							1	
11/13/17	15:15	W		X	HGWA-112	4		1	1	2							2	
11/14/17	9:10	W		X	HGWA-113	4		1	1	2							3	
11/14/17	10:30	W		X	HGWC-117	4		1	1	2							4	
11/14/17	11:30	W		X	HGWC-118	4		1	1	2							5	
11/14/17	12:32	W		X	HGWC-101	4		1	1	2							6	
11/14/17	12:25	W		X	HGWC-103	4		1	1	2							7	
11/14/17	13:30	W		X	HGWC-105	6		1	1	4							8	Extra radium volume collected for Lab QA/QC
11/14/17	13:35	W		X	HGWC-107	4		1	1	2							9	
11/14/17	14:52	W		X	HGWC-109	4		1	1	2							10	
11/14/17	14:40	W		X	FB-1	4		1	1	2							11	
11/14/17	14:45	W		X	FERB-1	4		1	1	2							12	

CONTAINER TYPE: P - PLASTIC; A - AMBER GLASS; G - CLEAR GLASS; V - VOA VIAL; S - STERILE; O - OTHER

PRESERVATION: 1 - HCl, ≤6°C; 2 - H_2SO_4, ≤6°C; 3 - HNO_3; 4 - NaOH, ≤6°C; 5 - NaOH/ZnAc, ≤6°C; 6 - $Na_2S_2O_3$, ≤6°C; 7 - ≤6°C not frozen

*MATRIX CODES: DW - DRINKING WATER; WW - WASTEWATER; GW - GROUNDWATER; SW - SURFACE WATER; ST - STORM WATER; W - WATER; S - SOIL; SL - SLUDGE; SD - SOLID; A - AIR; L - LIQUID; P - PRODUCT

SAMPLED BY AND TITLE: W.Virgo WTP T.Payne TP | DATE/TIME: 11/14/2017 : 15:30

RELINQUISHED BY: Will Virgo (ERM) | DATE/TIME: 11/14/17 1800

RECEIVED BY: | DATE/TIME:

RELINQUISHED BY: | DATE/TIME:

RECEIVED BY LAB: Dahlman | DATE/TIME: 11/15/17 1315

SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS — Pace

Checked: Yes No NA | Ice: Yes No NA | Temperature: Min 0.5 Max | Custody Seal: Intact Broken Not Present | # of Coolers | Cooler ID

FOR LAB USE ONLY
LAB #: AAK0534
Entered Into LIMS: MK
Tracking #:

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power Project # AAK0534

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other ____

Tracking #: ____

Optional: Proj. Due Date: Proj. Name:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other ____

Thermometer Used IR-4 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 0.5 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 11/15/17 MP

Temp should be above freezing to 6°C

				Comments:
Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: GW				
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No		Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.
Trip Blank Present:	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased): ____				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: ____ Date/Time: ____

Comments/ Resolution: ____

Project Manager Review: ____ **Date:** ____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

LOG-IN CHECKLIST **Printed: 11/16/2017 10:30:25AM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 11/15/17 13:15

Work Order: AAK0534
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 12 **#Containers:** 50

Minimum Temp(C): 0.5 **Maximum Temp(C):** 0.5 **Custody Seal(s) Used:** Yes

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	YES
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

December 12, 2017

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: AAK0534 Plant Hammond
Pace Project No.: 30236279

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on November 16, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: AAK0534 Plant Hammond
Pace Project No.: 30236279

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: AAK0534 Plant Hammond
Pace Project No.: 30236279

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30236279001	**HGWA-111**	Water	11/13/17 15:10	11/16/17 10:00
30236279002	**HGWA-112**	Water	11/13/17 15:15	11/16/17 10:00
30236279003	**HGWA-113**	Water	11/14/17 09:10	11/16/17 10:00
30236279004	**HGWC-117**	Water	11/14/17 10:30	11/16/17 10:00
30236279005	**HGWC-118**	Water	11/14/17 11:30	11/16/17 10:00
30236279006	**HGWC-101**	Water	11/14/17 12:32	11/16/17 10:00
30236279007	**HGWA-103**	Water	11/14/17 12:25	11/16/17 10:00
30236279008	**HGWC-105**	Water	11/14/17 13:30	11/16/17 10:00
30236279009	**HGWC-107**	Water	11/14/17 13:35	11/16/17 10:00
30236279010	**HGWC-109**	Water	11/14/17 14:52	11/16/17 10:00
30236279011	**FB-1**	Water	11/14/17 14:40	11/16/17 10:00
30236279012	**FERB-1**	Water	11/14/17 14:45	11/16/17 10:00

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: AAK0534 Plant Hammond
Pace Project No.: 30236279

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30236279001	**HGWA-111**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30236279002	**HGWA-112**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30236279003	**HGWA-113**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30236279004	**HGWC-117**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30236279005	**HGWC-118**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30236279006	**HGWC-101**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30236279007	**HGWA-103**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30236279008	**HGWC-105**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30236279009	**HGWC-107**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30236279010	**HGWC-109**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30236279011	**FB-1**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30236279012	**FERB-1**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAK0534 Plant Hammond
Pace Project No.: 30236279

Sample: HGWA-111 **Lab ID: 30236279001** Collected: 11/13/17 15:10 Received: 11/16/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.374 ± 0.210 (0.317) C:88% T:NA**	pCi/L	11/27/17 13:04	13982-63-3	
Radium-228	EPA 9320	**0.404 ± 0.413 (0.856) C:75% T:73%**	pCi/L	11/29/17 14:49	15262-20-1	
Total Radium	Total Radium Calculation	**0.778 ± 0.623 (1.17)**	pCi/L	12/12/17 12:05	7440-14-4	

Sample: HGWA-112 **Lab ID: 30236279002** Collected: 11/13/17 15:15 Received: 11/16/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.645 ± 0.248 (0.263) C:90% T:NA**	pCi/L	11/27/17 13:04	13982-63-3	
Radium-228	EPA 9320	**0.141 ± 0.403 (0.906) C:70% T:76%**	pCi/L	11/29/17 14:49	15262-20-1	
Total Radium	Total Radium Calculation	**0.786 ± 0.651 (1.17)**	pCi/L	12/12/17 12:05	7440-14-4	

Sample: HGWA-113 **Lab ID: 30236279003** Collected: 11/14/17 09:10 Received: 11/16/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0370 ± 0.159 (0.379) C:85% T:NA**	pCi/L	11/27/17 13:04	13982-63-3	
Radium-228	EPA 9320	**0.0392 ± 0.398 (0.916) C:73% T:76%**	pCi/L	11/29/17 14:49	15262-20-1	
Total Radium	Total Radium Calculation	**0.0762 ± 0.557 (1.30)**	pCi/L	12/12/17 12:05	7440-14-4	

Sample: HGWC-117 **Lab ID: 30236279004** Collected: 11/14/17 10:30 Received: 11/16/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.796 ± 0.289 (0.305) C:89% T:NA**	pCi/L	11/27/17 13:04	13982-63-3	
Radium-228	EPA 9320	**0.194 ± 0.405 (0.893) C:78% T:85%**	pCi/L	11/29/17 14:49	15262-20-1	
Total Radium	Total Radium Calculation	**0.990 ± 0.694 (1.20)**	pCi/L	12/12/17 12:05	7440-14-4	

Sample: HGWC-118 **Lab ID: 30236279005** Collected: 11/14/17 11:30 Received: 11/16/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.154 ± 0.163 (0.319) C:83% T:NA**	pCi/L	11/27/17 13:04	13982-63-3	
Radium-228	EPA 9320	**0.181 ± 0.335 (0.736) C:75% T:85%**	pCi/L	11/29/17 14:49	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAK0534 Plant Hammond
Pace Project No.: 30236279

Sample: HGWC-118 **Lab ID: 30236279005** Collected: 11/14/17 11:30 Received: 11/16/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	**0.335 ± 0.498 (1.06)**	pCi/L	12/12/17 12:05	7440-14-4	

Sample: HGWC-101 **Lab ID: 30236279006** Collected: 11/14/17 12:32 Received: 11/16/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.450 ± 0.260 (0.435) C:85% T:NA**	pCi/L	11/27/17 13:04	13982-63-3	
Radium-228	EPA 9320	**0.319 ± 0.371 (0.781) C:72% T:83%**	pCi/L	11/29/17 14:49	15262-20-1	
Total Radium	Total Radium Calculation	**0.769 ± 0.631 (1.22)**	pCi/L	12/12/17 12:05	7440-14-4	

Sample: HGWA-103 **Lab ID: 30236279007** Collected: 11/14/17 12:25 Received: 11/16/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.485 ± 0.248 (0.372) C:87% T:NA**	pCi/L	11/27/17 13:04	13982-63-3	
Radium-228	EPA 9320	**0.0818 ± 0.371 (0.846) C:73% T:75%**	pCi/L	11/29/17 14:49	15262-20-1	
Total Radium	Total Radium Calculation	**0.567 ± 0.619 (1.22)**	pCi/L	12/12/17 12:05	7440-14-4	

Sample: HGWC-105 **Lab ID: 30236279008** Collected: 11/14/17 13:30 Received: 11/16/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.588 ± 0.249 (0.294) C:86% T:NA**	pCi/L	11/27/17 13:04	13982-63-3	
Radium-228	EPA 9320	**0.229 ± 0.359 (0.777) C:74% T:81%**	pCi/L	11/29/17 14:49	15262-20-1	
Total Radium	Total Radium Calculation	**0.817 ± 0.608 (1.07)**	pCi/L	12/12/17 12:05	7440-14-4	

Sample: HGWC-107 **Lab ID: 30236279009** Collected: 11/14/17 13:35 Received: 11/16/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.365 ± 0.214 (0.331) C:88% T:NA**	pCi/L	11/27/17 13:04	13982-63-3	
Radium-228	EPA 9320	**0.646 ± 0.445 (0.851) C:72% T:74%**	pCi/L	11/29/17 14:49	15262-20-1	
Total Radium	Total Radium Calculation	**1.01 ± 0.659 (1.18)**	pCi/L	12/12/17 12:05	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAK0534 Plant Hammond
Pace Project No.: 30236279

Sample: HGWC-109 **Lab ID: 30236279010** Collected: 11/14/17 14:52 Received: 11/16/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.494 ± 0.219 (0.268) C:92% T:NA**	pCi/L	11/27/17 13:05	13982-63-3	
Radium-228	EPA 9320	**0.159 ± 0.338 (0.748) C:70% T:81%**	pCi/L	11/29/17 14:49	15262-20-1	
Total Radium	Total Radium Calculation	**0.653 ± 0.557 (1.02)**	pCi/L	12/12/17 12:05	7440-14-4	

Sample: FB-1 **Lab ID: 30236279011** Collected: 11/14/17 14:40 Received: 11/16/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.272 ± 0.179 (0.289) C:92% T:NA**	pCi/L	11/27/17 13:05	13982-63-3	
Radium-228	EPA 9320	**0.110 ± 0.363 (0.822) C:70% T:75%**	pCi/L	11/29/17 14:50	15262-20-1	
Total Radium	Total Radium Calculation	**0.382 ± 0.542 (1.11)**	pCi/L	12/12/17 12:05	7440-14-4	

Sample: FERB-1 **Lab ID: 30236279012** Collected: 11/14/17 14:45 Received: 11/16/17 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.218 ± 0.163 (0.279) C:88% T:NA**	pCi/L	11/27/17 18:41	13982-63-3	
Radium-228	EPA 9320	**-0.0620 ± 0.439 (1.03) C:67% T:71%**	pCi/L	11/29/17 14:50	15262-20-1	
Total Radium	Total Radium Calculation	**0.218 ± 0.602 (1.31)**	pCi/L	12/12/17 12:05	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAK0534 Plant Hammond
Pace Project No.: 30236279

QC Batch: 279888 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30236279001, 30236279002, 30236279003, 30236279004, 30236279005, 30236279006, 30236279007, 30236279008, 30236279009, 30236279010, 30236279011, 30236279012

METHOD BLANK: 1374797 Matrix: Water
Associated Lab Samples: 30236279001, 30236279002, 30236279003, 30236279004, 30236279005, 30236279006, 30236279007, 30236279008, 30236279009, 30236279010, 30236279011, 30236279012

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.566 ± 0.420 (0.822) C:79% T:72%	pCi/L	11/29/17 14:48	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAK0534 Plant Hammond
Pace Project No.: 30236279

QC Batch: 279887 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30236279001, 30236279002, 30236279003, 30236279004, 30236279005, 30236279006, 30236279007, 30236279008, 30236279009, 30236279010, 30236279011, 30236279012

METHOD BLANK: 1374796 Matrix: Water
Associated Lab Samples: 30236279001, 30236279002, 30236279003, 30236279004, 30236279005, 30236279006, 30236279007, 30236279008, 30236279009, 30236279010, 30236279011, 30236279012

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.412 ± 0.212 (0.298) C:89% T:NA	pCi/L	11/27/17 13:04	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: AAK0534 Plant Hammond
Pace Project No.: 30236279

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAK0534 Workorder Name: Plant Hammond Owner Received Date: 11/15/2017 Results Requested By: 12/12/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HNO3					Requested Analysis: Radium 226, 228, Total												LAB USE ONLY
1	HGWA-111	G	11/13/2017 15:10	AAK0534-01	GW	2					X												001
2	HGWA-112	G	11/13/2017 15:15	AAK0534-02	GW	2					X												002
3	HGWA-113	G	11/14/2017 9:10	AAK0534-03	GW	2					X												003
4	HGWC-117	G	11/14/2017 10:30	AAK0534-04	GW	~~4~~ 2		BMD 11/15/2017			X												004
5	HGWC-118	G	11/14/2017 11:30	AAK0534-05	GW	2					X												005
6	HGWC-101	G	11/14/2017 12:32	AAK0534-06	GW	2					X												006
7	HGWC-103	G	11/14/2017 12:25	AAK0534-07	GW	2					X												007
8	HGWC-105	G	11/14/2017 13:30	AAK0534-08	GW	4					X												008
9	HGWC-107	G	11/14/2017 13:35	AAK0534-09	GW	2					X												009
10	HGWC-109	G	11/14/2017 14:52	AAK0534-10	GW	2					X												010

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	M. RAHMAN	11/13/17		11/14/17 1000	EQuIS deliverable required (Profile 7564)
2					
3					

Cooler Temperature on Receipt N/A °C	Custody Seal Y or (N)	Received on Ice Y or (N)	Sample Intact (Y) or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC
This chain of custody is considered complete as is since this information is available in the owner laboratory.

WO#: 30236279

30236279

Chain of Custody

Pace Analytical
www.pacelabs.com

Workorder: AAK0534 Workorder Name: Plant Hammond Owner Received Date: 11/15/2017 Results Requested By: 12/12/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3					Requested Analysis Radium 226, 228, Total												LAB USE ONLY
11	FB-1	G	11/14/2017 14:40	AAK0534-11	W	2					X												011
12	FERB-1	G	11/14/2017 14:45	AAK0534-12	W	2					X												012
13																							
14																							
15																							
16																							
17																							
18																							
19																							
20																							

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	M. RAHMAN	11/15/17		11/16/17 1000	EQuIS deliverable required (Profile 7564)
2					
3					

Cooler Temperature on Receipt NA °C	Custody Seal Y or N	Received on Ice Y or N	Sample Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC
This chain of custody is considered complete as is since this information is available in the owner laboratory.

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power Project # AAK0534

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other

Tracking #:

Optional: Proj. Due Date: Proj. Name:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used: IR-4 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 0.5 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 11/15/17 MR

Temp should be above freezing to 6°C

				Comments:	
Chain of Custody Present:	☑Yes	☐No	☐N/A	1.	
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.	
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.	
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.	
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.	
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.	
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.	
Sufficient Volume:	☑Yes	☐No	☐N/A	8.	
Correct Containers Used:	☑Yes	☐No	☐N/A	9.	
-Pace Containers Used:	☑Yes	☐No	☐N/A		
Containers Intact:	☑Yes	☐No	☐N/A	10.	
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.	
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.	
-Includes date/time/ID/Analysis Matrix: GW					
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	13.	
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A		
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No		Initial when completed	Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.	
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.	
Trip Blank Present:	☐Yes	☐No	☑N/A	16.	
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A		
Pace Trip Blank Lot # (if purchased):					

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-ALLC003rev.3 11September2006

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Pace GA Project # 30236279

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Label ML

Tracking #: 749136665971136

LIMS Login ZH

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used N/A Type of Ice: Wet Blue None

Cooler Temperature Observed Temp — °C Correction Factor: — °C Final Temp: — °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ZH 11/16/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used: -Pace Containers Used:	✓ ✓			10.
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. All containers needing preservation are found to be in compliance with EPA recommendation.	✓ ✓			16. pH < 2
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed ZH Date/time of preservation; Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present:			✓	18.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: ZH Date: 11/16/17

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-226
Analyst:	JC2
Date:	11/27/2017
Worklist:	38828
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment

MB Sample ID	1374796
MB concentration:	0.412
M/B Counting Uncertainty:	0.203
MB MDC:	0.298
MB Numerical Performance Indicator:	3.97
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	See Comment*

Laboratory Control Sample Assessment

	LCSD (Y or N)?	Y
	LCS38828	LCSD38828
Count Date:	11/27/2017	11/27/2017
Spike I.D.:	17-030	17-030
Spike Concentration (pCi/mL):	80.186	80.186
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.512	0.508
Target Conc. (pCi/L, g, F):	15.666	15.784
Uncertainty (Calculated):	1.443	1.454
Result (pCi/L, g, F):	13.083	12.786
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.888	0.944
Numerical Performance Indicator:	-2.99	-3.39
Percent Recovery:	83.51%	81.01%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass

Sample Matrix Spike Control Assessment

Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment

Sample I.D.:	LCS38828
Duplicate Sample I.D.	LCSD38828
Sample Result (pCi/L, g, F):	13.083
Sample Result Counting Uncertainty (pCi/L, g, F):	0.888
Sample Duplicate Result (pCi/L, g, F):	12.786
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.944
Are sample and/or duplicate results below MDC?	NO
Duplicate Numerical Performance Indicator:	0.449
Duplicate RPD:	2.30%
Duplicate Status vs Numerical Indicator:	N/A
Duplicate Status vs RPD:	Pass

Enter Duplicate sample IDs if other than LCS/LCSD in the space below.

Matrix Spike/Matrix Spike Duplicate Sample Assessment

Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

*The method blank result is below the reporting limit for this analysis and is acceptable.

12/12/17

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Test:	Ra-228
Analyst:	VAL
Date:	11/27/2017
Worklist:	38829
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1374797
MB concentration:	0.566
M/B Counting Uncertainty:	0.407
MB MDC:	0.822
MB Numerical Performance Indicator:	2.73
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS38829	**LCSD38829**
Count Date:	11/29/2017	11/29/2017
Spike I.D.:	17-033	17-033
Spike Concentration (pCi/mL):	22.923	22.923
Volume Used (mL):	0.20	0.20
Aliquot Volume (L, g, F):	0.811	0.802
Target Conc. (pCi/L, g, F):	5.656	5.714
Uncertainty (Calculated):	0.407	0.411
Result (pCi/L, g, F):	5.835	6.318
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.737	0.698
Numerical Performance Indicator:	0.42	1.46
Percent Recovery:	103.18%	110.57%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass

Sample Matrix Spike Control Assessment	
Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	LCS38829	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD38829	
Sample Result (pCi/L, g, F):	5.835	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.737	
Sample Duplicate Result (pCi/L, g, F):	6.318	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.698	
Are sample and/or duplicate results below MDC?	NO	
Duplicate Numerical Performance Indicator:	-0.931	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	6.92%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

12/12/17

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AAK0578
November 27, 2017
Project: CCR Event
Project #:Plant Hammond

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Approved:

Project Manager

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 27, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HGWA-122	AAK0578-01	Water	11/15/17 09:00	11/16/17 12:45
HGWC-120	AAK0578-02	Water	11/15/17 10:07	11/16/17 12:45
HGWC-124	AAK0578-03	Water	11/15/17 10:20	11/16/17 12:45
HGWC-121A	AAK0578-04	Water	11/15/17 11:25	11/16/17 12:45
Dup-1	AAK0578-05	Water	11/15/17 00:00	11/16/17 12:45

PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 27, 2017

Case Narrative

The Radium analysis by methods EPA 9315/9320 was performed by Pace-Pittsburgh, 1638 Roseytown Road - Suites 2, 3, 4, Greensburg PA 15601. The Pace-Pittsburgh lab contact is Jacquelyn Collins at 724-850-5612.

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 27, 2017

Report No.: AAK0578
Client ID: HGWA-122
Date/Time Sampled: 11/15/2017 9:00:00AM
Matrix: Water

Project: CCR Event
Lab Number ID: AAK0578-01
Date/Time Received: 11/16/2017 12:45:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	261	25	10	mg/L	SM 2540 C		1	11/20/17 16:40	11/20/17 16:40	7110570	JPT
Inorganic Anions											
Chloride	3.1	0.25	0.02	mg/L	EPA 300.0		1	11/20/17 09:03	11/21/17 08:02	7110553	RLC
Fluoride	0.05	0.30	0.03	mg/L	EPA 300.0	J	1	11/20/17 09:03	11/21/17 08:02	7110553	RLC
Sulfate	49	1.0	0.02	mg/L	EPA 300.0		1	11/20/17 09:03	11/21/17 08:02	7110553	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	11/22/17 09:20	11/22/17 16:24	7110641	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	11/22/17 09:20	11/22/17 16:24	7110641	CSW
Barium	0.0439	0.0100	0.0004	mg/L	EPA 6020B		1	11/22/17 09:20	11/22/17 16:24	7110641	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	11/22/17 09:20	11/22/17 16:24	7110641	CSW
Boron	0.322	0.0400	0.0060	mg/L	EPA 6020B		1	11/22/17 09:20	11/22/17 16:24	7110641	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	11/22/17 09:20	11/22/17 16:24	7110641	CSW
Calcium	72.8	25.0	2.02	mg/L	EPA 6020B		50	11/22/17 09:20	11/22/17 16:30	7110641	CSW
Chromium	0.0006	0.0100	0.0005	mg/L	EPA 6020B	J	1	11/22/17 09:20	11/22/17 16:24	7110641	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	11/22/17 09:20	11/22/17 16:24	7110641	CSW
Lead	0.0002	0.0050	0.00007	mg/L	EPA 6020B	J	1	11/22/17 09:20	11/22/17 16:24	7110641	CSW
Molybdenum	0.0018	0.0100	0.0010	mg/L	EPA 6020B	J	1	11/22/17 09:20	11/22/17 16:24	7110641	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	11/22/17 09:20	11/22/17 16:24	7110641	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	11/22/17 09:20	11/22/17 16:24	7110641	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	11/22/17 09:20	11/22/17 16:24	7110641	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	11/21/17 14:45	11/21/17 18:54	7110579	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 27, 2017

Report No.: AAK0578
Client ID: HGWC-120
Date/Time Sampled: 11/15/2017 10:07:00AM
Matrix: Water

Project: CCR Event
Lab Number ID: AAK0578-02
Date/Time Received: 11/16/2017 12:45:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	721	25	10	mg/L	SM 2540 C		1	11/20/17 16:40	11/20/17 16:40	7110570	JPT
Inorganic Anions											
Chloride	2.9	0.25	0.02	mg/L	EPA 300.0		1	11/20/17 09:03	11/21/17 08:24	7110553	RLC
Fluoride	1.3	0.30	0.03	mg/L	EPA 300.0		1	11/20/17 09:03	11/21/17 08:24	7110553	RLC
Sulfate	300	20	0.34	mg/L	EPA 300.0		20	11/20/17 09:03	11/21/17 15:07	7110553	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:16	7110503	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:16	7110503	CSW
Barium	0.0510	0.0100	0.0004	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:16	7110503	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:16	7110503	CSW
Boron	1.24	0.0400	0.0060	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:16	7110503	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:16	7110503	CSW
Calcium	182	25.0	2.02	mg/L	EPA 6020B		50	11/17/17 10:15	11/21/17 22:21	7110503	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:16	7110503	CSW
Cobalt	0.0032	0.0100	0.0003	mg/L	EPA 6020B	J	1	11/17/17 10:15	11/21/17 22:16	7110503	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:16	7110503	CSW
Molybdenum	0.0281	0.0100	0.0010	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:16	7110503	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:16	7110503	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:16	7110503	CSW
Lithium	0.0347	0.0500	0.0015	mg/L	EPA 6020B	J	1	11/17/17 10:15	11/21/17 22:16	7110503	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	11/21/17 14:45	11/21/17 18:57	7110579	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 27, 2017

Report No.: AAK0578
Client ID: HGWC-124
Date/Time Sampled: 11/15/2017 10:20:00AM
Matrix: Water

Project: CCR Event
Lab Number ID: AAK0578-03
Date/Time Received: 11/16/2017 12:45:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	350	25	10	mg/L	SM 2540 C		1	11/20/17 16:40	11/20/17 16:40	7110570	JPT
Inorganic Anions											
Chloride	3.1	0.25	0.02	mg/L	EPA 300.0		1	11/20/17 09:03	11/21/17 08:45	7110553	RLC
Fluoride	ND	0.30	0.03	mg/L	EPA 300.0		1	11/20/17 09:03	11/21/17 08:45	7110553	RLC
Sulfate	70	5.0	0.08	mg/L	EPA 300.0		5	11/20/17 09:03	11/21/17 15:28	7110553	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:27	7110503	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:27	7110503	CSW
Barium	0.0707	0.0100	0.0004	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:27	7110503	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:27	7110503	CSW
Boron	0.531	0.0400	0.0060	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:27	7110503	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:27	7110503	CSW
Calcium	103	25.0	2.02	mg/L	EPA 6020B		50	11/17/17 10:15	11/21/17 22:33	7110503	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:27	7110503	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:27	7110503	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:27	7110503	CSW
Molybdenum	0.0012	0.0100	0.0010	mg/L	EPA 6020B	J	1	11/17/17 10:15	11/21/17 22:27	7110503	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:27	7110503	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:27	7110503	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:27	7110503	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	11/21/17 14:45	11/21/17 18:59	7110579	MTC

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 27, 2017

Report No.: AAK0578
Client ID: HGWC-121A
Date/Time Sampled: 11/15/2017 11:25:00AM
Matrix: Water

Project: CCR Event
Lab Number ID: AAK0578-04
Date/Time Received: 11/16/2017 12:45:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	838	25	10	mg/L	SM 2540 C		1	11/20/17 16:40	11/20/17 16:40	7110570	JPT
Inorganic Anions											
Chloride	46	0.25	0.02	mg/L	EPA 300.0		1	11/20/17 09:03	11/21/17 09:49	7110553	RLC
Fluoride	0.60	0.30	0.03	mg/L	EPA 300.0		1	11/20/17 09:03	11/21/17 09:49	7110553	RLC
Sulfate	280	10	0.17	mg/L	EPA 300.0		10	11/20/17 09:03	11/21/17 15:49	7110553	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:39	7110503	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:39	7110503	CSW
Barium	0.0807	0.0100	0.0004	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:39	7110503	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:39	7110503	CSW
Boron	2.71	0.0400	0.0060	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:39	7110503	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:39	7110503	CSW
Calcium	184	25.0	2.02	mg/L	EPA 6020B		50	11/17/17 10:15	11/21/17 22:44	7110503	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:39	7110503	CSW
Cobalt	0.0003	0.0100	0.0003	mg/L	EPA 6020B	J	1	11/17/17 10:15	11/21/17 22:39	7110503	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:39	7110503	CSW
Molybdenum	ND	0.0100	0.0010	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:39	7110503	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:39	7110503	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:39	7110503	CSW
Lithium	0.0086	0.0500	0.0015	mg/L	EPA 6020B	J	1	11/17/17 10:15	11/21/17 22:39	7110503	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	11/21/17 14:45	11/21/17 19:01	7110579	MTC

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 27, 2017

Report No.: AAK0578
Client ID: Dup-1
Date/Time Sampled: 11/15/2017 12:00:00AM
Matrix: Water

Project: CCR Event
Lab Number ID: AAK0578-05
Date/Time Received: 11/16/2017 12:45:00PM

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	351	25	10	mg/L	SM 2540 C		1	11/20/17 16:40	11/20/17 16:40	7110570	JPT
Inorganic Anions											
Chloride	3.1	0.25	0.02	mg/L	EPA 300.0		1	11/20/17 09:03	11/21/17 10:10	7110553	RLC
Fluoride	0.05	0.30	0.03	mg/L	EPA 300.0	J	1	11/20/17 09:03	11/21/17 10:10	7110553	RLC
Sulfate	72	5.0	0.08	mg/L	EPA 300.0		5	11/20/17 09:03	11/21/17 17:14	7110553	RLC
Metals, Total											
Antimony	ND	0.0030	0.0006	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:50	7110503	CSW
Arsenic	ND	0.0050	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:50	7110503	CSW
Barium	0.0690	0.0100	0.0004	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:50	7110503	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:50	7110503	CSW
Boron	0.525	0.0400	0.0060	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:50	7110503	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:50	7110503	CSW
Calcium	104	25.0	2.02	mg/L	EPA 6020B		50	11/17/17 10:15	11/21/17 22:56	7110503	CSW
Chromium	ND	0.0100	0.0005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:50	7110503	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:50	7110503	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:50	7110503	CSW
Molybdenum	0.0012	0.0100	0.0010	mg/L	EPA 6020B	J	1	11/17/17 10:15	11/21/17 22:50	7110503	CSW
Selenium	ND	0.0100	0.0018	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:50	7110503	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:50	7110503	CSW
Lithium	ND	0.0500	0.0015	mg/L	EPA 6020B		1	11/17/17 10:15	11/21/17 22:50	7110503	CSW
Mercury	ND	0.00050	0.000036	mg/L	EPA 7470A		1	11/21/17 14:45	11/21/17 19:04	7110579	MTC

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Report No.: AAK0578

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7110570 - SM 2540 C											
Blank (7110570-BLK1)						Prepared & Analyzed: 11/20/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7110570-BS1)						Prepared & Analyzed: 11/20/17					
Total Dissolved Solids	416	25	10	mg/L	400.00		104	84-108			
Duplicate (7110570-DUP1)		**Source: AAK0586-01**				Prepared & Analyzed: 11/20/17					
Total Dissolved Solids	230	25	10	mg/L		241			5	10	
Duplicate (7110570-DUP2)		**Source: AAK0586-03**				Prepared & Analyzed: 11/20/17					
Total Dissolved Solids	ND	25	10	mg/L		ND				10	

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Report No.: AAK0578

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7110553 - EPA 9056A											
Blank (7110553-BLK1)						Prepared: 11/20/17 Analyzed: 11/21/17					
Chloride	ND	0.25	0.02	mg/L							
Fluoride	ND	0.30	0.03	mg/L							
Sulfate	ND	1.0	0.02	mg/L							
LCS (7110553-BS1)						Prepared: 11/20/17 Analyzed: 11/21/17					
Chloride	11.0	0.25	0.02	mg/L	10.000		110	90-110			
Fluoride	10.6	0.30	0.03	mg/L	10.000		106	90-110			
Sulfate	10.9	1.0	0.02	mg/L	10.000		109	90-110			
Matrix Spike (7110553-MS1)		**Source: AAK0578-03**				Prepared: 11/20/17 Analyzed: 11/21/17					
Chloride	13.6	0.25	0.02	mg/L	10.000	3.09	105	90-110			
Fluoride	11.0	0.30	0.03	mg/L	10.000	ND	110	90-110			
Sulfate	72.8	1.0	0.02	mg/L	10.000	70.1	27	90-110			QM-02
Matrix Spike (7110553-MS2)		**Source: AAK0586-01**				Prepared: 11/20/17 Analyzed: 11/21/17					
Chloride	12.6	0.25	0.02	mg/L	10.000	2.20	104	90-110			
Fluoride	11.0	0.30	0.03	mg/L	10.000	0.05	109	90-110			
Sulfate	13.9	1.0	0.02	mg/L	10.000	3.83	101	90-110			
Matrix Spike Dup (7110553-MSD1)		**Source: AAK0578-03**				Prepared: 11/20/17 Analyzed: 11/21/17					
Chloride	13.6	0.25	0.02	mg/L	10.000	3.09	106	90-110	0.1	15	
Fluoride	11.0	0.30	0.03	mg/L	10.000	ND	110	90-110	0.1	15	
Sulfate	72.9	1.0	0.02	mg/L	10.000	70.1	27	90-110	0.1	15	QM-02

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Report No.: AAK0578

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7110503 - EPA 3005A											
Blank (7110503-BLK1)						Prepared: 11/17/17 Analyzed: 11/21/17					
Antimony	ND	0.0030	0.0006	mg/L							
Arsenic	ND	0.0050	0.0005	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00009	mg/L							
Boron	ND	0.0400	0.0060	mg/L							
Cadmium	ND	0.0010	0.0001	mg/L							
Calcium	ND	0.500	0.0404	mg/L							
Chromium	ND	0.0100	0.0005	mg/L							
Cobalt	ND	0.0100	0.0003	mg/L							
Copper	ND	0.0250	0.0003	mg/L							
Lead	ND	0.0050	0.00007	mg/L							
Molybdenum	ND	0.0100	0.0010	mg/L							
Nickel	ND	0.0100	0.0005	mg/L							
Selenium	ND	0.0100	0.0018	mg/L							
Silver	ND	0.0100	0.0002	mg/L							
Thallium	ND	0.0010	0.00005	mg/L							
Vanadium	ND	0.0100	0.0012	mg/L							
Zinc	ND	0.0100	0.0012	mg/L							
Lithium	ND	0.0500	0.0015	mg/L							
LCS (7110503-BS1)						Prepared: 11/17/17 Analyzed: 11/21/17					
Antimony	0.104	0.0030	0.0006	mg/L	0.10000		104	80-120			
Arsenic	0.0989	0.0050	0.0005	mg/L	0.10000		99	80-120			
Barium	0.102	0.0100	0.0004	mg/L	0.10000		102	80-120			
Beryllium	0.104	0.0030	0.00009	mg/L	0.10000		104	80-120			
Cadmium	0.103	0.0010	0.0001	mg/L	0.10000		103	80-120			
Chromium	0.0990	0.0100	0.0005	mg/L	0.10000		99	80-120			
Cobalt	0.0949	0.0100	0.0003	mg/L	0.10000		95	80-120			
Copper	0.0965	0.0250	0.0003	mg/L	0.10000		96	80-120			
Lead	0.100	0.0050	0.00007	mg/L	0.10000		100	80-120			
Nickel	0.0959	0.0100	0.0005	mg/L	0.10000		96	80-120			
Selenium	0.0994	0.0100	0.0018	mg/L	0.10000		99	80-120			
Silver	0.0943	0.0100	0.0002	mg/L	0.10000		94	80-120			
Thallium	0.103	0.0010	0.00005	mg/L	0.10000		103	80-120			
Vanadium	0.100	0.0100	0.0012	mg/L	0.10000		100	80-120			
Zinc	0.102	0.0100	0.0012	mg/L	0.10000		102	80-120			
Lithium	0.101	0.0500	0.0015	mg/L	0.10000		101	80-120			

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Report No.: AAK0578

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7110503 - EPA 3005A											
Matrix Spike (7110503-MS1)		**Source: AAK0534-01**				Prepared: 11/17/17 Analyzed: 11/21/17					
Antimony	0.107	0.0030	0.0006	mg/L	0.10000	ND	107	75-125			
Arsenic	0.0995	0.0050	0.0005	mg/L	0.10000	ND	99	75-125			
Barium	0.124	0.0100	0.0004	mg/L	0.10000	0.0217	102	75-125			
Beryllium	0.105	0.0030	0.00009	mg/L	0.10000	ND	105	75-125			
Cadmium	0.103	0.0010	0.0001	mg/L	0.10000	ND	103	75-125			
Chromium	0.101	0.0100	0.0005	mg/L	0.10000	ND	101	75-125			
Cobalt	0.0976	0.0100	0.0003	mg/L	0.10000	ND	98	75-125			
Copper	0.0986	0.0250	0.0003	mg/L	0.10000	ND	99	75-125			
Lead	0.106	0.0050	0.00007	mg/L	0.10000	ND	106	75-125			
Nickel	0.0976	0.0100	0.0005	mg/L	0.10000	ND	98	75-125			
Selenium	0.101	0.0100	0.0018	mg/L	0.10000	ND	101	75-125			
Silver	0.0950	0.0100	0.0002	mg/L	0.10000	ND	95	75-125			
Thallium	0.108	0.0010	0.00005	mg/L	0.10000	ND	108	75-125			
Vanadium	0.105	0.0100	0.0012	mg/L	0.10000	ND	105	75-125			
Zinc	0.103	0.0100	0.0012	mg/L	0.10000	ND	103	75-125			
Lithium	0.101	0.0500	0.0015	mg/L	0.10000	ND	101	75-125			
Matrix Spike Dup (7110503-MSD1)		**Source: AAK0534-01**				Prepared: 11/17/17 Analyzed: 11/21/17					
Antimony	0.107	0.0030	0.0006	mg/L	0.10000	ND	107	75-125	0.4	20	
Arsenic	0.0989	0.0050	0.0005	mg/L	0.10000	ND	99	75-125	0.6	20	
Barium	0.124	0.0100	0.0004	mg/L	0.10000	0.0217	102	75-125	0.1	20	
Beryllium	0.103	0.0030	0.00009	mg/L	0.10000	ND	103	75-125	2	20	
Cadmium	0.104	0.0010	0.0001	mg/L	0.10000	ND	104	75-125	0.7	20	
Chromium	0.100	0.0100	0.0005	mg/L	0.10000	ND	100	75-125	0.4	20	
Cobalt	0.0944	0.0100	0.0003	mg/L	0.10000	ND	94	75-125	3	20	
Copper	0.0977	0.0250	0.0003	mg/L	0.10000	ND	98	75-125	1	20	
Lead	0.104	0.0050	0.00007	mg/L	0.10000	ND	104	75-125	1	20	
Nickel	0.0954	0.0100	0.0005	mg/L	0.10000	ND	95	75-125	2	20	
Selenium	0.0976	0.0100	0.0018	mg/L	0.10000	ND	98	75-125	4	20	
Silver	0.0929	0.0100	0.0002	mg/L	0.10000	ND	93	75-125	2	20	
Thallium	0.105	0.0010	0.00005	mg/L	0.10000	ND	105	75-125	2	20	
Vanadium	0.102	0.0100	0.0012	mg/L	0.10000	ND	102	75-125	3	20	
Zinc	0.102	0.0100	0.0012	mg/L	0.10000	ND	102	75-125	2	20	
Lithium	0.0999	0.0500	0.0015	mg/L	0.10000	ND	100	75-125	1	20	

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Report No.: AAK0578

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7110503 - EPA 3005A											
Post Spike (7110503-PS1)			**Source: AAK0534-01**			Prepared: 11/17/17 Analyzed: 11/21/17					
Antimony	105			ug/L	100.00	0.0312	105	80-120			
Arsenic	99.7			ug/L	100.00	-0.252	100	80-120			
Barium	123			ug/L	100.00	21.7	101	80-120			
Beryllium	98.9			ug/L	100.00	0.0069	99	80-120			
Cadmium	101			ug/L	100.00	-0.0009	101	80-120			
Chromium	97.9			ug/L	100.00	0.122	98	80-120			
Cobalt	95.9			ug/L	100.00	0.0083	96	80-120			
Copper	97.3			ug/L	100.00	0.128	97	80-120			
Lead	101			ug/L	100.00	-0.0003	101	80-120			
Nickel	96.2			ug/L	100.00	0.248	96	80-120			
Selenium	99.3			ug/L	100.00	-0.153	99	80-120			
Silver	95.0			ug/L	100.00	-0.0001	95	80-120			
Thallium	103			ug/L	100.00	0.0070	103	80-120			
Vanadium	100			ug/L	100.00	-0.161	100	80-120			
Zinc	102			ug/L	100.00	0.283	102	80-120			
Lithium	101			ug/L	100.00	0.850	100	80-120			
Batch 7110579 - EPA 7470A											
Blank (7110579-BLK1)						Prepared & Analyzed: 11/21/17					
Mercury	ND	0.00050	0.000036	mg/L							
LCS (7110579-BS1)						Prepared & Analyzed: 11/21/17					
Mercury	0.00236	0.00050	0.000036	mg/L	2.5000E-3		94	80-120			
Matrix Spike (7110579-MS1)			**Source: AAK0578-01**			Prepared & Analyzed: 11/21/17					
Mercury	0.00229	0.00050	0.000036	mg/L	2.5000E-3	ND	92	75-125			

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Report No.: AAK0578

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7110579 - EPA 7470A											
Matrix Spike Dup (7110579-MSD1)		**Source: AAK0578-01**			Prepared & Analyzed: 11/21/17						
Mercury	0.00234	0.00050	0.000036	mg/L	2.5000E-3	ND	94	75-125	2	20	
Post Spike (7110579-PS1)		**Source: AAK0578-01**			Prepared & Analyzed: 11/21/17						
Mercury	1.66			ug/L	1.6667	-0.0395	100	80-120			
Batch 7110641 - EPA 3005A											
Blank (7110641-BLK1)					Prepared & Analyzed: 11/22/17						
Antimony	ND	0.0030	0.0006	mg/L							
Arsenic	ND	0.0050	0.0005	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00009	mg/L							
Boron	ND	0.0400	0.0060	mg/L							
Cadmium	ND	0.0010	0.0001	mg/L							
Calcium	ND	0.500	0.0404	mg/L							
Chromium	ND	0.0100	0.0005	mg/L							
Cobalt	ND	0.0100	0.0003	mg/L							
Copper	ND	0.0250	0.0003	mg/L							
Lead	ND	0.0050	0.00007	mg/L							
Molybdenum	ND	0.0100	0.0010	mg/L							
Nickel	ND	0.0100	0.0005	mg/L							
Selenium	ND	0.0100	0.0018	mg/L							
Silver	ND	0.0100	0.0002	mg/L							
Thallium	ND	0.0010	0.00005	mg/L							
Vanadium	ND	0.0100	0.0012	mg/L							
Zinc	ND	0.0100	0.0012	mg/L							
Lithium	ND	0.0500	0.0015	mg/L							

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway, Peachtree Corners, GA 30092
(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 27, 2017

Report No.: AAK0578

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7110641 - EPA 3005A											
LCS (7110641-BS1)						Prepared & Analyzed: 11/22/17					
Antimony	0.106	0.0030	0.0006	mg/L	0.10000		106	80-120			
Arsenic	0.0987	0.0050	0.0005	mg/L	0.10000		99	80-120			
Barium	0.102	0.0100	0.0004	mg/L	0.10000		102	80-120			
Beryllium	0.101	0.0030	0.00009	mg/L	0.10000		101	80-120			
Cadmium	0.104	0.0010	0.0001	mg/L	0.10000		104	80-120			
Chromium	0.105	0.0100	0.0005	mg/L	0.10000		105	80-120			
Cobalt	0.101	0.0100	0.0003	mg/L	0.10000		101	80-120			
Copper	0.103	0.0250	0.0003	mg/L	0.10000		103	80-120			
Lead	0.101	0.0050	0.00007	mg/L	0.10000		101	80-120			
Nickel	0.102	0.0100	0.0005	mg/L	0.10000		102	80-120			
Selenium	0.102	0.0100	0.0018	mg/L	0.10000		102	80-120			
Silver	0.0961	0.0100	0.0002	mg/L	0.10000		96	80-120			
Thallium	0.102	0.0010	0.00005	mg/L	0.10000		102	80-120			
Vanadium	0.106	0.0100	0.0012	mg/L	0.10000		106	80-120			
Zinc	0.105	0.0100	0.0012	mg/L	0.10000		105	80-120			
Lithium	0.101	0.0500	0.0015	mg/L	0.10000		101	80-120			
Duplicate (7110641-DUP1)		**Source: AAK0708-01**				Prepared & Analyzed: 11/22/17					
Antimony	ND	0.0030	0.0006	mg/L		ND				20	
Arsenic	0.0007	0.0050	0.0005	mg/L		0.0007			1	20	J
Barium	0.0147	0.0100	0.0004	mg/L		0.0143			3	20	
Beryllium	ND	0.0030	0.00009	mg/L		ND				20	
Cadmium	ND	0.0010	0.0001	mg/L		ND				20	
Chromium	0.0383	0.0100	0.0005	mg/L		0.0387			1	20	
Cobalt	ND	0.0100	0.0003	mg/L		ND				20	
Copper	0.0010	0.0250	0.0003	mg/L		0.0010			2	20	J
Lead	0.0002	0.0050	0.00007	mg/L		0.0002			6	20	J
Nickel	0.0024	0.0100	0.0005	mg/L		0.0025			4	20	J
Selenium	ND	0.0100	0.0018	mg/L		ND				20	
Silver	ND	0.0100	0.0002	mg/L		ND				20	
Thallium	ND	0.0010	0.00005	mg/L		ND				20	
Vanadium	0.0166	0.0100	0.0012	mg/L		0.0180			8	20	
Zinc	0.0075	0.0100	0.0012	mg/L		0.0079			5	20	J
Lithium	ND	0.0500	0.0015	mg/L		ND				20	

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 27, 2017

Report No.: AAK0578

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7110641 - EPA 3005A											
Matrix Spike (7110641-MS1)		**Source: AAK0708-01**			Prepared & Analyzed: 11/22/17						
Antimony	0.110	0.0030	0.0006	mg/L	0.10000	ND	110	75-125			
Arsenic	0.104	0.0050	0.0005	mg/L	0.10000	0.0007	103	75-125			
Barium	0.121	0.0100	0.0004	mg/L	0.10000	0.0143	106	75-125			
Beryllium	0.0955	0.0030	0.00009	mg/L	0.10000	ND	96	75-125			
Cadmium	0.104	0.0010	0.0001	mg/L	0.10000	ND	104	75-125			
Chromium	0.141	0.0100	0.0005	mg/L	0.10000	0.0387	103	75-125			
Cobalt	0.102	0.0100	0.0003	mg/L	0.10000	ND	102	75-125			
Copper	0.104	0.0250	0.0003	mg/L	0.10000	0.0010	103	75-125			
Lead	0.101	0.0050	0.00007	mg/L	0.10000	0.0002	101	75-125			
Nickel	0.103	0.0100	0.0005	mg/L	0.10000	0.0025	100	75-125			
Selenium	0.102	0.0100	0.0018	mg/L	0.10000	ND	102	75-125			
Silver	0.0975	0.0100	0.0002	mg/L	0.10000	ND	98	75-125			
Thallium	0.104	0.0010	0.00005	mg/L	0.10000	ND	104	75-125			
Vanadium	0.124	0.0100	0.0012	mg/L	0.10000	0.0180	106	75-125			
Zinc	0.113	0.0100	0.0012	mg/L	0.10000	0.0079	105	75-125			
Lithium	0.0936	0.0500	0.0015	mg/L	0.10000	ND	94	75-125			
Matrix Spike Dup (7110641-MSD1)		**Source: AAK0708-01**			Prepared & Analyzed: 11/22/17						
Antimony	0.107	0.0030	0.0006	mg/L	0.10000	ND	107	75-125	2	20	
Arsenic	0.106	0.0050	0.0005	mg/L	0.10000	0.0007	106	75-125	3	20	
Barium	0.120	0.0100	0.0004	mg/L	0.10000	0.0143	105	75-125	0.8	20	
Beryllium	0.0952	0.0030	0.00009	mg/L	0.10000	ND	95	75-125	0.4	20	
Cadmium	0.103	0.0010	0.0001	mg/L	0.10000	ND	103	75-125	1	20	
Chromium	0.147	0.0100	0.0005	mg/L	0.10000	0.0387	108	75-125	4	20	
Cobalt	0.103	0.0100	0.0003	mg/L	0.10000	ND	103	75-125	1	20	
Copper	0.105	0.0250	0.0003	mg/L	0.10000	0.0010	104	75-125	0.2	20	
Lead	0.101	0.0050	0.00007	mg/L	0.10000	0.0002	101	75-125	0.2	20	
Nickel	0.105	0.0100	0.0005	mg/L	0.10000	0.0025	102	75-125	2	20	
Selenium	0.108	0.0100	0.0018	mg/L	0.10000	ND	108	75-125	5	20	
Silver	0.0956	0.0100	0.0002	mg/L	0.10000	ND	96	75-125	2	20	
Thallium	0.103	0.0010	0.00005	mg/L	0.10000	ND	103	75-125	0.3	20	
Vanadium	0.127	0.0100	0.0012	mg/L	0.10000	0.0180	109	75-125	2	20	
Zinc	0.114	0.0100	0.0012	mg/L	0.10000	0.0079	107	75-125	1	20	
Lithium	0.0930	0.0500	0.0015	mg/L	0.10000	ND	93	75-125	0.7	20	

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(770) 734-4200 FAX (770) 734-4201

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 27, 2017

Report No.: AAK0578

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7110641 - EPA 3005A											
Post Spike (7110641-PS1)		**Source: AAK0708-01**			Prepared & Analyzed: 11/22/17						
Antimony	106			ug/L	100.00	-0.0044	106	80-120			
Arsenic	101			ug/L	100.00	0.735	100	80-120			
Barium	118			ug/L	100.00	14.3	104	80-120			
Beryllium	91.6			ug/L	100.00	-0.0003	92	80-120			
Cadmium	101			ug/L	100.00	-0.0008	101	80-120			
Chromium	142			ug/L	100.00	38.7	103	80-120			
Cobalt	98.9			ug/L	100.00	0.228	99	80-120			
Copper	98.1			ug/L	100.00	1.04	97	80-120			
Lead	98.5			ug/L	100.00	0.197	98	80-120			
Nickel	100			ug/L	100.00	2.49	98	80-120			
Selenium	102			ug/L	100.00	0.0413	102	80-120			
Silver	96.3			ug/L	100.00	-0.0043	96	80-120			
Thallium	99.2			ug/L	100.00	-0.0015	99	80-120			
Vanadium	124			ug/L	100.00	18.0	106	80-120			
Zinc	107			ug/L	100.00	7.87	99	80-120			
Lithium	90.1			ug/L	100.00	0.883	89	80-120			

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 27, 2017

Legend

Definition of Laboratory Terms

ND - Not Detected at levels equal to or greater than the MDL
BRL - Not Detected at levels equal to or greater than the RL
RL - Reporting Limit **MDL** - Method Detection Limit
SOP - Method run per Pace Standard Operating Procedure
CFU - Colony Forming Units
DF - Dilution Factor **TIC** - Tentatively Identified Compound

Sample Information

N-Nitrosodiphenylamine breaks down to diphenylamine in the GCMS; both analytes are reported as N-Nitrososdiphenylamine. Pace is not NELAC certified for N-Nitrososdiphenylamine.

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

1,2-Diphenylhydrazine breaks down to azobenzene in the GCMS; both analytes are reported as azobenzene

Definition of Qualifiers

QM-02 The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.

J Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

Note: Unless otherwise noted, all results are reported on an as received basis.

CHAIN OF CUSTODY RECORD

Pace Analytical®

Pace Analytical Services, Inc.
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4200 : FAX (770) 734-4201 : www.asi-lab.com

CLIENT NAME: Georgia Power

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
42 Inverness Center Parkway
Birmingham, AL 35242
205-992-5417

REPORT TO: Lauren Petty
CC: Maria Padilla, Heath McCorkle
REQUESTED COMPLETION DATE:
PO #: laburch@southernco.com

PROJECT NAME/STATE: Plant Hammond - AP 3&4

PROJECT #: Phase II - CCR

ANALYSIS REQUESTED

Collection DATE	Collection TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS		Metals Part 257 App. III & IV (EPA 6020/7470)	Cl, F, SO_4 & TDS (EPA 300.0 & SM 2540C)	Radium 226 & 228 (SW-846 9315/9320)							LAB ID NUMBER
CONTAINER TYPE:								P	P	P							
PRESERVATION:								3	7	3							
11/15/17	9:00	W		X	HGWA-122	4		1	1	2							1
11/15/17	10:07	W		X	HGWC-120	4		1	1	2							2
11/15/17	10:20	W		X	HGWC-124	4		1	1	2							3
11/15/17	11:25	W		X	HGWC-121A	4		1	1	2							4
11/15/17	–	W		X	DUP-1	4		1	1	2							5

CONTAINER TYPE / PRESERVATION

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, ≤6°C
A - AMBER GLASS	2 - H_2SO_4, ≤6°C
G - CLEAR GLASS	3 - HNO_3
V - VOA VIAL	4 - NaOH, ≤6°C
S - STERILE	5 - NaOH/ZnAc, ≤6°C
O - OTHER	6 - $Na_2S_2O_3$, ≤6°C
	7 - ≤6°C not frozen

*MATRIX CODES:

DW -	DRINKING WATER	S -	SOIL
WW -	WASTEWATER	SL -	SLUDGE
GW -	GROUNDWATER	SD -	SOLID
SW -	SURFACE WATER	A -	AIR
~~ST -~~	~~STORM WATER~~	~~L -~~	~~LIQUID~~
W -	WATER	P -	PRODUCT

REMARKS/ADDITIONAL INFORMATION

SAMPLED BY AND TITLE: W.Virgo WFP T.Payne TP
DATE/TIME: 11/15/2017 : 12:30
RELINQUISHED BY: Will Virgo (ERM)
DATE/TIME: 11/15/17 2030

RECEIVED BY:
DATE/TIME:
RELINQUISHED BY:
DATE/TIME:

RECEIVED BY LAB: Laburnam
DATE/TIME: 11/16/17 1245
SAMPLE SHIPPED VIA: UPS FED-EX USPS COURIER CLIENT OTHER FS

Packed: Yes No NA
Ice: Yes No NA
Temperature: Min: 1.3 Max:
Custody Seal: Intact Broken Not Present
Bubble Wrap
Cooler ID

FOR LAB USE ONLY
LAB #: AAK0578
Entered Into LIMS: MB
Tracking #:

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power Project # AAK0578

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other ____

Optional: Proj. Due Date: ____ Proj. Name: ____

Tracking #: ____

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other ____

Thermometer Used: IR-4 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 1.3 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 11/16/17 MR

Temp should be above freezing to 6°C

			Comments:	
Chain of Custody Present:	☑Yes	☐No ☐N/A	1.	
Chain of Custody Filled Out:	☑Yes	☐No ☐N/A	2.	
Chain of Custody Relinquished:	☑Yes	☐No ☐N/A	3.	
Sampler Name & Signature on COC:	☑Yes	☐No ☐N/A	4.	
Samples Arrived within Hold Time:	☑Yes	☐No ☐N/A	5.	
Short Hold Time Analysis (<72hr):	☐Yes	☑No ☐N/A	6.	
Rush Turn Around Time Requested:	☐Yes	☑No ☐N/A	7.	
Sufficient Volume:	☑Yes	☐No ☐N/A	8.	
Correct Containers Used:	☑Yes	☐No ☐N/A	9.	
-Pace Containers Used:	☑Yes	☐No ☐N/A		
Containers Intact:	☑Yes	☐No ☐N/A	10.	
Filtered volume received for Dissolved tests	☐Yes	☐No ☑N/A	11.	
Sample Labels match COC:	☑Yes	☐No ☐N/A	12.	
-Includes date/time/ID/Analysis Matrix: W				
All containers needing preservation have been checked.	☑Yes	☐No ☐N/A	13.	
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No ☐N/A		
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No	Initial when completed	Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No ☑N/A	14.	
Headspace in VOA Vials (>6mm):	☐Yes	☐No ☑N/A	15.	
Trip Blank Present:	☐Yes	☐No ☑N/A	16.	
Trip Blank Custody Seals Present	☐Yes	☐No ☑N/A		
Pace Trip Blank Lot # (if purchased): ____				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: ____ Date/Time: ____

Comments/ Resolution: ____

Project Manager Review: ____ **Date:** ____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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(770) 734-4200 FAX (770) 734-4201

LOG-IN CHECKLIST **Printed: 11/17/2017 9:00:42AM**

Attn: Mr. Joju Abraham

Client: Georgia Power
Project: CCR Event
Date Received: 11/16/17 12:45

Work Order: AAK0578
Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 5 **#Containers:** 20

Minimum Temp(C): 1.3 **Maximum Temp(C):** 1.3 **Custody Seal(s) Used:** Yes

CHECKLIST ITEMS

COC included with Samples	YES
Sample Container(s) Intact	YES
Chain of Custody Complete	YES
Sample Container(s) Match COC	YES
Custody seal Intact	YES
Temperature in Compliance	YES
Sufficient Sample Volume for Analysis	YES
Zero Headspace Maintained for VOA Analyses	YES
Samples labeled preserved (If Applicable)	YES
Samples received within Allowable Hold Times	YES
Samples Received on Ice	YES
Preservation Confirmed	YES

Comments:

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

December 12, 2017

Maria Padilla
GA Power
2480 Maner Rd
Atlanta, GA 30339

RE: Project: AAK0578 Plant Hammond
Pace Project No.: 30236436

Dear Maria Padilla:
Enclosed are the analytical results for sample(s) received by the laboratory on November 17, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: AAK0578 Plant Hammond
Pace Project No.: 30236436

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: AAK0578 Plant Hammond
Pace Project No.: 30236436

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30236436001	**HGWA-122**	Water	11/15/17 09:00	11/17/17 10:10
30236436002	**HGWC-120**	Water	11/15/17 10:07	11/17/17 10:10
30236436003	**HGWC-124**	Water	11/15/17 10:20	11/17/17 10:10
30236436004	**HGWC-121A**	Water	11/15/17 11:25	11/17/17 10:10
30236436005	**DUP-1**	Water	11/15/17 00:00	11/17/17 10:10

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: AAK0578 Plant Hammond
Pace Project No.: 30236436

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30236436001	**HGWA-122**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30236436002	**HGWC-120**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30236436003	**HGWC-124**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30236436004	**HGWC-121A**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1
30236436005	**DUP-1**	EPA 9315	JC2	1
		EPA 9320	VAL	1
		Total Radium Calculation	CMC	1

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Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAK0578 Plant Hammond
Pace Project No.: 30236436

Sample: HGWA-122 **Lab ID: 30236436001** Collected: 11/15/17 09:00 Received: 11/17/17 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.321 ± 0.197 (0.324) C:89% T:NA**	pCi/L	11/27/17 18:41	13982-63-3	
Radium-228	EPA 9320	**0.341 ± 0.395 (0.833) C:71% T:84%**	pCi/L	11/29/17 14:51	15262-20-1	
Total Radium	Total Radium Calculation	**0.662 ± 0.592 (1.23)**	pCi/L	12/12/17 12:05	7440-14-4	

Sample: HGWC-120 **Lab ID: 30236436002** Collected: 11/15/17 10:07 Received: 11/17/17 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.481 ± 0.218 (0.280) C:88% T:NA**	pCi/L	11/27/17 18:41	13982-63-3	
Radium-228	EPA 9320	**0.823 ± 0.486 (0.902) C:69% T:75%**	pCi/L	11/29/17 14:51	15262-20-1	
Total Radium	Total Radium Calculation	**1.30 ± 0.704 (1.09)**	pCi/L	12/12/17 12:05	7440-14-4	

Sample: HGWC-124 **Lab ID: 30236436003** Collected: 11/15/17 10:20 Received: 11/17/17 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.143 ± 0.152 (0.297) C:81% T:NA**	pCi/L	11/27/17 18:41	13982-63-3	
Radium-228	EPA 9320	**0.335 ± 0.386 (0.811) C:73% T:82%**	pCi/L	11/29/17 14:51	15262-20-1	
Total Radium	Total Radium Calculation	**0.478 ± 0.538 (1.11)**	pCi/L	12/12/17 12:05	7440-14-4	

Sample: HGWC-121A **Lab ID: 30236436004** Collected: 11/15/17 11:25 Received: 11/17/17 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.506 ± 0.258 (0.406) C:83% T:NA**	pCi/L	11/27/17 18:41	13982-63-3	
Radium-228	EPA 9320	**0.405 ± 0.386 (0.792) C:78% T:80%**	pCi/L	11/29/17 14:51	15262-20-1	
Total Radium	Total Radium Calculation	**0.911 ± 0.644 (1.20)**	pCi/L	12/12/17 12:05	7440-14-4	

Sample: DUP-1 **Lab ID: 30236436005** Collected: 11/15/17 00:00 Received: 11/17/17 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.187 ± 0.175 (0.337) C:88% T:NA**	pCi/L	11/27/17 18:41	13982-63-3	
Radium-228	EPA 9320	**-0.336 ± 0.337 (0.851) C:74% T:77%**	pCi/L	11/29/17 14:51	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AAK0578 Plant Hammond
Pace Project No.: 30236436

Sample: DUP-1 **Lab ID: 30236436005** Collected: 11/15/17 00:00 Received: 11/17/17 10:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	**0.187 ± 0.512 (1.19)**	pCi/L	12/12/17 12:05	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAK0578 Plant Hammond
Pace Project No.: 30236436

QC Batch: 279888 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 30236436001, 30236436002, 30236436003, 30236436004, 30236436005

METHOD BLANK: 1374797 Matrix: Water
Associated Lab Samples: 30236436001, 30236436002, 30236436003, 30236436004, 30236436005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.566 ± 0.420 (0.822) C:79% T:72%	pCi/L	11/29/17 14:48	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: AAK0578 Plant Hammond
Pace Project No.: 30236436

QC Batch: 279887 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 30236436001, 30236436002, 30236436003, 30236436004, 30236436005

METHOD BLANK: 1374796 Matrix: Water
Associated Lab Samples: 30236436001, 30236436002, 30236436003, 30236436004, 30236436005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.412 ± 0.212 (0.298) C:89% T:NA	pCi/L	11/27/17 13:04	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: AAK0578 Plant Hammond
Pace Project No.: 30236436

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

Chain of Custody

Pace Analytical

Workorder: AAK0578 Workorder Name: Plant Hammond Owner Received Date: Results Requested By: 12/16/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3	Requested Analysis Radium 226, 228, Total	LAB USE ONLY
1	HGWA-122	G	11/15/2017 9:00	AAK0578-01	W	2	X	001
2	~~HGWA-120~~ HGWC-120	G	11/15/2017 10:07	AAK0578-02	W	2	X	002
3	~~HGWA-124~~ HGWC-124	G	11/15/2017 10:20	AAK0578-03	W	2	X	003
4	~~HGWA-121A~~ HGWC-121A	G	11/15/2017 11:25	AAK0578-04	W	2	X	004
5	DUP-1	G	11/15/2017 0:00	AAK0578-05	W	2	X	005
6	BMcD							
7	11/17/2017							
8								
9								
10								

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1				11/17/17 1010	EQuIS deliverable required (Profile 7564)
2					
3					

Cooler Temperature on Receipt N/A °C	Custody Seal Y or N	Received on Ice Y or N	Sample Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC

This chain of custody is considered complete as is since this information is available in the owner laboratory.

WO#: 30236436

30236436

Chain of Custody

Pace Analytical®
www.pacelabs.com

Workorder: AAK0578 Workorder Name: Plant Hammond Owner Received Date: Results Requested By: 12/16/2017

Report To:	Subcontract To:
Betsy McDaniel	Pace - Pittsburgh
Pace Analytical Atlanta	1638 Roseytown Road
110 Technology Parkway	Stes. 2,3,4
Peachtree Corners, GA 30092	Greensburg, PA 15601
Phone (770)-734-4200	Phone (724) 850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3					Requested Analysis Radium 226, 228, Total												LAB USE ONLY
1	HGWA-122	G	11/15/2017 9:00	AAK0578-01	W	2					X												
2	HGWA-120	G	11/15/2017 10:07	AAK0578-02	W	2					X												
3	HGWA-124	G	11/15/2017 10:20	AAK0578-03	W	2					X												
4	HGWA-121A	G	11/15/2017 11:25	AAK0578-04	W	2					X												
5	DUP-1	G	11/15/2017 0:00	AAK0578-05	W	2					X												
6																							
7																							
8																							
9																							
10																							

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	M. RAHMAN	11/16/17			EQuIS deliverable required (Profile 7564)
2					
3					

Cooler Temperature on Receipt _____ °C	Custody Seal Y or N	Received on Ice Y or N	Sample Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC
This chain of custody is considered complete as is since this information is available in the owner laboratory.

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power Project # AAK0578

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other ____

Optional: Proj. Due Date: ____ Proj. Name: ____

Tracking #: ____

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other ____

Thermometer Used: IR-4 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 1.3 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 11/16/17 MD

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)

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Pace GA Project # 30236436

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Label MC
LIMS Login ZH

Tracking #: 741366059 9456

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Thermometer Used MP Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp — °C Correction Factor: — °C Final Temp: — °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ZH 11/17/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC:	✓			5.
-Includes date/time/ID Matrix: WT				
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:	✓			
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation.	✓			16. pH<2
All containers needing preservation are found to be in compliance with EPA recommendation.	✓			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed ZH Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present:			✓	18.
Trip Blank Custody Seals Present			✓	
Rad Aqueous Samples Screened > 0.5 mrem/hr		✓		Initial when completed: ZH Date: 11/17/17

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-226
Analyst:	JC2
Date:	11/27/2017
Worklist:	38828
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment

MB Sample ID	1374796
MB concentration:	0.412
M/B Counting Uncertainty:	0.203
MB MDC:	0.298
MB Numerical Performance Indicator:	3.97
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	See Comment*

Laboratory Control Sample Assessment

	LCSD (Y or N)?	Y
	LCS38828	LCSD38828
Count Date:	11/27/2017	11/27/2017
Spike I.D.:	17-030	17-030
Spike Concentration (pCi/mL):	80.186	80.186
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.512	0.508
Target Conc. (pCi/L, g, F):	15.666	15.784
Uncertainty (Calculated):	1.443	1.454
Result (pCi/L, g, F):	13.083	12.786
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.888	0.944
Numerical Performance Indicator:	-2.99	-3.39
Percent Recovery:	83.51%	81.01%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass

Sample Matrix Spike Control Assessment

Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment

Sample I.D.:	LCS38828
Duplicate Sample I.D.	LCSD38828
Sample Result (pCi/L, g, F):	13.083
Sample Result Counting Uncertainty (pCi/L, g, F):	0.888
Sample Duplicate Result (pCi/L, g, F):	12.786
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.944
Are sample and/or duplicate results below MDC?	NO
Duplicate Numerical Performance Indicator:	0.449
Duplicate RPD:	2.30%
Duplicate Status vs Numerical Indicator:	N/A
Duplicate Status vs RPD:	Pass

Enter Duplicate sample IDs if other than LCS/LCSD in the space below.

Matrix Spike/Matrix Spike Duplicate Sample Assessment

Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

*The method blank result is below the reporting limit for this analysis and is acceptable.

12/12/17

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Test:	Ra-228
Analyst:	VAL
Date:	11/27/2017
Worklist:	38829
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	1374797
MB concentration:	0.566
M/B Counting Uncertainty:	0.407
MB MDC:	0.822
MB Numerical Performance Indicator:	2.73
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS38829	LCSD38829
Count Date:	11/29/2017	11/29/2017
Spike I.D.:	17-033	17-033
Spike Concentration (pCi/mL):	22.923	22.923
Volume Used (mL):	0.20	0.20
Aliquot Volume (L, g, F):	0.811	0.802
Target Conc. (pCi/L, g, F):	5.656	5.714
Uncertainty (Calculated):	0.407	0.411
Result (pCi/L, g, F):	5.835	6.318
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.737	0.698
Numerical Performance Indicator:	0.42	1.46
Percent Recovery:	103.18%	110.57%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass

Sample Matrix Spike Control Assessment	
Sample Collection Date:	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Spike I.D.:	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	
Spike Volume Used in MS (mL):	
Spike Volume Used in MSD (mL):	
MS Aliquot (L, g, F):	
MS Target Conc.(pCi/L, g, F):	
MSD Aliquot (L, g, F):	
MSD Target Conc. (pCi/L, g, F):	
Spike uncertainty (calculated):	
Sample Result:	
Sample Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
MS Numerical Performance Indicator:	
MSD Numerical Performance Indicator:	
MS Percent Recovery:	
MSD Percent Recovery:	
MS Status vs Numerical Indicator:	
MSD Status vs Numerical Indicator:	
MS Status vs Recovery:	
MSD Status vs Recovery:	

Duplicate Sample Assessment		
Sample I.D.:	LCS38829	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD38829	
Sample Result (pCi/L, g, F):	5.835	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.737	
Sample Duplicate Result (pCi/L, g, F):	6.318	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.698	
Are sample and/or duplicate results below MDC?	NO	
Duplicate Numerical Performance Indicator:	-0.931	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	6.92%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	

Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.D.	
Sample MS I.D.	
Sample MSD I.D.	
Sample Matrix Spike Result:	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Sample Matrix Spike Duplicate Result:	
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	
Duplicate Numerical Performance Indicator:	
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:	
MS/ MSD Duplicate Status vs Numerical Indicator:	
MS/ MSD Duplicate Status vs RPD:	

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

12/12/17

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

July 06, 2018

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Hammond AP
Pace Project No.: 265791

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on June 06, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Nikeva Silverton for
Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Maria Padilla, Georgia Power
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond AP
Pace Project No.: 265791

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Texas Certification #: T104704397-08-TX
Virginia Certification #: 460204

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: Plant Hammond AP
Pace Project No.: 265791

Lab ID	Sample ID	Matrix	Date Collected	Date Received
265791001	**HGWA-122**	Water	06/05/18 11:20	06/06/18 10:45
265791002	**HGWC-124**	Water	06/05/18 13:09	06/06/18 10:45
265791003	**HGWC-120**	Water	06/05/18 16:11	06/06/18 10:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Plant Hammond AP
Pace Project No.: 265791

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
265791001	**HGWA-122**	EPA 6020B	CSW	14	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	JPT	1	PASI-GA
		EPA 300.0	MWB	3	PASI-GA
265791002	**HGWC-124**	EPA 6020B	CSW	14	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	JPT	1	PASI-GA
		EPA 300.0	MWB	3	PASI-GA
265791003	**HGWC-120**	EPA 6020B	CSW	14	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	JPT	1	PASI-GA
		EPA 300.0	MWB, RLC	3	PASI-GA

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ANALYTICAL RESULTS

Project: Plant Hammond AP
Pace Project No.: 265791

Sample: HGWA-122 **Lab ID: 265791001** Collected: 06/05/18 11:20 Received: 06/06/18 10:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	06/07/18 17:00	06/11/18 18:18	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	06/07/18 17:00	06/11/18 18:18	7440-38-2	
Barium	**0.040**	mg/L	0.010	0.00078	1	06/07/18 17:00	06/11/18 18:18	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	06/07/18 17:00	06/11/18 18:18	7440-41-7	
Boron	**0.24**	mg/L	0.040	0.0039	1	06/07/18 17:00	06/11/18 18:18	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	06/07/18 17:00	06/11/18 18:18	7440-43-9	
Calcium	**71.4**	mg/L	5.0	0.14	10	06/07/18 17:00	06/11/18 18:24	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	06/07/18 17:00	06/11/18 18:18	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	06/07/18 17:00	06/11/18 18:18	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	06/07/18 17:00	06/11/18 18:18	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	06/07/18 17:00	06/11/18 18:18	7439-93-2	
Molybdenum	**0.0028J**	mg/L	0.010	0.0019	1	06/07/18 17:00	06/11/18 18:18	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	06/07/18 17:00	06/11/18 18:18	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	06/07/18 17:00	06/11/18 18:18	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	06/12/18 09:20	06/12/18 16:20	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**276**	mg/L	25.0	10.0	1		06/08/18 16:25		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**3.0**	mg/L	0.25	0.024	1		06/12/18 15:52	16887-00-6	
Fluoride	**0.15J**	mg/L	0.30	0.029	1		06/12/18 15:52	16984-48-8	
Sulfate	**48.9**	mg/L	1.0	0.017	1		06/12/18 15:52	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond AP
Pace Project No.: 265791

Sample: HGWC-124 **Lab ID: 265791002** Collected: 06/05/18 13:09 Received: 06/06/18 10:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	06/07/18 17:00	06/11/18 18:30	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	06/07/18 17:00	06/11/18 18:30	7440-38-2	
Barium	**0.070**	mg/L	0.010	0.00078	1	06/07/18 17:00	06/11/18 18:30	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	06/07/18 17:00	06/11/18 18:30	7440-41-7	
Boron	**0.53**	mg/L	0.040	0.0039	1	06/07/18 17:00	06/11/18 18:30	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	06/07/18 17:00	06/11/18 18:30	7440-43-9	
Calcium	**103**	mg/L	25.0	0.69	50	06/07/18 17:00	06/13/18 17:14	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	06/07/18 17:00	06/11/18 18:30	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	06/07/18 17:00	06/11/18 18:30	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	06/07/18 17:00	06/11/18 18:30	7439-92-1	
Lithium	**0.0012J**	mg/L	0.050	0.00097	1	06/07/18 17:00	06/11/18 18:30	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	06/07/18 17:00	06/11/18 18:30	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	06/07/18 17:00	06/11/18 18:30	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	06/07/18 17:00	06/11/18 18:30	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	06/12/18 09:20	06/12/18 16:23	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**360**	mg/L	25.0	10.0	1		06/08/18 16:25		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**3.1**	mg/L	0.25	0.024	1		06/12/18 16:13	16887-00-6	
Fluoride	**0.078J**	mg/L	0.30	0.029	1		06/12/18 16:13	16984-48-8	
Sulfate	**74.0**	mg/L	2.0	0.034	2		06/21/18 22:08	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond AP
Pace Project No.: 265791

Sample: HGWC-120 **Lab ID: 265791003** Collected: 06/05/18 16:11 Received: 06/06/18 10:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	06/07/18 17:00	06/11/18 18:41	7440-36-0	
Arsenic	**0.0010J**	mg/L	0.0050	0.00057	1	06/07/18 17:00	06/11/18 18:41	7440-38-2	
Barium	**0.051**	mg/L	0.010	0.00078	1	06/07/18 17:00	06/11/18 18:41	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	06/07/18 17:00	06/11/18 18:41	7440-41-7	
Boron	**1.2**	mg/L	0.040	0.0039	1	06/07/18 17:00	06/11/18 18:41	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	06/07/18 17:00	06/11/18 18:41	7440-43-9	
Calcium	**161**	mg/L	25.0	0.69	50	06/07/18 17:00	06/13/18 17:20	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	06/07/18 17:00	06/11/18 18:41	7440-47-3	
Cobalt	**0.0031J**	mg/L	0.010	0.00052	1	06/07/18 17:00	06/11/18 18:41	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	06/07/18 17:00	06/11/18 18:41	7439-92-1	
Lithium	**0.033J**	mg/L	0.050	0.00097	1	06/07/18 17:00	06/11/18 18:41	7439-93-2	
Molybdenum	**0.033**	mg/L	0.010	0.0019	1	06/07/18 17:00	06/11/18 18:41	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	06/07/18 17:00	06/11/18 18:41	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	06/07/18 17:00	06/11/18 18:41	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	06/12/18 09:20	06/12/18 16:25	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**723**	mg/L	25.0	10.0	1		06/08/18 16:25		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**3.1**	mg/L	0.25	0.024	1		06/12/18 16:35	16887-00-6	
Fluoride	**0.48**	mg/L	0.30	0.029	1		06/12/18 16:35	16984-48-8	
Sulfate	**273**	mg/L	10.0	0.17	10		06/27/18 17:02	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond AP
Pace Project No.: 265791

QC Batch: 7778 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
Associated Lab Samples: 265791001, 265791002, 265791003

METHOD BLANK: 36180 Matrix: Water
Associated Lab Samples: 265791001, 265791002, 265791003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.000036	06/12/18 15:40	

LABORATORY CONTROL SAMPLE: 36181

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	.0025	0.0025	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 36182 36183

Parameter	Units	265874002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	4.6 ug/L	.0025	.0025	0.0065	0.0061	78	59	75-125	7	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: Plant Hammond AP
Pace Project No.: 265791

QC Batch: 7550 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 265791001, 265791002, 265791003

METHOD BLANK: 35336 Matrix: Water
Associated Lab Samples: 265791001, 265791002, 265791003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00078	06/11/18 15:17	
Arsenic	mg/L	ND	0.0050	0.00057	06/11/18 15:17	
Barium	mg/L	ND	0.010	0.00078	06/11/18 15:17	
Beryllium	mg/L	ND	0.0030	0.000050	06/11/18 15:17	
Boron	mg/L	ND	0.040	0.0039	06/11/18 15:17	
Cadmium	mg/L	ND	0.0010	0.000093	06/11/18 15:17	
Calcium	mg/L	ND	0.50	0.014	06/11/18 15:17	
Chromium	mg/L	ND	0.010	0.0016	06/11/18 15:17	
Cobalt	mg/L	ND	0.010	0.00052	06/11/18 15:17	
Lead	mg/L	ND	0.0050	0.00027	06/11/18 15:17	
Lithium	mg/L	ND	0.050	0.00097	06/11/18 15:17	
Molybdenum	mg/L	ND	0.010	0.0019	06/11/18 15:17	
Selenium	mg/L	ND	0.010	0.0014	06/11/18 15:17	
Thallium	mg/L	ND	0.0010	0.00014	06/11/18 15:17	

LABORATORY CONTROL SAMPLE: 35337

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	.1	0.10	103	80-120	
Arsenic	mg/L	.1	0.099	99	80-120	
Barium	mg/L	.1	0.10	100	80-120	
Beryllium	mg/L	.1	0.11	109	80-120	
Boron	mg/L	1	1.1	115	80-120	
Cadmium	mg/L	.1	0.10	100	80-120	
Calcium	mg/L	1	1.0	102	80-120	
Chromium	mg/L	.1	0.11	109	80-120	
Cobalt	mg/L	.1	0.11	107	80-120	
Lead	mg/L	.1	0.10	101	80-120	
Lithium	mg/L	.1	0.11	110	80-120	
Molybdenum	mg/L	.1	0.11	105	80-120	
Selenium	mg/L	.1	0.098	98	80-120	
Thallium	mg/L	.1	0.10	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 35358 35359

Parameter	Units	265790001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	.1	.1	0.10	0.10	102	102	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond AP
Pace Project No.: 265791

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 35358 35359

Parameter	Units	265790001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	ND	.1	.1	0.099	0.098	99	98	75-125	2	20	
Barium	mg/L	0.025	.1	.1	0.12	0.12	99	94	75-125	4	20	
Beryllium	mg/L	ND	.1	.1	0.10	0.10	103	102	75-125	0	20	
Boron	mg/L	0.0065J	1	1	1.0	1.0	103	104	75-125	1	20	
Cadmium	mg/L	ND	.1	.1	0.10	0.10	100	100	75-125	0	20	
Calcium	mg/L	30.1	1	1	30.8	29.9	71	-19	75-125	3	20	M6
Chromium	mg/L	ND	.1	.1	0.10	0.099	101	99	75-125	2	20	
Cobalt	mg/L	ND	.1	.1	0.097	0.096	97	96	75-125	1	20	
Lead	mg/L	ND	.1	.1	0.097	0.096	97	96	75-125	1	20	
Lithium	mg/L	0.0016J	.1	.1	0.10	0.10	102	101	75-125	2	20	
Molybdenum	mg/L	ND	.1	.1	0.10	0.10	102	101	75-125	1	20	
Selenium	mg/L	ND	.1	.1	0.098	0.098	98	98	75-125	0	20	
Thallium	mg/L	ND	.1	.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 Hammond AP
Pace Project No.: 265791

QC Batch: 7599 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 265791001, 265791002, 265791003

LABORATORY CONTROL SAMPLE: 35647

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	405	101	84-108	

SAMPLE DUPLICATE: 35648

Parameter	Units	265789026 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	62.0	65.0	5	10	

SAMPLE DUPLICATE: 35649

Parameter	Units	265791003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	723	714	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond AP
Pace Project No.: 265791

QC Batch: 7772 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 265791001, 265791002, 265791003

METHOD BLANK: 36164 Matrix: Water
Associated Lab Samples: 265791001, 265791002, 265791003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.024	06/12/18 13:24	
Fluoride	mg/L	ND	0.30	0.029	06/12/18 13:24	
Sulfate	mg/L	ND	1.0	0.017	06/12/18 13:24	

LABORATORY CONTROL SAMPLE: 36165

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.1	101	90-110	
Fluoride	mg/L	10	10.4	104	90-110	
Sulfate	mg/L	10	10.6	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 36166 36167

Parameter	Units	265790001 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	10	10	12.7	12.8	101	101	90-110	0	15	
Fluoride	mg/L	0.032J	10	10	10.1	10.1	100	100	90-110	0	15	
Sulfate	mg/L	1.4	10	10	11.3	11.5	99	101	90-110	2	15	

MATRIX SPIKE SAMPLE: 36168

Parameter	Units	265790002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5.3	10	15.5	103	90-110	
Fluoride	mg/L	ND	10	10.4	104	90-110	
Sulfate	mg/L	0.73J	10	11.0	102	90-110	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond AP
Pace Project No.: 265791

Sample: HGWA-122 **Lab ID: 265791001** Collected: 06/05/18 11:20 Received: 06/06/18 10:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.166 ± 0.186 (0.362) C:84% T:NA**	pCi/L	06/14/18 08:33	13982-63-3	
Radium-228	EPA 9320	**0.427 ± 0.393 (0.800) C:73% T:84%**	pCi/L	06/27/18 15:07	15262-20-1	
Total Radium	Total Radium Calculation	**0.593 ± 0.579 (1.16)**	pCi/L	07/02/18 16:23	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 Hammond AP
Pace Project No.: 265791

Sample: HGWC-124 **Lab ID: 265791002** Collected: 06/05/18 13:09 Received: 06/06/18 10:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.159 ± 0.187 (0.374) C:85% T:NA**	pCi/L	06/14/18 08:33	13982-63-3	
Radium-228	EPA 9320	**0.788 ± 0.401 (0.684) C:74% T:84%**	pCi/L	06/27/18 15:07	15262-20-1	
Total Radium	Total Radium Calculation	**0.947 ± 0.588 (1.06)**	pCi/L	07/02/18 16:23	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 Hammond AP
Pace Project No.: 265791

Sample: HGWC-120 **Lab ID: 265791003** Collected: 06/05/18 16:11 Received: 06/06/18 10:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.352 ± 0.266 (0.472) C:87% T:NA**	pCi/L	06/14/18 08:33	13982-63-3	
Radium-228	EPA 9320	**0.905 ± 0.408 (0.637) C:73% T:82%**	pCi/L	06/27/18 15:07	15262-20-1	
Total Radium	Total Radium Calculation	**1.26 ± 0.674 (1.11)**	pCi/L	07/02/18 16:23	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 Hammond AP
Pace Project No.: 265791

QC Batch: 301897 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 265791001, 265791002, 265791003

METHOD BLANK: 1477324 Matrix: Water
Associated Lab Samples: 265791001, 265791002, 265791003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.201 ± 0.377 (0.827) C:68% T:84%	pCi/L	06/27/18 15:05	

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: Plant Hammond AP
Pace Project No.: 265791

QC Batch: 301690 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 265791001, 265791002, 265791003

METHOD BLANK: 1476536 Matrix: Water
Associated Lab Samples: 265791001, 265791002, 265791003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.252 ± 0.215 (0.375) C:88% T:NA	pCi/L	06/14/18 08:33	

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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QUALIFIERS

Project: Plant Hammond AP
Pace Project No.: 265791

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-GA	Pace Analytical Services - Atlanta, GA
PASI-PA	Pace Analytical Services - Greensburg

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
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(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond AP
Pace Project No.: 265791

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
265791001	**HGWA-122**	EPA 3005A	7550	EPA 6020B	7736
265791002	**HGWC-124**	EPA 3005A	7550	EPA 6020B	7736
265791003	**HGWC-120**	EPA 3005A	7550	EPA 6020B	7736
265791001	**HGWA-122**	EPA 7470A	7778	EPA 7470A	7839
265791002	**HGWC-124**	EPA 7470A	7778	EPA 7470A	7839
265791003	**HGWC-120**	EPA 7470A	7778	EPA 7470A	7839
265791001	**HGWA-122**	EPA 9315	301690		
265791002	**HGWC-124**	EPA 9315	301690		
265791003	**HGWC-120**	EPA 9315	301690		
265791001	**HGWA-122**	EPA 9320	301897		
265791002	**HGWC-124**	EPA 9320	301897		
265791003	**HGWC-120**	EPA 9320	301897		
265791001	**HGWA-122**	Total Radium Calculation	304450		
265791002	**HGWC-124**	Total Radium Calculation	304450		
265791003	**HGWC-120**	Total Radium Calculation	304450		
265791001	**HGWA-122**	SM 2540C	7599		
265791002	**HGWC-124**	SM 2540C	7599		
265791003	**HGWC-120**	SM 2540C	7599		
265791001	**HGWA-122**	EPA 300.0	7772		
265791002	**HGWC-124**	EPA 300.0	7772		
265791003	**HGWC-120**	EPA 300.0	7772		

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 / Lauren Petty	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Geosyntec	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:	SCS10348606	Pace Quote:	
Phone:	(404)506-7239 Fax	Project Name:	Hammond AP	Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Requested Due Date:	STD TAT	Project #:		Pace Profile #:	327

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)	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	Metals App III and IV	Radium 226/228	TDS by 2540C	Chloride, Fluoride, Sulfate	NT 6/5/18	Residual Chlorine (Y/N)	
1	HGWA-122	WT	G	6/5/18	1007	6/5/18	1120	7.9	5	2		3						Y	Y	Y	Y	Y		N	1
2	HGWC-124	WT	G	6/5/18	1249	6/5/18	1309	8.8	5	2		3						Y	Y	Y	Y	Y		N	3
3	HGWC-120	WT	G	6/5/18	1451	6/5/18	1611	9.8	5	2		3						Y	Y	Y	Y	Y		N	3
4																									
5				NT 6/5/18																					
6																									
7																									
8																									
9																									
10																									
11																									
12																									

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
	Nardos Tilahun	6/5/18	1910	Nadia Mushtaq	06/05/18	1910	
	Nadia Mushtaq	6/5/18	2105	[illegible]	6/5/18	2105	
	[illegible]	6/6/18	935	Zach Taylor	6/6/18	935	
	Zach Taylor	6/6/18	1045	[illegible]	6/6/18	1045	2.6 / Y / Y / Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Nardos Tilahun

SIGNATURE of SAMPLER: [signature] DATE Signed: 6/5/18

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

WO# : 265791

265791

Pace Analytical

Sample Condition Upon Rec

WO# : 265791

PM: BM Due Date: 07/05/18

CLIENT: GAPower-CCR

Client Name: GA Power

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace Other _____

Tracking #: _____

Optional:
Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other _____

Thermometer Used: IR082 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 2.6 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 6/6/18 CDY

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: GW		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed: ____ Lot # of added preservative: ____
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

July 06, 2018

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Hammond AP 1&2, 3&4
Pace Project No.: 265794

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on June 06, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Maiya Parks for
Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Maria Padilla, Georgia Power
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond AP 1&2, 3&4
Pace Project No.: 265794

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Texas Certification #: T104704397-08-TX
Virginia Certification #: 460204

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond AP 1&2, 3&4
Pace Project No.: 265794

Lab ID	Sample ID	Matrix	Date Collected	Date Received
265794001	**HGWA-113**	Water	06/05/18 11:05	06/06/18 10:45
265794002	**HGWC-121A**	Water	06/05/18 13:03	06/06/18 10:45

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond AP 1&2, 3&4
Pace Project No.: 265794

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
265794001	**HGWA-113**	EPA 6020B	CSW	14	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	JPT	1	PASI-GA
		EPA 300.0	MWB	3	PASI-GA
265794002	**HGWC-121A**	EPA 6020B	CSW	14	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	JPT	1	PASI-GA
		EPA 300.0	MWB	3	PASI-GA

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ANALYTICAL RESULTS

Project: Plant Hammond AP 1&2, 3&4
Pace Project No.: 265794

Sample: HGWA-113 **Lab ID: 265794001** Collected: 06/05/18 11:05 Received: 06/06/18 10:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	06/13/18 09:18	06/18/18 18:31	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	06/13/18 09:18	06/18/18 18:31	7440-38-2	
Barium	**0.028**	mg/L	0.010	0.00078	1	06/13/18 09:18	06/18/18 18:31	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	06/13/18 09:18	06/18/18 18:31	7440-41-7	
Boron	**0.0085J**	mg/L	0.040	0.0039	1	06/13/18 09:18	06/18/18 18:31	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	06/13/18 09:18	06/18/18 18:31	7440-43-9	
Calcium	**7.4**	mg/L	0.50	0.014	1	06/13/18 09:18	06/18/18 18:31	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	06/13/18 09:18	06/18/18 18:31	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	06/13/18 09:18	06/18/18 18:31	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	06/13/18 09:18	06/18/18 18:31	7439-92-1	
Lithium	**0.0010J**	mg/L	0.050	0.00097	1	06/13/18 09:18	06/18/18 18:31	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	06/13/18 09:18	06/18/18 18:31	7439-98-7	
Selenium	**0.0019J**	mg/L	0.010	0.0014	1	06/13/18 09:18	06/18/18 18:31	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	06/13/18 09:18	06/18/18 18:31	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	06/12/18 09:20	06/12/18 16:39	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**92.0**	mg/L	25.0	10.0	1		06/08/18 16:25		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**1.7**	mg/L	0.25	0.024	1		06/12/18 19:24	16887-00-6	
Fluoride	**0.18J**	mg/L	0.30	0.029	1		06/12/18 19:24	16984-48-8	
Sulfate	**9.9**	mg/L	1.0	0.017	1		06/12/18 19:24	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 Hammond AP 1&2, 3&4
Pace Project No.: 265794

Sample: HGWC-121A **Lab ID: 265794002** Collected: 06/05/18 13:03 Received: 06/06/18 10:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	06/13/18 09:18	06/18/18 18:42	7440-36-0	
Arsenic	**0.0014J**	mg/L	0.0050	0.00057	1	06/13/18 09:18	06/18/18 18:42	7440-38-2	
Barium	**0.078**	mg/L	0.010	0.00078	1	06/13/18 09:18	06/18/18 18:42	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	06/13/18 09:18	06/18/18 18:42	7440-41-7	
Boron	**2.6**	mg/L	0.040	0.0039	1	06/13/18 09:18	06/18/18 18:42	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	06/13/18 09:18	06/18/18 18:42	7440-43-9	
Calcium	**195**	mg/L	25.0	0.69	50	06/13/18 09:18	06/20/18 13:31	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	06/13/18 09:18	06/18/18 18:42	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	06/13/18 09:18	06/18/18 18:42	7440-48-4	
Lead	**0.00036J**	mg/L	0.0050	0.00027	1	06/13/18 09:18	06/18/18 18:42	7439-92-1	
Lithium	**0.0092J**	mg/L	0.050	0.00097	1	06/13/18 09:18	06/18/18 18:42	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	06/13/18 09:18	06/18/18 18:42	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	06/13/18 09:18	06/18/18 18:42	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	06/13/18 09:18	06/18/18 18:42	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	06/12/18 09:20	06/12/18 16:42	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**823**	mg/L	25.0	10.0	1		06/08/18 16:25		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**40.4**	mg/L	0.25	0.024	1		06/12/18 20:06	16887-00-6	
Fluoride	**0.19J**	mg/L	0.30	0.029	1		06/12/18 20:06	16984-48-8	
Sulfate	**241**	mg/L	5.0	0.085	5		06/21/18 23:51	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 Hammond AP 1&2, 3&4
Pace Project No.: 265794

QC Batch: 7778
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Associated Lab Samples: 265794001, 265794002

METHOD BLANK: 36180 Matrix: Water
Associated Lab Samples: 265794001, 265794002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.000036	06/12/18 15:40	

LABORATORY CONTROL SAMPLE: 36181

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	.0025	0.0025	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 36182 36183

Parameter	Units	265874002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	4.6 ug/L	.0025	.0025	0.0065	0.0061	78	59	75-125	7	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 Hammond AP 1&2, 3&4
Pace Project No.: 265794

QC Batch: 7923
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020B MET
Associated Lab Samples: 265794001, 265794002

METHOD BLANK: 36780 Matrix: Water
Associated Lab Samples: 265794001, 265794002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00078	06/18/18 16:50	
Arsenic	mg/L	ND	0.0050	0.00057	06/18/18 16:50	
Barium	mg/L	ND	0.010	0.00078	06/18/18 16:50	
Beryllium	mg/L	ND	0.0030	0.000050	06/18/18 16:50	
Boron	mg/L	ND	0.040	0.0039	06/18/18 16:50	
Cadmium	mg/L	ND	0.0010	0.000093	06/18/18 16:50	
Calcium	mg/L	ND	0.50	0.014	06/18/18 16:50	
Chromium	mg/L	ND	0.010	0.0016	06/18/18 16:50	
Cobalt	mg/L	ND	0.010	0.00052	06/18/18 16:50	
Lead	mg/L	ND	0.0050	0.00027	06/18/18 16:50	
Lithium	mg/L	ND	0.050	0.00097	06/18/18 16:50	
Molybdenum	mg/L	ND	0.010	0.0019	06/18/18 16:50	
Selenium	mg/L	ND	0.010	0.0014	06/18/18 16:50	
Thallium	mg/L	ND	0.0010	0.00014	06/18/18 16:50	

LABORATORY CONTROL SAMPLE: 36781

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	.1	0.10	100	80-120	
Arsenic	mg/L	.1	0.10	104	80-120	
Barium	mg/L	.1	0.10	100	80-120	
Beryllium	mg/L	.1	0.10	103	80-120	
Boron	mg/L	1	1.1	110	80-120	
Cadmium	mg/L	.1	0.10	103	80-120	
Calcium	mg/L	1	1.0	104	80-120	
Chromium	mg/L	.1	0.11	109	80-120	
Cobalt	mg/L	.1	0.10	104	80-120	
Lead	mg/L	.1	0.10	101	80-120	
Lithium	mg/L	.1	0.11	106	80-120	
Molybdenum	mg/L	.1	0.10	100	80-120	
Selenium	mg/L	.1	0.10	100	80-120	
Thallium	mg/L	.1	0.10	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 36825 36826

Parameter	Units	265792001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L		.1	.1	0.10	0.099	101	99	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 Hammond AP 1&2, 3&4
Pace Project No.: 265794

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 36825 36826

Parameter	Units	265792001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.00088J	.1	.1	0.10	0.10	102	99	75-125	3	20	
Barium	mg/L	0.11	.1	.1	0.23	0.22	113	111	75-125	1	20	
Beryllium	mg/L		.1	.1	0.10	0.099	102	98	75-125	4	20	
Boron	mg/L	0.036J	1	1	1.1	1.1	108	102	75-125	6	20	
Cadmium	mg/L	0.00014J	.1	.1	0.10	0.099	101	99	75-125	2	20	
Calcium	mg/L	19.1	1	1	19.4	19.3	37	30	75-125	0	20	M6
Chromium	mg/L		.1	.1	0.10	0.10	103	101	75-125	2	20	
Cobalt	mg/L	0.025	.1	.1	0.13	0.12	101	97	75-125	3	20	
Lead	mg/L		.1	.1	0.099	0.098	99	98	75-125	1	20	
Lithium	mg/L	0.0016J	.1	.1	0.11	0.099	103	98	75-125	6	20	
Molybdenum	mg/L	ND	.1	.1	0.10	0.10	101	100	75-125	1	20	
Selenium	mg/L	ND	.1	.1	0.10	0.10	101	99	75-125	1	20	
Thallium	mg/L	ND	.1	.1	0.10	0.098	100	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: Plant Hammond AP 1&2, 3&4
Pace Project No.: 265794

QC Batch: 7599
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 265794001, 265794002

LABORATORY CONTROL SAMPLE: 35647

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	405	101	84-108	

SAMPLE DUPLICATE: 35648

Parameter	Units	265789026 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	62.0	65.0	5	10	

SAMPLE DUPLICATE: 35649

Parameter	Units	265791003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	723	714	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 Hammond AP 1&2, 3&4
Pace Project No.: 265794

QC Batch: 7772
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 265794001, 265794002

METHOD BLANK: 36164 Matrix: Water
Associated Lab Samples: 265794001, 265794002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.024	06/12/18 13:24	
Fluoride	mg/L	ND	0.30	0.029	06/12/18 13:24	
Sulfate	mg/L	ND	1.0	0.017	06/12/18 13:24	

LABORATORY CONTROL SAMPLE: 36165

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.1	101	90-110	
Fluoride	mg/L	10	10.4	104	90-110	
Sulfate	mg/L	10	10.6	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 36166 36167

Parameter	Units	265790001 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	10	10	12.7	12.8	101	101	90-110	0	15	
Fluoride	mg/L	0.032J	10	10	10.1	10.1	100	100	90-110	0	15	
Sulfate	mg/L	1.4	10	10	11.3	11.5	99	101	90-110	2	15	

MATRIX SPIKE SAMPLE: 36168

Parameter	Units	265790002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5.3	10	15.5	103	90-110	
Fluoride	mg/L	ND	10	10.4	104	90-110	
Sulfate	mg/L	0.73J	10	11.0	102	90-110	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond AP 1&2, 3&4
Pace Project No.: 265794

Sample: HGWA-113 **Lab ID: 265794001** Collected: 06/05/18 11:05 Received: 06/06/18 10:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0960 ± 0.190 (0.440) C:92% T:NA**	pCi/L	06/14/18 08:21	13982-63-3	
Radium-228	EPA 9320	**0.498 ± 0.518 (1.08) C:79% T:67%**	pCi/L	07/03/18 17:18	15262-20-1	
Total Radium	Total Radium Calculation	**0.594 ± 0.708 (1.52)**	pCi/L	07/05/18 14:46	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: Plant Hammond AP 1&2, 3&4
Pace Project No.: 265794

Sample: HGWC-121A **Lab ID: 265794002** Collected: 06/05/18 13:03 Received: 06/06/18 10:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.948 ± 0.374 (0.378) C:84% T:NA**	pCi/L	06/14/18 08:21	13982-63-3	
Radium-228	EPA 9320	**-0.0750 ± 0.358 (0.863) C:73% T:80%**	pCi/L	07/03/18 17:18	15262-20-1	
Total Radium	Total Radium Calculation	**0.948 ± 0.732 (1.24)**	pCi/L	07/05/18 14:46	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 Hammond AP 1&2, 3&4
Pace Project No.: 265794

QC Batch: 301898 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 265794001, 265794002

METHOD BLANK: 1477325 Matrix: Water
Associated Lab Samples: 265794001, 265794002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.348 ± 0.419 (0.883) C:76% T:77%	pCi/L	07/03/18 17:17	

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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 Hammond AP 1&2, 3&4
Pace Project No.: 265794

QC Batch: 301690 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 265794001, 265794002

METHOD BLANK: 1476536 Matrix: Water
Associated Lab Samples: 265794001, 265794002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.252 ± 0.215 (0.375) C:88% T:NA	pCi/L	06/14/18 08:33	

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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 Hammond AP 1&2, 3&4
Pace Project No.: 265794

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-GA	Pace Analytical Services - Atlanta, GA
PASI-PA	Pace Analytical Services - Greensburg

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: Plant Hammond AP 1&2, 3&4
Pace Project No.: 265794

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
265794001	**HGWA-113**	EPA 3005A	7923	EPA 6020B	8195
265794002	**HGWC-121A**	EPA 3005A	7923	EPA 6020B	8195
265794001	**HGWA-113**	EPA 7470A	7778	EPA 7470A	7839
265794002	**HGWC-121A**	EPA 7470A	7778	EPA 7470A	7839
265794001	**HGWA-113**	EPA 9315	301690		
265794002	**HGWC-121A**	EPA 9315	301690		
265794001	**HGWA-113**	EPA 9320	301898		
265794002	**HGWC-121A**	EPA 9320	301898		
265794001	**HGWA-113**	Total Radium Calculation	304777		
265794002	**HGWC-121A**	Total Radium Calculation	304777		
265794001	**HGWA-113**	SM 2540C	7599		
265794002	**HGWC-121A**	SM 2540C	7599		
265794001	**HGWA-113**	EPA 300.0	7772		
265794002	**HGWC-121A**	EPA 300.0	7772		

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 / Lauren Petty	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Geosyntec	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:	SCS10348606	Pace Quote:	
Phone:	(404)506-7239 Fax	Project Name:	Hammond AP	Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Requested Due Date:	STANDARD TAT	Project #:		Pace Profile #:	327

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)	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	Metals App III and IV	Radium 226/228	TDS by 2540C	Chloride, Fluoride, Sulfate	Residual Chlorine (Y/N)
1	HGWA-113	WT	G	6-5-18	10:45	6/5/18	11:05	17.8	5	2		3						Y	Y	Y	Y		N
2	HGWC-121A	WT	G	6-5-18	12:45	6-5-18	13:03	20.6	5	2		3						Y	Y	Y	Y		N
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

DG 06-05-2018

LAST Item DG 06-05-2018

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	DAN GIBBS	6/5/18	19:00	Nadia Mankos	06/05/18	19:00
	Nadia Mankos	6/5/18	2105	Liz Bacon	6/5/18	2105
	Liz Bacon	6/6/18	935	Zach Taylor	6/6/18	935
	Zach Taylor	6/6/18	1045	Chuck Hunt	6/6/18	1045

SAMPLE CONDITIONS

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
2	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: DAN GIBBS

SIGNATURE of SAMPLER: [signature] DATE Signed: 06-05-2018

WO#: 265794

265794

Page 18 of 19

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

WO#: 265794

PM: BM Due Date: 07/05/18

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other

Tracking #: _____

Custody Seal on Cooler/Box Present: ☐ yes ☐ no Seals intact: ☑ yes ☐ no

Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____

Thermometer Used IR2082 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 2.6 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 6/6/18 CDY

Comments:

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.	
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.	
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.	
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.	
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.	
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.	
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.	
Sufficient Volume:	☑Yes ☐No ☐N/A	8.	
Correct Containers Used:	☑Yes ☐No ☐N/A	9.	
-Pace Containers Used:	☑Yes ☐No ☐N/A		
Containers Intact:	☑Yes ☐No ☐N/A	10.	
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.	
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.	
-Includes date/time/ID/Analysis Matrix: GW			
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.	
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A		
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed: _____	Lot # of added preservative: _____
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.	
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.	
Trip Blank Present:	☐Yes ☐No ☑N/A	16.	
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A		
Pace Trip Blank Lot # (if purchased): _____			

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

July 09, 2018

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Hammond AP
Pace Project No.: 265890

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on June 08, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Maria Padilla, Georgia Power
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond AP
Pace Project No.: 265890

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Texas Certification #: T104704397-08-TX
Virginia Certification #: 460204

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: Plant Hammond AP
Pace Project No.: 265890

Lab ID	Sample ID	Matrix	Date Collected	Date Received
265890001	**EB-02**	Water	06/07/18 08:55	06/08/18 10:40
265890002	**FB-02**	Water	06/07/18 09:58	06/08/18 10:40
265890003	**FB-03**	Water	06/07/18 10:11	06/08/18 10:40

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SAMPLE ANALYTE COUNT

Project: Plant Hammond AP
Pace Project No.: 265890

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
265890001	**EB-02**	EPA 6020B	CSW	14	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	JPT	1	PASI-GA
		EPA 300.0	RLC	3	PASI-GA
265890002	**FB-02**	EPA 6020B	CSW	14	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	JPT	1	PASI-GA
		EPA 300.0	RLC	3	PASI-GA
265890003	**FB-03**	EPA 6020B	CSW	14	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	JPT	1	PASI-GA
		EPA 300.0	RLC	3	PASI-GA

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ANALYTICAL RESULTS

Project: Plant Hammond AP
Pace Project No.: 265890

Sample: EB-02 **Lab ID: 265890001** Collected: 06/07/18 08:55 Received: 06/08/18 10:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	06/20/18 11:50	06/22/18 19:14	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	06/20/18 11:50	06/22/18 19:14	7440-38-2	
Barium	ND	mg/L	0.010	0.00078	1	06/20/18 11:50	06/22/18 19:14	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	06/20/18 11:50	06/22/18 19:14	7440-41-7	
Boron	ND	mg/L	0.040	0.0039	1	06/20/18 11:50	06/22/18 19:14	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	06/20/18 11:50	06/22/18 19:14	7440-43-9	
Calcium	**0.026J**	mg/L	0.50	0.014	1	06/20/18 11:50	06/22/18 19:14	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	06/20/18 11:50	06/22/18 19:14	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	06/20/18 11:50	06/22/18 19:14	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	06/20/18 11:50	06/22/18 19:14	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	06/20/18 11:50	06/22/18 19:14	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	06/20/18 11:50	06/22/18 19:14	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	06/20/18 11:50	06/22/18 19:14	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	06/20/18 11:50	06/22/18 19:14	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	06/12/18 11:05	06/13/18 10:28	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**18.0J**	mg/L	25.0	10.0	1		06/12/18 10:17		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.29**	mg/L	0.25	0.024	1		06/22/18 18:51	16887-00-6	B
Fluoride	ND	mg/L	0.30	0.029	1		06/22/18 18:51	16984-48-8	
Sulfate	ND	mg/L	1.0	0.017	1		06/22/18 18:51	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond AP
Pace Project No.: 265890

Sample: FB-02 **Lab ID: 265890002** Collected: 06/07/18 09:58 Received: 06/08/18 10:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	06/20/18 11:50	06/22/18 19:19	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	06/20/18 11:50	06/22/18 19:19	7440-38-2	
Barium	ND	mg/L	0.010	0.00078	1	06/20/18 11:50	06/22/18 19:19	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	06/20/18 11:50	06/22/18 19:19	7440-41-7	
Boron	ND	mg/L	0.040	0.0039	1	06/20/18 11:50	06/22/18 19:19	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	06/20/18 11:50	06/22/18 19:19	7440-43-9	
Calcium	**0.037J**	mg/L	0.50	0.014	1	06/20/18 11:50	06/22/18 19:19	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	06/20/18 11:50	06/22/18 19:19	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	06/20/18 11:50	06/22/18 19:19	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	06/20/18 11:50	06/22/18 19:19	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	06/20/18 11:50	06/22/18 19:19	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	06/20/18 11:50	06/22/18 19:19	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	06/20/18 11:50	06/22/18 19:19	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	06/20/18 11:50	06/22/18 19:19	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	06/12/18 11:05	06/13/18 10:35	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**58.0**	mg/L	25.0	10.0	1		06/12/18 10:17		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.30**	mg/L	0.25	0.024	1		06/22/18 19:12	16887-00-6	B
Fluoride	ND	mg/L	0.30	0.029	1		06/22/18 19:12	16984-48-8	
Sulfate	ND	mg/L	1.0	0.017	1		06/22/18 19:12	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond AP
Pace Project No.: 265890

Sample: FB-03 **Lab ID: 265890003** Collected: 06/07/18 10:11 Received: 06/08/18 10:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	06/20/18 11:50	06/22/18 19:25	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	06/20/18 11:50	06/22/18 19:25	7440-38-2	
Barium	ND	mg/L	0.010	0.00078	1	06/20/18 11:50	06/22/18 19:25	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	06/20/18 11:50	06/22/18 19:25	7440-41-7	
Boron	ND	mg/L	0.040	0.0039	1	06/20/18 11:50	06/22/18 19:25	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	06/20/18 11:50	06/22/18 19:25	7440-43-9	
Calcium	**0.027J**	mg/L	0.50	0.014	1	06/20/18 11:50	06/22/18 19:25	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	06/20/18 11:50	06/22/18 19:25	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	06/20/18 11:50	06/22/18 19:25	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	06/20/18 11:50	06/22/18 19:25	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	06/20/18 11:50	06/22/18 19:25	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	06/20/18 11:50	06/22/18 19:25	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	06/20/18 11:50	06/22/18 19:25	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	06/20/18 11:50	06/22/18 19:25	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	06/12/18 11:05	06/13/18 10:37	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**20.0J**	mg/L	25.0	10.0	1		06/12/18 10:17		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.28**	mg/L	0.25	0.024	1		06/22/18 19:33	16887-00-6	B
Fluoride	ND	mg/L	0.30	0.029	1		06/22/18 19:33	16984-48-8	
Sulfate	ND	mg/L	1.0	0.017	1		06/22/18 19:33	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond AP
Pace Project No.: 265890

QC Batch: 7789 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
Associated Lab Samples: 265890001, 265890002, 265890003

METHOD BLANK: 36223 Matrix: Water
Associated Lab Samples: 265890001, 265890002, 265890003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.000036	06/13/18 10:07	

LABORATORY CONTROL SAMPLE: 36224

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	.0025	0.0026	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 36225 36226

Parameter	Units	265863001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	.0025	.0025	0.0023	0.0022	90	89	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond AP
Pace Project No.: 265890

QC Batch: 8374 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 265890001, 265890002, 265890003

METHOD BLANK: 38651 Matrix: Water
Associated Lab Samples: 265890001, 265890002, 265890003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00078	06/22/18 17:48	
Arsenic	mg/L	ND	0.0050	0.00057	06/22/18 17:48	
Barium	mg/L	ND	0.010	0.00078	06/22/18 17:48	
Beryllium	mg/L	ND	0.0030	0.000050	06/22/18 17:48	
Boron	mg/L	ND	0.040	0.0039	06/22/18 17:48	
Cadmium	mg/L	ND	0.0010	0.000093	06/22/18 17:48	
Calcium	mg/L	ND	0.50	0.014	06/22/18 17:48	
Chromium	mg/L	ND	0.010	0.0016	06/22/18 17:48	
Cobalt	mg/L	ND	0.010	0.00052	06/22/18 17:48	
Lead	mg/L	ND	0.0050	0.00027	06/22/18 17:48	
Lithium	mg/L	ND	0.050	0.00097	06/22/18 17:48	
Molybdenum	mg/L	ND	0.010	0.0019	06/22/18 17:48	
Selenium	mg/L	ND	0.010	0.0014	06/22/18 17:48	
Thallium	mg/L	ND	0.0010	0.00014	06/22/18 17:48	

LABORATORY CONTROL SAMPLE: 38652

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	.1	0.11	109	80-120	
Arsenic	mg/L	.1	0.10	103	80-120	
Barium	mg/L	.1	0.10	102	80-120	
Beryllium	mg/L	.1	0.10	105	80-120	
Boron	mg/L	1	1.0	105	80-120	
Cadmium	mg/L	.1	0.10	104	80-120	
Calcium	mg/L	1	1.0	101	80-120	
Chromium	mg/L	.1	0.10	104	80-120	
Cobalt	mg/L	.1	0.10	103	80-120	
Lead	mg/L	.1	0.10	104	80-120	
Lithium	mg/L	.1	0.11	106	80-120	
Molybdenum	mg/L	.1	0.10	101	80-120	
Selenium	mg/L	.1	0.10	104	80-120	
Thallium	mg/L	.1	0.10	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 38708 38709

Parameter	Units	265864001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	.1	.1	0.11	0.11	106	106	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond AP
Pace Project No.: 265890

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 38708 38709

Parameter	Units	265864001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	ND	.1	.1	0.10	0.10	102	101	75-125	0	20	
Barium	mg/L	0.039	.1	.1	0.14	0.14	105	101	75-125	3	20	
Beryllium	mg/L	ND	.1	.1	0.10	0.10	105	100	75-125	5	20	
Boron	mg/L	0.87	1	1	2.0	1.8	111	88	75-125	12	20	
Cadmium	mg/L	0.00012J	.1	.1	0.10	0.10	104	101	75-125	3	20	
Calcium	mg/L	55.0	1	1	55.4	52.6	44	-235	75-125	5	20	M6
Chromium	mg/L	ND	.1	.1	0.10	0.098	100	98	75-125	3	20	
Cobalt	mg/L	ND	.1	.1	0.099	0.098	99	98	75-125	1	20	
Lead	mg/L	ND	.1	.1	0.10	0.098	101	98	75-125	3	20	
Lithium	mg/L	0.00099J	.1	.1	0.10	0.10	104	102	75-125	2	20	
Molybdenum	mg/L	ND	.1	.1	0.10	0.099	101	99	75-125	1	20	
Selenium	mg/L	ND	.1	.1	0.10	0.10	103	102	75-125	1	20	
Thallium	mg/L	ND	.1	.1	0.099	0.098	99	98	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond AP
Pace Project No.: 265890

QC Batch: 7764 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 265890001, 265890002, 265890003

LABORATORY CONTROL SAMPLE: 36149

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	410	102	84-108	

SAMPLE DUPLICATE: 36150

Parameter	Units	265888001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	223	226	1	10	

SAMPLE DUPLICATE: 36151

Parameter	Units	265933001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	63.0	74.0	16	10	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond AP
Pace Project No.: 265890

QC Batch: 8546 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 265890001, 265890002, 265890003

METHOD BLANK: 39316 Matrix: Water
Associated Lab Samples: 265890001, 265890002, 265890003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.27	0.25	0.024	06/22/18 15:46	
Fluoride	mg/L	ND	0.30	0.029	06/22/18 15:46	
Sulfate	mg/L	ND	1.0	0.017	06/22/18 15:46	

LABORATORY CONTROL SAMPLE: 39317

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	9.5	95	90-110	
Fluoride	mg/L	10	10	100	90-110	
Sulfate	mg/L	10	9.8	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 39318 39319

Parameter	Units	265917001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.7	10	10	11.2	11.2	95	95	90-110	0	15	
Fluoride	mg/L	0.13J	10	10	9.9	9.9	98	98	90-110	0	15	
Sulfate	mg/L	6.1	10	10	15.4	15.5	94	94	90-110	0	15	

MATRIX SPIKE SAMPLE: 39320

Parameter	Units	265917002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	2.7	10	12.3	97	90-110	
Fluoride	mg/L	ND	10	9.9	99	90-110	
Sulfate	mg/L	0.049J	10	9.8	98	90-110	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond AP
Pace Project No.: 265890

Sample: EB-02 **Lab ID: 265890001** Collected: 06/07/18 08:55 Received: 06/08/18 10:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.226 ± 0.191 (0.331) C:90% T:NA**	pCi/L	06/21/18 08:24	13982-63-3	
Radium-228	EPA 9320	**0.380 ± 0.429 (0.897) C:74% T:80%**	pCi/L	07/03/18 17:19	15262-20-1	
Total Radium	Total Radium Calculation	**0.606 ± 0.620 (1.23)**	pCi/L	07/06/18 13:27	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: Plant Hammond AP
Pace Project No.: 265890

Sample: FB-02 **Lab ID: 265890002** Collected: 06/07/18 09:58 Received: 06/08/18 10:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.211 ± 0.236 (0.484) C:89% T:NA**	pCi/L	06/21/18 08:24	13982-63-3	
Radium-228	EPA 9320	**0.282 ± 0.558 (1.23) C:66% T:71%**	pCi/L	07/03/18 17:19	15262-20-1	
Total Radium	Total Radium Calculation	**0.493 ± 0.794 (1.71)**	pCi/L	07/06/18 13:27	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: Plant Hammond AP
Pace Project No.: 265890

Sample: FB-03 **Lab ID: 265890003** Collected: 06/07/18 10:11 Received: 06/08/18 10:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.279 ± 0.210 (0.350) C:93% T:NA**	pCi/L	06/21/18 08:24	13982-63-3	
Radium-228	EPA 9320	**0.745 ± 0.531 (1.03) C:73% T:77%**	pCi/L	07/03/18 17:17	15262-20-1	
Total Radium	Total Radium Calculation	**1.02 ± 0.741 (1.38)**	pCi/L	07/06/18 13:27	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond AP
Pace Project No.: 265890

QC Batch: 301898 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 265890001, 265890002, 265890003

METHOD BLANK: 1477325 Matrix: Water
Associated Lab Samples: 265890001, 265890002, 265890003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.348 ± 0.419 (0.883) C:76% T:77%	pCi/L	07/03/18 17:17	

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 Hammond AP
Pace Project No.: 265890

QC Batch: 301864 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 265890001, 265890002, 265890003

METHOD BLANK: 1477267 Matrix: Water
Associated Lab Samples: 265890001, 265890002, 265890003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.252 ± 0.187 (0.281) C:92% T:NA	pCi/L	06/21/18 08:22	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Plant Hammond AP
Pace Project No.: 265890

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-GA	Pace Analytical Services - Atlanta, GA
PASI-PA	Pace Analytical Services - Greensburg

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

Pace Analytical Services, LLC
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond AP
Pace Project No.: 265890

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
265890001	**EB-02**	EPA 3005A	8374	EPA 6020B	8605
265890002	**FB-02**	EPA 3005A	8374	EPA 6020B	8605
265890003	**FB-03**	EPA 3005A	8374	EPA 6020B	8605
265890001	**EB-02**	EPA 7470A	7789	EPA 7470A	7847
265890002	**FB-02**	EPA 7470A	7789	EPA 7470A	7847
265890003	**FB-03**	EPA 7470A	7789	EPA 7470A	7847
265890001	**EB-02**	EPA 9315	301864		
265890002	**FB-02**	EPA 9315	301864		
265890003	**FB-03**	EPA 9315	301864		
265890001	**EB-02**	EPA 9320	301898		
265890002	**FB-02**	EPA 9320	301898		
265890003	**FB-03**	EPA 9320	301898		
265890001	**EB-02**	Total Radium Calculation	304880		
265890002	**FB-02**	Total Radium Calculation	304880		
265890003	**FB-03**	Total Radium Calculation	304880		
265890001	**EB-02**	SM 2540C	7764		
265890002	**FB-02**	SM 2540C	7764		
265890003	**FB-03**	SM 2540C	7764		
265890001	**EB-02**	EPA 300.0	8546		
265890002	**FB-02**	EPA 300.0	8546		
265890003	**FB-03**	EPA 300.0	8546		

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:	Joju Abraham / Lauren Petty	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Geosyntec	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:	SCS10348606	Pace Quote:	
Phone:	(404)506-7239 Fax	Project Name:	Hammond AP	Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Requested Due Date:	STANDARD TAT	Project #:		Pace Profile #:	327

Regulatory Agency: GA

Site Location

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)	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	Metals App III and IV	Radium 226/228	TDS by 2540C	Chloride, Fluoride, Sulfate	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																	N	N	N	N	N	
1	EB-02	WT	G	6/3/18	0835	6/7/18	0855	-	5	2		3						Y	Y	Y	Y		2
2	FB-02	WT	G	6/7/18	0950	6/7/18	0958	-	5	2		3						Y	Y	Y	Y		2
3	FB-03	WT	G	6/7/18	1003	6/7/18	1011	-	5	2		3						Y	Y	Y	Y		2
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

NM 06/3/18

LAST ITEM 06/07/18 NM

WO#: 265890

265890

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Noelia Muskus	6/7/18	17:20	Mike Vejvoda / Pace	6/8/18	0928	
				M Dalman	6/8/18	1040	
							1.2 Y Y Y

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Noelia Muskus

SIGNATURE of SAMPLER: Noelia Muskus DATE Signed: 06/07/18

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 265890

PM: BM **Due Date: 07/09/18**

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 83 **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 1.2 **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 6/8/18 MK

				Comments:
Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W				
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No		Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.
Trip Blank Present:	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased):				

Client Notification/ Resolution: Field Data Required? Y N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

October 10, 2018

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Hammond AP 3&4
Pace Project No.: 2610037

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on October 03, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Maria Padilla, Georgia Power
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond AP 3&4
Pace Project No.: 2610037

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Texas Certification #: T104704397-08-TX
Virginia Certification #: 460204

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond AP 3&4
Pace Project No.: 2610037

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2610037001	**HGWA-122**	Water	10/02/18 10:32	10/03/18 13:00
2610037002	**HGWC-124**	Water	10/02/18 12:27	10/03/18 13:00
2610037003	**HGWC-120**	Water	10/02/18 15:28	10/03/18 13:00

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond AP 3&4
Pace Project No.: 2610037

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2610037001	**HGWA-122**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
2610037002	**HGWC-124**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
2610037003	**HGWC-120**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3

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ANALYTICAL RESULTS

Project: Plant Hammond AP 3&4
Pace Project No.: 2610037

Sample: HGWA-122 **Lab ID: 2610037001** Collected: 10/02/18 10:32 Received: 10/03/18 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	10/05/18 13:39	10/08/18 21:27	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	10/05/18 13:39	10/08/18 21:27	7440-38-2	
Barium	**0.042**	mg/L	0.010	0.00078	1	10/05/18 13:39	10/08/18 21:27	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	10/05/18 13:39	10/08/18 21:27	7440-41-7	
Boron	**0.28**	mg/L	0.040	0.0039	1	10/05/18 13:39	10/08/18 21:27	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	10/05/18 13:39	10/08/18 21:27	7440-43-9	
Calcium	**66.6**	mg/L	25.0	0.69	50	10/05/18 13:39	10/08/18 21:32	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	10/05/18 13:39	10/08/18 21:27	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	10/05/18 13:39	10/08/18 21:27	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	10/05/18 13:39	10/08/18 21:27	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	10/05/18 13:39	10/08/18 21:27	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	10/05/18 13:39	10/08/18 21:27	7439-98-7	
Selenium	**0.0015J**	mg/L	0.010	0.0014	1	10/05/18 13:39	10/08/18 21:27	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/05/18 13:39	10/08/18 21:27	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	10/09/18 10:40	10/09/18 14:52	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**256**	mg/L	25.0	10.0	1		10/08/18 17:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**3.1**	mg/L	0.25	0.024	1		10/08/18 18:33	16887-00-6	
Fluoride	**0.22J**	mg/L	0.30	0.029	1		10/08/18 18:33	16984-48-8	
Sulfate	**48.6**	mg/L	1.0	0.017	1		10/08/18 18:33	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 Hammond AP 3&4
Pace Project No.: 2610037

Sample: HGWC-124 **Lab ID: 2610037002** Collected: 10/02/18 12:27 Received: 10/03/18 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	10/05/18 13:39	10/08/18 21:50	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	10/05/18 13:39	10/08/18 21:50	7440-38-2	
Barium	**0.067**	mg/L	0.010	0.00078	1	10/05/18 13:39	10/08/18 21:50	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	10/05/18 13:39	10/08/18 21:50	7440-41-7	
Boron	**0.47**	mg/L	0.040	0.0039	1	10/05/18 13:39	10/08/18 21:50	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	10/05/18 13:39	10/08/18 21:50	7440-43-9	
Calcium	**100**	mg/L	25.0	0.69	50	10/05/18 13:39	10/08/18 21:55	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	10/05/18 13:39	10/08/18 21:50	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	10/05/18 13:39	10/08/18 21:50	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	10/05/18 13:39	10/08/18 21:50	7439-92-1	
Lithium	**0.0012J**	mg/L	0.050	0.00097	1	10/05/18 13:39	10/08/18 21:50	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	10/05/18 13:39	10/08/18 21:50	7439-98-7	
Selenium	**0.0014J**	mg/L	0.010	0.0014	1	10/05/18 13:39	10/08/18 21:50	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/05/18 13:39	10/08/18 21:50	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	10/09/18 10:40	10/09/18 14:55	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**363**	mg/L	25.0	10.0	1		10/08/18 17:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**3.4**	mg/L	0.25	0.024	1		10/08/18 19:18	16887-00-6	
Fluoride	**0.078J**	mg/L	0.30	0.029	1		10/08/18 19:18	16984-48-8	
Sulfate	**80.7**	mg/L	10.0	0.17	10		10/10/18 13:37	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond AP 3&4
Pace Project No.: 2610037

Sample: HGWC-120 **Lab ID: 2610037003** Collected: 10/02/18 15:28 Received: 10/03/18 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	10/05/18 13:39	10/08/18 22:01	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	10/05/18 13:39	10/08/18 22:01	7440-38-2	
Barium	**0.059**	mg/L	0.010	0.00078	1	10/05/18 13:39	10/08/18 22:01	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	10/05/18 13:39	10/08/18 22:01	7440-41-7	
Boron	**1.2**	mg/L	0.040	0.0039	1	10/05/18 13:39	10/08/18 22:01	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	10/05/18 13:39	10/08/18 22:01	7440-43-9	
Calcium	**174**	mg/L	25.0	0.69	50	10/05/18 13:39	10/08/18 22:07	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	10/05/18 13:39	10/08/18 22:01	7440-47-3	
Cobalt	**0.0025J**	mg/L	0.010	0.00052	1	10/05/18 13:39	10/08/18 22:01	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	10/05/18 13:39	10/08/18 22:01	7439-92-1	
Lithium	**0.031J**	mg/L	0.050	0.00097	1	10/05/18 13:39	10/08/18 22:01	7439-93-2	
Molybdenum	**0.036**	mg/L	0.010	0.0019	1	10/05/18 13:39	10/08/18 22:01	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	10/05/18 13:39	10/08/18 22:01	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/05/18 13:39	10/08/18 22:01	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	10/09/18 10:40	10/09/18 14:57	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**703**	mg/L	25.0	10.0	1		10/08/18 17:35		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**3.2**	mg/L	0.25	0.024	1		10/08/18 20:04	16887-00-6	
Fluoride	**0.34**	mg/L	0.30	0.029	1		10/08/18 20:04	16984-48-8	
Sulfate	**328**	mg/L	10.0	0.17	10		10/08/18 19:41	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: Plant Hammond AP 3&4
Pace Project No.: 2610037

QC Batch: 14995 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
Associated Lab Samples: 2610037001, 2610037002, 2610037003

METHOD BLANK: 67141 Matrix: Water
Associated Lab Samples: 2610037001, 2610037002, 2610037003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.000036	10/09/18 13:40	

LABORATORY CONTROL SAMPLE: 67142

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	.0025	0.0027	109	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 67143 67144

Parameter	Units	269871003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	.0025	.0025	0.0025	0.0022	101	87	75-125	15	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 Hammond AP 3&4
Pace Project No.: 2610037

QC Batch: 14855 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 2610037001, 2610037002, 2610037003

METHOD BLANK: 66522 Matrix: Water
Associated Lab Samples: 2610037001, 2610037002, 2610037003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00078	10/08/18 18:29	
Arsenic	mg/L	ND	0.0050	0.00057	10/08/18 18:29	
Barium	mg/L	ND	0.010	0.00078	10/08/18 18:29	
Beryllium	mg/L	ND	0.0030	0.000050	10/08/18 18:29	
Boron	mg/L	ND	0.040	0.0039	10/08/18 18:29	
Cadmium	mg/L	ND	0.0010	0.000093	10/08/18 18:29	
Calcium	mg/L	ND	0.50	0.014	10/08/18 18:29	
Chromium	mg/L	ND	0.010	0.0016	10/08/18 18:29	
Cobalt	mg/L	ND	0.010	0.00052	10/08/18 18:29	
Lead	mg/L	ND	0.0050	0.00027	10/08/18 18:29	
Lithium	mg/L	ND	0.050	0.00097	10/08/18 18:29	
Molybdenum	mg/L	ND	0.010	0.0019	10/08/18 18:29	
Selenium	mg/L	ND	0.010	0.0014	10/08/18 18:29	
Thallium	mg/L	ND	0.0010	0.00014	10/08/18 18:29	

LABORATORY CONTROL SAMPLE: 66523

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	.1	0.11	106	80-120	
Arsenic	mg/L	.1	0.10	103	80-120	
Barium	mg/L	.1	0.10	102	80-120	
Beryllium	mg/L	.1	0.11	111	80-120	
Boron	mg/L	1	1.0	104	80-120	
Cadmium	mg/L	.1	0.10	102	80-120	
Calcium	mg/L	1	1.0	102	80-120	
Chromium	mg/L	.1	0.10	103	80-120	
Cobalt	mg/L	.1	0.097	97	80-120	
Lead	mg/L	.1	0.10	102	80-120	
Lithium	mg/L	.1	0.11	110	80-120	
Molybdenum	mg/L	.1	0.10	103	80-120	
Selenium	mg/L	.1	0.10	102	80-120	
Thallium	mg/L	.1	0.10	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 66524 66525

Parameter	Units	2610033001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	.1	.1	0.11	0.10	109	102	75-125	7	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 Hammond AP 3&4
Pace Project No.: 2610037

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 66524 66525

Parameter	Units	2610033001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.0014J	.1	.1	0.11	0.10	104	102	75-125	2	20	
Barium	mg/L	0.089	.1	.1	0.19	0.18	102	94	75-125	4	20	
Beryllium	mg/L	ND	.1	.1	0.095	0.094	95	94	75-125	1	20	
Boron	mg/L	0.43	1	1	1.3	1.3	89	90	75-125	0	20	
Cadmium	mg/L	ND	.1	.1	0.10	0.10	101	100	75-125	1	20	
Calcium	mg/L	42.5	1	1	41.5	42.3	-94	-14	75-125	2	20	M6
Chromium	mg/L	ND	.1	.1	0.10	0.098	100	98	75-125	3	20	
Cobalt	mg/L	0.00081J	.1	.1	0.099	0.096	98	95	75-125	3	20	
Lead	mg/L	ND	.1	.1	0.10	0.097	100	97	75-125	3	20	
Lithium	mg/L	0.0013J	.1	.1	0.095	0.096	93	95	75-125	2	20	
Molybdenum	mg/L	ND	.1	.1	0.11	0.10	106	101	75-125	5	20	
Selenium	mg/L	ND	.1	.1	0.10	0.099	100	99	75-125	2	20	
Thallium	mg/L	ND	.1	.1	0.10	0.096	101	96	75-125	5	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond AP 3&4
Pace Project No.: 2610037

QC Batch: 14909 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2610037001, 2610037002, 2610037003

LABORATORY CONTROL SAMPLE: 66853

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	408	102	84-108	

SAMPLE DUPLICATE: 66854

Parameter	Units	2610027005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	693	699	1	10	

SAMPLE DUPLICATE: 66855

Parameter	Units	2610112002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	328	330	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 Hammond AP 3&4
Pace Project No.: 2610037

QC Batch: 14939 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2610037001, 2610037002, 2610037003

METHOD BLANK: 66933 Matrix: Water
Associated Lab Samples: 2610037001, 2610037002, 2610037003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.078J	0.25	0.024	10/08/18 16:40	
Fluoride	mg/L	ND	0.30	0.029	10/08/18 16:40	
Sulfate	mg/L	ND	1.0	0.017	10/08/18 16:40	

LABORATORY CONTROL SAMPLE: 66934

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.3	103	90-110	
Fluoride	mg/L	10	10.2	102	90-110	
Sulfate	mg/L	10	11.0	110	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 66935 66936

Parameter	Units	2610035001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.7	10	10	11.7	11.7	101	101	90-110	0	15	
Fluoride	mg/L	0.076J	10	10	10.0	10.0	99	100	90-110	0	15	
Sulfate	mg/L	38.5	10	10	44.7	44.8	62	63	90-110	0	15	M1

MATRIX SPIKE SAMPLE: 66937

Parameter	Units	2610037001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	3.1	10	13.4	103	90-110	
Fluoride	mg/L	0.22J	10	10.3	101	90-110	
Sulfate	mg/L	48.6	10	53.6	50	90-110	E

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 Hammond AP 3&4
Pace Project No.: 2610037

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond AP 3&4
Pace Project No.: 2610037

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2610037001	**HGWA-122**	EPA 3005A	14855	EPA 6020B	14882
2610037002	**HGWC-124**	EPA 3005A	14855	EPA 6020B	14882
2610037003	**HGWC-120**	EPA 3005A	14855	EPA 6020B	14882
2610037001	**HGWA-122**	EPA 7470A	14995	EPA 7470A	15035
2610037002	**HGWC-124**	EPA 7470A	14995	EPA 7470A	15035
2610037003	**HGWC-120**	EPA 7470A	14995	EPA 7470A	15035
2610037001	**HGWA-122**	SM 2540C	14909		
2610037002	**HGWC-124**	SM 2540C	14909		
2610037003	**HGWC-120**	SM 2540C	14909		
2610037001	**HGWA-122**	EPA 300.0	14939		
2610037002	**HGWC-124**	EPA 300.0	14939		
2610037003	**HGWC-120**	EPA 300.0	14939		

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 / Lauren Petty	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Geosyntec	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:	SCS10348606	Pace Quote:	
Phone:	(404)506-7239 Fax:	Project Name:	Hammond AP 3 & 4	Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	327.1.2

Regulatory Agency

State / Location: GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N)	Analyses Test: Metals *	TDS,Chloride,Fluoride,Sulfat	Radium 226/228	Residual Chlorine (Y/N)
																		Y/N	N	N	N	
1	HGWA-122	WT	G	10/2	1007	10/2	1032	6.6	4	1		3							Y	Y	Y	N
2	HGWC-124	WT	G	10/2	1152	10/2	1227	7.83	4	1		3							Y	Y	Y	N
3	HGWC-120	WT	G	10/2	1418	10/2	1528	2.20	4	1		3							Y	Y	Y	N
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
* Metals list: Sb,As,Ba,Be,B,Cd,Ca,Cr,Co,Pb,Li,Mo,Se,Tl, Hg	Nandos Tilahun	10/2/18	2030	[illegible]	10/2/18	2030	
	[illegible]	10/3/18	1000	Nitin Nayyar / Pace	10/3/18	1000	
				MDahlman	10/03/18	1300	
							4°C Y Y Y

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Nandos Tilahun

SIGNATURE of SAMPLER: [signature] DATE Signed: 10/2/2018

WO# : 2610037

Page 15 of 16

2610037

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 2610037

PM: BM Due Date: 10/10/18

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 83 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 4°C Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 10/03/18 MP

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: GW		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed: Lot # of added preservative:
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

October 26, 2018

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Hammond AP 3&4
Pace Project No.: 2610038

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on October 03, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Maria Padilla, Georgia Power
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond AP 3&4
Pace Project No.: 2610038

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond AP 3&4
Pace Project No.: 2610038

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2610038001	**HGWA-122**	Water	10/02/18 10:32	10/03/18 13:00
2610038002	**HGWC-124**	Water	10/02/18 12:27	10/03/18 13:00
2610038003	**HGWC-120**	Water	10/02/18 15:28	10/03/18 13:00

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond AP 3&4
Pace Project No.: 2610038

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2610038001	**HGWA-122**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2610038002	**HGWC-124**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2610038003	**HGWC-120**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond AP 3&4
Pace Project No.: 2610038

Sample: HGWA-122 **Lab ID: 2610038001** Collected: 10/02/18 10:32 Received: 10/03/18 13:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**1.37 ± 0.406 (0.326) C:90% T:NA**	pCi/L	10/17/18 07:58	13982-63-3	
Radium-228	EPA 9320	**-0.0536 ± 0.308 (0.737) C:68% T:89%**	pCi/L	10/16/18 14:40	15262-20-1	
Total Radium	Total Radium Calculation	**1.37 ± 0.714 (1.06)**	pCi/L	10/22/18 12:11	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond AP 3&4
Pace Project No.: 2610038

Sample: HGWC-124 **Lab ID: 2610038002** Collected: 10/02/18 12:27 Received: 10/03/18 13:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.260 ± 0.191 (0.327) C:93% T:NA**	pCi/L	10/17/18 07:58	13982-63-3	
Radium-228	EPA 9320	**0.357 ± 0.339 (0.690) C:69% T:92%**	pCi/L	10/16/18 14:40	15262-20-1	
Total Radium	Total Radium Calculation	**0.617 ± 0.530 (1.02)**	pCi/L	10/22/18 12:11	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond AP 3&4
Pace Project No.: 2610038

Sample: HGWC-120 **Lab ID: 2610038003** Collected: 10/02/18 15:28 Received: 10/03/18 13:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.328 ± 0.190 (0.267) C:100% T:NA**	pCi/L	10/17/18 07:58	13982-63-3	
Radium-228	EPA 9320	**0.244 ± 0.379 (0.820) C:71% T:83%**	pCi/L	10/16/18 14:42	15262-20-1	
Total Radium	Total Radium Calculation	**0.572 ± 0.569 (1.09)**	pCi/L	10/22/18 12:11	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond AP 3&4
Pace Project No.: 2610038

QC Batch: 315900 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 2610038001, 2610038002, 2610038003

METHOD BLANK: 1541949 Matrix: Water
Associated Lab Samples: 2610038001, 2610038002, 2610038003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.146 ± 0.141 (0.260) C:98% T:NA	pCi/L	10/17/18 08:08	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond AP 3&4
Pace Project No.: 2610038

QC Batch: 315901 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 2610038001, 2610038002, 2610038003

METHOD BLANK: 1541950 Matrix: Water
Associated Lab Samples: 2610038001, 2610038002, 2610038003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.400 ± 0.315 (0.619) C:82% T:86%	pCi/L	10/16/18 11:20	

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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QUALIFIERS

Project: Plant Hammond AP 3&4
Pace Project No.: 2610038

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond AP 3&4
Pace Project No.: 2610038

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2610038001	**HGWA-122**	EPA 9315	315900		
2610038002	**HGWC-124**	EPA 9315	315900		
2610038003	**HGWC-120**	EPA 9315	315900		
2610038001	**HGWA-122**	EPA 9320	315901		
2610038002	**HGWC-124**	EPA 9320	315901		
2610038003	**HGWC-120**	EPA 9320	315901		
2610038001	**HGWA-122**	Total Radium Calculation	317509		
2610038002	**HGWC-124**	Total Radium Calculation	317509		
2610038003	**HGWC-120**	Total Radium Calculation	317509		

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 / Lauren Petty	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Geosyntec	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:	SCS10348606	Pace Quote:	
Phone:	(404)506-7239 Fax:	Project Name:	Hammond AP 3 & 4	Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	327 1 2

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)	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	Metals *	TDS,Chloride,Fluoride,Sulfat	Radium 226/228	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	HGWA-122	WT	G	10/2	1007	10/2	1032	5.6	4	1		3							Y	Y	Y	N
2	HGWC-124	WT	G	10/2	1152	10/2	1227	7.8	4	1		3							Y	Y	Y	N
3	HGWC-120	WT	G	10/2	1418	10/2	1528	3.2	4	1		3							Y	Y	Y	N
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
* Metals list: Sb,As,Ba,Be,B,Cd,Ca,Cr,Co,Pb,Li,Mo,Se,Tl, Hg	Nandos T. Tahan	10/2/18	2030	[illegible]	10/2/18	2030	
	[illegible]	10/3/18	1000	Mike Nguyen / Pace	10/3/18	1000	
				MDahman	10/03/18	1300	
							4°C Y Y Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Nandos T. Tahan

SIGNATURE of SAMPLER: [signature] DATE Signed: 10/2/2018

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

WO# : 2610038

2610038

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 2610038

PM: BM Due Date: 10/31/18

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 33 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 4°C Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 10/03/18 MR

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: GW		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

October 15, 2018

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Hammond AP 3&4
Pace Project No.: 2610210

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on October 08, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Maria Padilla, Georgia Power
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: Plant Hammond AP 3&4
Pace Project No.: 2610210

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Texas Certification #: T104704397-08-TX
Virginia Certification #: 460204

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond AP 3&4
Pace Project No.: 2610210

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2610210001	**HGWC-121A**	Water	10/05/18 13:30	10/08/18 11:00
2610210002	**FD-05**	Water	10/05/18 00:00	10/08/18 11:00

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SAMPLE ANALYTE COUNT

Project: Plant Hammond AP 3&4
Pace Project No.: 2610210

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2610210001	**HGWC-121A**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
2610210002	**FD-05**	EPA 6020B	CSW	14
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3

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ANALYTICAL RESULTS

Project: Plant Hammond AP 3&4
Pace Project No.: 2610210

Sample: HGWC-121A **Lab ID: 2610210001** Collected: 10/05/18 13:30 Received: 10/08/18 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	10/10/18 13:15	10/12/18 20:50	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	10/10/18 13:15	10/12/18 20:50	7440-38-2	
Barium	**0.074**	mg/L	0.010	0.00078	1	10/10/18 13:15	10/12/18 20:50	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	10/10/18 13:15	10/12/18 20:50	7440-41-7	
Boron	**2.9**	mg/L	0.040	0.0039	1	10/10/18 13:15	10/12/18 20:50	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	10/10/18 13:15	10/12/18 20:50	7440-43-9	
Calcium	**181**	mg/L	25.0	0.69	50	10/10/18 13:15	10/12/18 20:55	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	10/10/18 13:15	10/12/18 20:50	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	10/10/18 13:15	10/12/18 20:50	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	10/10/18 13:15	10/12/18 20:50	7439-92-1	
Lithium	**0.0091J**	mg/L	0.050	0.00097	1	10/10/18 13:15	10/12/18 20:50	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	10/10/18 13:15	10/12/18 20:50	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	10/10/18 13:15	10/12/18 20:50	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/10/18 13:15	10/12/18 20:50	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	10/11/18 10:20	10/11/18 17:34	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**813**	mg/L	25.0	10.0	1		10/09/18 16:57		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**39.0**	mg/L	0.25	0.024	1		10/11/18 10:21	16887-00-6	
Fluoride	**0.23J**	mg/L	0.30	0.029	1		10/11/18 10:21	16984-48-8	
Sulfate	**271**	mg/L	10.0	0.17	10		10/11/18 14:57	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Plant Hammond AP 3&4
Pace Project No.: 2610210

Sample: FD-05 **Lab ID: 2610210002** Collected: 10/05/18 00:00 Received: 10/08/18 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	10/10/18 13:15	10/12/18 21:01	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	10/10/18 13:15	10/12/18 21:01	7440-38-2	
Barium	**0.075**	mg/L	0.010	0.00078	1	10/10/18 13:15	10/12/18 21:01	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	10/10/18 13:15	10/12/18 21:01	7440-41-7	
Boron	**2.8**	mg/L	0.040	0.0039	1	10/10/18 13:15	10/12/18 21:01	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	10/10/18 13:15	10/12/18 21:01	7440-43-9	
Calcium	**185**	mg/L	25.0	0.69	50	10/10/18 13:15	10/12/18 21:07	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	10/10/18 13:15	10/12/18 21:01	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	10/10/18 13:15	10/12/18 21:01	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	10/10/18 13:15	10/12/18 21:01	7439-92-1	
Lithium	**0.0093J**	mg/L	0.050	0.00097	1	10/10/18 13:15	10/12/18 21:01	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	10/10/18 13:15	10/12/18 21:01	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	10/10/18 13:15	10/12/18 21:01	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/10/18 13:15	10/12/18 21:01	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	10/11/18 10:20	10/11/18 17:37	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**793**	mg/L	25.0	10.0	1		10/09/18 16:57		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**39.2**	mg/L	0.25	0.024	1		10/11/18 10:44	16887-00-6	
Fluoride	**0.23J**	mg/L	0.30	0.029	1		10/11/18 10:44	16984-48-8	
Sulfate	**265**	mg/L	10.0	0.17	10		10/14/18 12:23	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 Hammond AP 3&4
Pace Project No.: 2610210

QC Batch: 15185 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
Associated Lab Samples: 2610210001, 2610210002

METHOD BLANK: 67911 Matrix: Water
Associated Lab Samples: 2610210001, 2610210002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.000036	10/11/18 16:47	

LABORATORY CONTROL SAMPLE: 67912

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	.0025	0.0026	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 67913 67914

Parameter	Units	2610090002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	0.95 ug/L	.0025	.0025	0.0032	0.0031	89	88	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 Hammond AP 3&4
Pace Project No.: 2610210

QC Batch: 15129 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 2610210001, 2610210002

METHOD BLANK: 67679 Matrix: Water
Associated Lab Samples: 2610210001, 2610210002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00078	10/12/18 19:18	
Arsenic	mg/L	ND	0.0050	0.00057	10/12/18 19:18	
Barium	mg/L	ND	0.010	0.00078	10/12/18 19:18	
Beryllium	mg/L	ND	0.0030	0.000050	10/12/18 19:18	
Boron	mg/L	ND	0.040	0.0039	10/12/18 19:18	
Cadmium	mg/L	ND	0.0010	0.000093	10/12/18 19:18	
Calcium	mg/L	ND	0.50	0.014	10/12/18 19:18	
Chromium	mg/L	ND	0.010	0.0016	10/12/18 19:18	
Cobalt	mg/L	ND	0.010	0.00052	10/12/18 19:18	
Lead	mg/L	ND	0.0050	0.00027	10/12/18 19:18	
Lithium	mg/L	ND	0.050	0.00097	10/12/18 19:18	
Molybdenum	mg/L	ND	0.010	0.0019	10/12/18 19:18	
Selenium	mg/L	ND	0.010	0.0014	10/12/18 19:18	
Thallium	mg/L	ND	0.0010	0.00014	10/12/18 19:18	

LABORATORY CONTROL SAMPLE: 67680

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	.1	0.11	108	80-120	
Arsenic	mg/L	.1	0.10	100	80-120	
Barium	mg/L	.1	0.096	96	80-120	
Beryllium	mg/L	.1	0.098	98	80-120	
Boron	mg/L	1	0.96	96	80-120	
Cadmium	mg/L	.1	0.10	101	80-120	
Calcium	mg/L	1	0.98	98	80-120	
Chromium	mg/L	.1	0.099	99	80-120	
Cobalt	mg/L	.1	0.097	97	80-120	
Lead	mg/L	.1	0.096	96	80-120	
Lithium	mg/L	.1	0.099	99	80-120	
Molybdenum	mg/L	.1	0.096	96	80-120	
Selenium	mg/L	.1	0.098	98	80-120	
Thallium	mg/L	.1	0.095	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 67681 67682

Parameter	Units	2610208001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	.1	.1	0.12	0.12	119	117	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 Hammond AP 3&4
Pace Project No.: 2610210

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 67681 67682

Parameter	Units	2610208001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	ND	.1	.1	0.11	0.11	106	105	75-125	1	20	
Barium	mg/L	0.081	.1	.1	0.18	0.17	95	91	75-125	2	20	
Beryllium	mg/L	ND	.1	.1	0.11	0.11	107	105	75-125	2	20	
Boron	mg/L	0.15	1	1	1.2	1.2	106	106	75-125	0	20	
Cadmium	mg/L	ND	.1	.1	0.11	0.11	107	108	75-125	1	20	
Calcium	mg/L	39.6	1	1	41.8	41.2	229	168	75-125	1	20	M6
Chromium	mg/L	ND	.1	.1	0.11	0.10	107	105	75-125	2	20	
Cobalt	mg/L	ND	.1	.1	0.11	0.10	105	103	75-125	2	20	
Lead	mg/L	ND	.1	.1	0.10	0.099	100	99	75-125	1	20	
Lithium	mg/L	0.016J	.1	.1	0.12	0.12	106	102	75-125	3	20	
Molybdenum	mg/L	ND	.1	.1	0.11	0.11	106	107	75-125	1	20	
Selenium	mg/L	ND	.1	.1	0.11	0.11	106	105	75-125	1	20	
Thallium	mg/L	ND	.1	.1	0.10	0.098	100	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: Plant Hammond AP 3&4
Pace Project No.: 2610210

QC Batch: 15066
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2610210001, 2610210002

LABORATORY CONTROL SAMPLE: 67393

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	396	99	84-108	

SAMPLE DUPLICATE: 67394

Parameter	Units	2610166001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	10200	10100	1	10	

SAMPLE DUPLICATE: 67395

Parameter	Units	2610210001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	813	828	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 Hammond AP 3&4
Pace Project No.: 2610210

QC Batch: 15085
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2610210001, 2610210002

METHOD BLANK: 67500 Matrix: Water
Associated Lab Samples: 2610210001, 2610210002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.024	10/11/18 06:47	
Fluoride	mg/L	ND	0.30	0.029	10/11/18 06:47	
Sulfate	mg/L	ND	1.0	0.017	10/11/18 06:47	

LABORATORY CONTROL SAMPLE: 67501

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.5	105	90-110	
Fluoride	mg/L	10	10.2	102	90-110	
Sulfate	mg/L	10	10.8	108	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 67502 67503

Parameter	Units	2610208001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.5	10	10	12.0	12.0	105	105	90-110	0	15	
Fluoride	mg/L	0.21J	10	10	10.3	10.3	101	101	90-110	0	15	
Sulfate	mg/L	10.6	10	10	20.5	20.5	99	99	90-110	0	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: Plant Hammond AP 3&4
Pace Project No.: 2610210

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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 Hammond AP 3&4
Pace Project No.: 2610210

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2610210001	**HGWC-121A**	EPA 3005A	15129	EPA 6020B	15152
2610210002	**FD-05**	EPA 3005A	15129	EPA 6020B	15152
2610210001	**HGWC-121A**	EPA 7470A	15185	EPA 7470A	15229
2610210002	**FD-05**	EPA 7470A	15185	EPA 7470A	15229
2610210001	**HGWC-121A**	SM 2540C	15066		
2610210002	**FD-05**	SM 2540C	15066		
2610210001	**HGWC-121A**	EPA 300.0	15085		
2610210002	**FD-05**	EPA 300.0	15085		

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 / Lauren Petty	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Geosyntec	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:	SCS10348606	Pace Quote:	
Phone:	(404)506-7239 Fax	Project Name:	Hammond AP 3 & 4	Pace Project Manager	betsy.mcdaniel@pacelabs.com,
Requested Due Date:	Standard TAT	Project #:		Pace Profile #:	327 1 2

Regulatory Agency	State / Location
	GA

Requested Analysis Filtered (Y/N): Y/N — N N 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)	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: Metals *	TDS,Chloride,Fluoride,Sulfat	Radium 226/228	Residual Chlorine (Y/N)	
1	HGWC-121A	WT	G	10/5/18	1320	10/5/18	1330		4	X		3						X	X	X	N	1
2	FD-05	WT	G	10/5/18	-	10/5/18	-		4	X		3						X	X	X	N	2
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

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			
* Metals list: Sb,As,Ba,Be,B,Cd,Ca,Cr,Co,Pb,Li,Mo,Se,Tl, Hg	Rich Murray	10/5/18	1415	Noelia Montes	10/05/18	1415				
	Noelia Montes	10/05/18	0945	Mike Nguyen / Pace	10/8/18	0945				
				Charles Hamby	10/8/18	1100	4.5	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Rich Murray

SIGNATURE of SAMPLER: Rich Murray DATE Signed: 10/5/18

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

WO#: 2610210

2610210

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

WO#: 2610210

PM: BM Due Date: 10/15/18

CLIENT: GAPower-CCR

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 _____

Thermometer Used 082 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 2.5 °C Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 10/8/18 CM

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: GW		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) Rads	☑Yes ☐No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

November 05, 2018

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Hammond AP 3&4
Pace Project No.: 2610211

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on October 08, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Maria Padilla, Georgia Power
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond AP 3&4
Pace Project No.: 2610211

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond AP 3&4
Pace Project No.: 2610211

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2610211001	**HGWC-121A**	Water	10/05/18 13:30	10/08/18 11:00
2610211002	**FD-05**	Water	10/05/18 00:00	10/08/18 11:00

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond AP 3&4
Pace Project No.: 2610211

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2610211001	**HGWC-121A**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
2610211002	**FD-05**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond AP 3&4
Pace Project No.: 2610211

Sample: HGWC-121A **Lab ID: 2610211001** Collected: 10/05/18 13:30 Received: 10/08/18 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.492 ± 0.272 (0.402) C:98% T:NA**	pCi/L	10/25/18 08:03	13982-63-3	
Radium-228	EPA 9320	**0.673 ± 0.547 (1.09) C:64% T:94%**	pCi/L	10/24/18 18:47	15262-20-1	
Total Radium	Total Radium Calculation	**1.17 ± 0.819 (1.49)**	pCi/L	10/31/18 11:33	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 Hammond AP 3&4
Pace Project No.: 2610211

Sample: FD-05 **Lab ID: 2610211002** Collected: 10/05/18 00:00 Received: 10/08/18 11:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.300 ± 0.255 (0.489) C:96% T:NA**	pCi/L	10/25/18 08:03	13982-63-3	
Radium-228	EPA 9320	**0.420 ± 0.538 (1.14) C:62% T:87%**	pCi/L	10/24/18 18:47	15262-20-1	
Total Radium	Total Radium Calculation	**0.720 ± 0.793 (1.63)**	pCi/L	10/31/18 11:33	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 Hammond AP 3&4
Pace Project No.: 2610211

QC Batch: 316709 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 2610211001, 2610211002

METHOD BLANK: 1545548 Matrix: Water
Associated Lab Samples: 2610211001, 2610211002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.551 ± 0.333 (0.601) C:73% T:90%	pCi/L	10/24/18 16:02	

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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 Hammond AP 3&4
Pace Project No.: 2610211

QC Batch: 317135 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 2610211001, 2610211002

METHOD BLANK: 1547224 Matrix: Water
Associated Lab Samples: 2610211001, 2610211002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0781 ± 0.155 (0.358) C:99% T:NA	pCi/L	10/25/18 08:03	

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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 Hammond AP 3&4
Pace Project No.: 2610211

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

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Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond AP 3&4
Pace Project No.: 2610211

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2610211001	**HGWC-121A**	EPA 9315	317135		
2610211002	**FD-05**	EPA 9315	317135		
2610211001	**HGWC-121A**	EPA 9320	316709		
2610211002	**FD-05**	EPA 9320	316709		
2610211001	**HGWC-121A**	Total Radium Calculation	318622		
2610211002	**FD-05**	Total Radium Calculation	318622		

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:	Standard TAT

Section B — Required Project Information:

Report To:	Joju Abraham / Lauren Petty
Copy To:	Geosyntec
Purchase Order #:	SCS10348606
Project Name:	Hammond AP 3 & 4
Project #:	

Section C — Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Pace Profile #:	327 1.2

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	Requested Analysis Filtered (Y/N): Metals *	TDS,Chloride,Fluoride,Sulfate	Radium 226/228	Residual Chlorine (Y/N)
1	HGWC-121M	WT	G	10/5/18	1320	10/5/18	1330		4	1		3						N	N	X	X	N	1
2	FD-05	WT	G	10/5/18	-	10/5/18	-		4	1		3						N	X	X	X	N	2
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

RL 10/5/18

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
* Metals list: Sb,As,Ba,Be,B,Cd,Ca,Cr,Co,Pb,Li,Mo,Se,Tl, Hg	Rich Murray	10/5/18	1415	Malia Mullins	10/05/18	1415	
	Malia Mullins	10/05/18	0945	M.K Nguyen / Pace	10/8/18	0945	
				Charles Hamby	10/8/18	1100	4.5 Y Y Y

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Rich Murray
SIGNATURE of SAMPLER: RM DATE Signed: 10/5/18

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

WO#: 2610211

2610211

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

WO#: 2610211

PM: BM Due Date: 11/05/18

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other

Tracking #: _____

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other _____

Thermometer Used 032 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 2.5 °C Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 10/8/18 CLH

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: GW		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) Rads	☑Yes ☐No	Initial when completed: _____ Lot # of added preservative: _____
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: Field Data Required? Y N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

F-ALL-C003rev.3, 11September2006

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

October 09, 2018

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Hammond - GW6581
Pace Project No.: 269953

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on October 02, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Maria Padilla, Georgia Power
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond - GW6581
Pace Project No.: 269953

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Texas Certification #: T104704397-08-TX
Virginia Certification #: 460204

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond - GW6581
Pace Project No.: 269953

Lab ID	Sample ID	Matrix	Date Collected	Date Received
269953001	**FB-01**	Water	10/01/18 18:20	10/02/18 12:00

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond - GW6581
Pace Project No.: 269953

Lab ID	Sample ID	Method	Analysts	Analytes Reported
269953001	**FB-01**	EPA 6020B	CSW	19
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond - GW6581
Pace Project No.: 269953

Sample: FB-01 **Lab ID: 269953001** Collected: 10/01/18 18:20 Received: 10/02/18 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	10/04/18 11:09	10/09/18 00:07	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	10/04/18 11:09	10/09/18 00:07	7440-38-2	
Barium	ND	mg/L	0.010	0.00078	1	10/04/18 11:09	10/09/18 00:07	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	10/04/18 11:09	10/09/18 00:07	7440-41-7	
Boron	ND	mg/L	0.040	0.0039	1	10/04/18 11:09	10/09/18 00:07	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	10/04/18 11:09	10/09/18 00:07	7440-43-9	
Calcium	ND	mg/L	0.50	0.014	1	10/04/18 11:09	10/09/18 00:07	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	10/04/18 11:09	10/09/18 00:07	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	10/04/18 11:09	10/09/18 00:07	7440-48-4	
Copper	ND	mg/L	0.025	0.0013	1	10/04/18 11:09	10/09/18 00:07	7440-50-8	
Lead	ND	mg/L	0.0050	0.00027	1	10/04/18 11:09	10/09/18 00:07	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	10/04/18 11:09	10/09/18 00:07	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	10/04/18 11:09	10/09/18 00:07	7439-98-7	
Nickel	ND	mg/L	0.010	0.00095	1	10/04/18 11:09	10/09/18 00:07	7440-02-0	
Selenium	ND	mg/L	0.010	0.0014	1	10/04/18 11:09	10/09/18 00:07	7782-49-2	
Silver	ND	mg/L	0.010	0.00095	1	10/04/18 11:09	10/09/18 00:07	7440-22-4	
Thallium	ND	mg/L	0.0010	0.00014	1	10/04/18 11:09	10/09/18 00:07	7440-28-0	
Vanadium	ND	mg/L	0.010	0.0019	1	10/04/18 11:09	10/09/18 00:07	7440-62-2	
Zinc	**0.0035J**	mg/L	0.010	0.0021	1	10/04/18 11:09	10/09/18 00:07	7440-66-6	B
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	10/09/18 10:40	10/09/18 14:29	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	ND	mg/L	25.0	10.0	1		10/03/18 17:16		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.064J**	mg/L	0.25	0.024	1		10/04/18 23:36	16887-00-6	B
Fluoride	ND	mg/L	0.30	0.029	1		10/04/18 23:36	16984-48-8	
Sulfate	ND	mg/L	1.0	0.017	1		10/04/18 23:36	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 Hammond - GW6581
Pace Project No.: 269953

QC Batch: 14995
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Associated Lab Samples: 269953001

METHOD BLANK: 67141 Matrix: Water
Associated Lab Samples: 269953001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.000036	10/09/18 13:40	

LABORATORY CONTROL SAMPLE: 67142

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	.0025	0.0027	109	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 67143 67144

Parameter	Units	269871003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	.0025	.0025	0.0025	0.0022	101	87	75-125	15	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 Hammond - GW6581
Pace Project No.: 269953

QC Batch: 14744
QC Batch Method: EPA 3005A
Associated Lab Samples: 269953001

Analysis Method: EPA 6020B
Analysis Description: 6020B MET

METHOD BLANK: 65855
Matrix: Water
Associated Lab Samples: 269953001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00078	10/08/18 22:41	
Arsenic	mg/L	ND	0.0050	0.00057	10/08/18 22:41	
Barium	mg/L	ND	0.010	0.00078	10/08/18 22:41	
Beryllium	mg/L	ND	0.0030	0.000050	10/08/18 22:41	
Boron	mg/L	ND	0.040	0.0039	10/08/18 22:41	
Cadmium	mg/L	ND	0.0010	0.000093	10/08/18 22:41	
Calcium	mg/L	ND	0.50	0.014	10/08/18 22:41	
Chromium	mg/L	ND	0.010	0.0016	10/08/18 22:41	
Cobalt	mg/L	ND	0.010	0.00052	10/08/18 22:41	
Copper	mg/L	ND	0.025	0.0013	10/08/18 22:41	
Lead	mg/L	ND	0.0050	0.00027	10/08/18 22:41	
Lithium	mg/L	ND	0.050	0.00097	10/08/18 22:41	
Molybdenum	mg/L	ND	0.010	0.0019	10/08/18 22:41	
Nickel	mg/L	ND	0.010	0.00095	10/08/18 22:41	
Selenium	mg/L	ND	0.010	0.0014	10/08/18 22:41	
Silver	mg/L	ND	0.010	0.00095	10/08/18 22:41	
Thallium	mg/L	ND	0.0010	0.00014	10/08/18 22:41	
Vanadium	mg/L	ND	0.010	0.0019	10/08/18 22:41	
Zinc	mg/L	0.0027J	0.010	0.0021	10/08/18 22:41	

LABORATORY CONTROL SAMPLE: 65856

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	.1	0.10	103	80-120	
Arsenic	mg/L	.1	0.10	105	80-120	
Barium	mg/L	.1	0.10	101	80-120	
Beryllium	mg/L	.1	0.10	103	80-120	
Boron	mg/L	1	0.99	99	80-120	
Cadmium	mg/L	.1	0.10	105	80-120	
Calcium	mg/L	1	1.0	104	80-120	
Chromium	mg/L	.1	0.10	104	80-120	
Cobalt	mg/L	.1	0.10	100	80-120	
Copper	mg/L	.1	0.10	101	80-120	
Lead	mg/L	.1	0.10	101	80-120	
Lithium	mg/L	.1	0.11	107	80-120	
Molybdenum	mg/L	.1	0.10	104	80-120	
Nickel	mg/L	.1	0.099	99	80-120	
Selenium	mg/L	.1	0.10	103	80-120	
Silver	mg/L	.1	0.10	101	80-120	
Thallium	mg/L	.1	0.10	101	80-120	

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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 Hammond - GW6581
Pace Project No.: 269953

LABORATORY CONTROL SAMPLE: 65856

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Vanadium	mg/L	.1	0.10	104	80-120	
Zinc	mg/L	.1	0.11	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 65857 65858

Parameter	Units	269951003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	.1	.1	0.11	0.11	107	106	75-125	1	20	
Arsenic	mg/L	ND	.1	.1	0.11	0.10	105	102	75-125	3	20	
Barium	mg/L	0.025	.1	.1	0.13	0.12	101	100	75-125	0	20	
Beryllium	mg/L	ND	.1	.1	0.095	0.094	95	94	75-125	1	20	
Boron	mg/L	0.0042J	1	1	0.93	0.91	93	91	75-125	2	20	
Cadmium	mg/L	ND	.1	.1	0.10	0.10	104	100	75-125	4	20	
Calcium	mg/L	6.2	1	1	7.0	7.0	76	74	75-125	0	20	M1
Chromium	mg/L	0.0023J	.1	.1	0.10	0.10	102	102	75-125	0	20	
Cobalt	mg/L	ND	.1	.1	0.098	0.098	98	98	75-125	0	20	
Copper	mg/L	ND	.1	.1	0.099	0.10	98	102	75-125	3	20	
Lead	mg/L	ND	.1	.1	0.10	0.10	104	101	75-125	3	20	
Lithium	mg/L	0.0010J	.1	.1	0.095	0.094	94	93	75-125	1	20	
Molybdenum	mg/L	ND	.1	.1	0.11	0.10	105	103	75-125	2	20	
Nickel	mg/L	ND	.1	.1	0.10	0.10	101	100	75-125	1	20	
Selenium	mg/L	0.0024J	.1	.1	0.11	0.10	103	98	75-125	5	20	
Silver	mg/L	ND	.1	.1	0.10	0.10	103	100	75-125	3	20	
Thallium	mg/L	ND	.1	.1	0.10	0.10	103	101	75-125	3	20	
Vanadium	mg/L	ND	.1	.1	0.10	0.10	104	102	75-125	1	20	
Zinc	mg/L	0.0052J	.1	.1	0.11	0.11	101	103	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond - GW6581
Pace Project No.: 269953

QC Batch: 14690
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 269953001

LABORATORY CONTROL SAMPLE: 65578

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	412	103	84-108	

SAMPLE DUPLICATE: 65579

Parameter	Units	269910001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2490	2740	10	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 Hammond - GW6581
Pace Project No.: 269953

QC Batch: 14765
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 269953001

METHOD BLANK: 65945 Matrix: Water
Associated Lab Samples: 269953001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.078J	0.25	0.024	10/04/18 21:11	
Fluoride	mg/L	ND	0.30	0.029	10/04/18 21:11	
Sulfate	mg/L	ND	1.0	0.017	10/04/18 21:11	

LABORATORY CONTROL SAMPLE: 65946

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.4	104	90-110	
Fluoride	mg/L	10	10.4	104	90-110	
Sulfate	mg/L	10	10.2	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 65947 65948

Parameter	Units	269951001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2.2	10	10	12.4	12.4	102	101	90-110	0	15	
Fluoride	mg/L	ND	10	10	10.4	10.3	104	103	90-110	0	15	
Sulfate	mg/L	1.0	10	10	11.3	11.1	102	100	90-110	2	15	

MATRIX SPIKE SAMPLE: 65949

Parameter	Units	269951002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5.6	10	15.5	99	90-110	
Fluoride	mg/L	ND	10	10.4	104	90-110	
Sulfate	mg/L	0.52J	10	10.7	101	90-110	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond - GW6581
Pace Project No.: 269953

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond - GW6581
Pace Project No.: 269953

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
269953001	**FB-01**	EPA 3005A	14744	EPA 6020B	14814
269953001	**FB-01**	EPA 7470A	14995	EPA 7470A	15035
269953001	**FB-01**	SM 2540C	14690		
269953001	**FB-01**	EPA 300.0	14765		

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:	Georgia Power - Coal Combustion Residuals	Report To:	Joju Abraham / Lauren Petty	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Geosyntec	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:	SCS10348606	Pace Quote:	
Phone:	(404)506-7239 Fax	Project Name:	Plant Hammond ~~Huffaker Road~~	Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Requested Due Date:	Standard TAT	Project #:	GW6581	Pace Profile #:	328 3

Regulatory Agency

State / Location: GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N)	Analyses Test: Metals (App. III + State) *	TDS, Chloride, Fluoride, Sulfate	Metals (App IV)**	Radium	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		
1	FB-01	WT	G	10/01/18	1815	10/01/18	1820		4	1		3							Y	Y	Y	Y		N
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

NM 10/01/18

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
* Metals list: Sb,As,Ba,Be,B,Cd,Ca,Cr,Co,Cu,Pb,Ni,Se,Ag,Tl,V,Zn	Noelia Muskus	10/01/18	19:45	[illegible]	10/1/18	19:45				
** Metals App IV: Li, Hg, Mo,	[illegible]	10/2/18	1005	Mike Nguyen/Pace	10/2/18	1008				
				M Zalman	10/02/18	1200	0.5	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Noelia Muskus

SIGNATURE of SAMPLER: Noelia Muskus DATE Signed: 10/01/18

WO# : 269953

269953

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO# : 269953

PM: BM Due Date: 10/09/18

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 83 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 0.5 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 10/02/18 MB

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)

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

October 25, 2018

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Hammond - GW6581
Pace Project No.: 269954

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on October 02, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Maria Padilla, Georgia Power
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond - GW6581
Pace Project No.: 269954

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond - GW6581
Pace Project No.: 269954

Lab ID	Sample ID	Matrix	Date Collected	Date Received
269954001	**FB-01**	Water	10/01/18 18:20	10/02/18 12:00

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond - GW6581
Pace Project No.: 269954

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
269954001	**FB-01**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond - GW6581
Pace Project No.: 269954

Sample: FB-01 **Lab ID: 269954001** Collected: 10/01/18 18:20 Received: 10/02/18 12:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.148 ± 0.142 (0.264) C:99% T:NA**	pCi/L	10/17/18 08:08	13982-63-3	
Radium-228	EPA 9320	**0.422 ± 0.333 (0.649) C:72% T:81%**	pCi/L	10/16/18 11:24	15262-20-1	
Total Radium	Total Radium Calculation	**0.570 ± 0.475 (0.913)**	pCi/L	10/22/18 12:11	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 Hammond - GW6581
Pace Project No.: 269954

QC Batch: 315900
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Associated Lab Samples: 269954001

METHOD BLANK: 1541949
Matrix: Water
Associated Lab Samples: 269954001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.146 ± 0.141 (0.260) C:98% T:NA	pCi/L	10/17/18 08:08	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond - GW6581
Pace Project No.: 269954

QC Batch: 315901 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 269954001

METHOD BLANK: 1541950 Matrix: Water
Associated Lab Samples: 269954001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.400 ± 0.315 (0.619) C:82% T:86%	pCi/L	10/16/18 11:20	

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

QUALIFIERS

Project: Plant Hammond - GW6581
Pace Project No.: 269954

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond - GW6581
Pace Project No.: 269954

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
269954001	**FB-01**	EPA 9315	315900		
269954001	**FB-01**	EPA 9320	315901		
269954001	**FB-01**	Total Radium Calculation	317509		

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:	Georgia Power - Coal Combustion Residuals	Report To:	Joju Abraham / Lauren Petty	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Geosyntec	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:	SCS10348606	Pace Quote:	
Phone:	(404)506-7239 Fax	Project Name:	Plant Hammond ~~Hufeker Road~~	Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Requested Due Date:	Standard TAT	Project #:	GW6581	Pace Profile #:	328.3

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)	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	Metals (App. III + State) *	TDS,Chloride,Fluoride,Sulfat	Metals (App IV)**	Radium								Residual Chlorine (Y/N)
																		Y/N	N	N	N								
1	FB-01	WT	G	10/01/18	1815	10/01/18	1820		4	1		3							Y	Y	Y	Y								N
2																														
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

NM 10/01/18 NM 10/01/18 NM 10/01/18 NM 10/01/18 NM 10/01/18

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
* Metals list: Sb,As,Ba,Be,B,Cd,Ca,Cr,Co,Cu,Pb,Ni,Se,Ag,Tl,V,Zn	Noelia Muskus	10/01/18	19:45	[illegible]	10/1/18	19:45
**Metals App IV : Li, Hg, Mo,	[illegible]	10/2/18	1005	Mike Nguyen/Pace	10/2/18	1008
				M Dalman	10/02/18	1200

SAMPLE CONDITIONS			
TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
0.5	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Noelia Muskus

SIGNATURE of SAMPLER: Noelia Muskus DATE Signed: 10/01/18

WO# : 269954

269954

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 269954

PM: BM Due Date: 10/30/18

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 83 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 0.5 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 10/02/18 MA

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed: Lot # of added preservative:
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

October 10, 2018

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610031

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on October 03, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Maria Padilla, Georgia Power
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610031

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Texas Certification #: T104704397-08-TX
Virginia Certification #: 460204

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610031

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2610031001	**EB-01**	Water	10/02/18 18:15	10/03/18 13:00
2610031002	**FB-02**	Water	10/02/18 18:00	10/03/18 13:00

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610031

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2610031001	**EB-01**	EPA 6020B	CSW	19
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
2610031002	**FB-02**	EPA 6020B	CSW	19
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610031

Sample: EB-01 **Lab ID: 2610031001** Collected: 10/02/18 18:15 Received: 10/03/18 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	10/05/18 13:39	10/08/18 19:49	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	10/05/18 13:39	10/08/18 19:49	7440-38-2	
Barium	ND	mg/L	0.010	0.00078	1	10/05/18 13:39	10/08/18 19:49	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	10/05/18 13:39	10/08/18 19:49	7440-41-7	
Boron	ND	mg/L	0.040	0.0039	1	10/05/18 13:39	10/08/18 19:49	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	10/05/18 13:39	10/08/18 19:49	7440-43-9	
Calcium	ND	mg/L	0.50	0.014	1	10/05/18 13:39	10/08/18 19:49	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	10/05/18 13:39	10/08/18 19:49	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	10/05/18 13:39	10/08/18 19:49	7440-48-4	
Copper	ND	mg/L	0.025	0.0013	1	10/05/18 13:39	10/08/18 19:49	7440-50-8	
Lead	ND	mg/L	0.0050	0.00027	1	10/05/18 13:39	10/08/18 19:49	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	10/05/18 13:39	10/08/18 19:49	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	10/05/18 13:39	10/08/18 19:49	7439-98-7	
Nickel	ND	mg/L	0.010	0.00095	1	10/05/18 13:39	10/08/18 19:49	7440-02-0	
Selenium	ND	mg/L	0.010	0.0014	1	10/05/18 13:39	10/08/18 19:49	7782-49-2	
Silver	ND	mg/L	0.010	0.00095	1	10/05/18 13:39	10/08/18 19:49	7440-22-4	
Thallium	ND	mg/L	0.0010	0.00014	1	10/05/18 13:39	10/08/18 19:49	7440-28-0	
Vanadium	ND	mg/L	0.010	0.0019	1	10/05/18 13:39	10/08/18 19:49	7440-62-2	
Zinc	**0.0046J**	mg/L	0.010	0.0021	1	10/05/18 13:39	10/08/18 19:49	7440-66-6	B
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	10/09/18 10:40	10/09/18 14:43	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**12.0J**	mg/L	25.0	10.0	1		10/08/18 17:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.089J**	mg/L	0.25	0.024	1		10/05/18 04:46	16887-00-6	B
Fluoride	ND	mg/L	0.30	0.029	1		10/05/18 04:46	16984-48-8	
Sulfate	ND	mg/L	1.0	0.017	1		10/05/18 04:46	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 Hammond - Huffaker Road
Pace Project No.: 2610031

Sample: FB-02 **Lab ID: 2610031002** Collected: 10/02/18 18:00 Received: 10/03/18 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	10/05/18 13:39	10/08/18 19:55	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	10/05/18 13:39	10/08/18 19:55	7440-38-2	
Barium	ND	mg/L	0.010	0.00078	1	10/05/18 13:39	10/08/18 19:55	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	10/05/18 13:39	10/08/18 19:55	7440-41-7	
Boron	ND	mg/L	0.040	0.0039	1	10/05/18 13:39	10/08/18 19:55	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	10/05/18 13:39	10/08/18 19:55	7440-43-9	
Calcium	ND	mg/L	0.50	0.014	1	10/05/18 13:39	10/08/18 19:55	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	10/05/18 13:39	10/08/18 19:55	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	10/05/18 13:39	10/08/18 19:55	7440-48-4	
Copper	ND	mg/L	0.025	0.0013	1	10/05/18 13:39	10/08/18 19:55	7440-50-8	
Lead	ND	mg/L	0.0050	0.00027	1	10/05/18 13:39	10/08/18 19:55	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	10/05/18 13:39	10/08/18 19:55	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	10/05/18 13:39	10/08/18 19:55	7439-98-7	
Nickel	ND	mg/L	0.010	0.00095	1	10/05/18 13:39	10/08/18 19:55	7440-02-0	
Selenium	ND	mg/L	0.010	0.0014	1	10/05/18 13:39	10/08/18 19:55	7782-49-2	
Silver	ND	mg/L	0.010	0.00095	1	10/05/18 13:39	10/08/18 19:55	7440-22-4	
Thallium	ND	mg/L	0.0010	0.00014	1	10/05/18 13:39	10/08/18 19:55	7440-28-0	
Vanadium	ND	mg/L	0.010	0.0019	1	10/05/18 13:39	10/08/18 19:55	7440-62-2	
Zinc	**0.0032J**	mg/L	0.010	0.0021	1	10/05/18 13:39	10/08/18 19:55	7440-66-6	B
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	10/09/18 10:40	10/09/18 14:50	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**14.0J**	mg/L	25.0	10.0	1		10/08/18 17:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.073J**	mg/L	0.25	0.024	1		10/05/18 05:06	16887-00-6	B
Fluoride	ND	mg/L	0.30	0.029	1		10/05/18 05:06	16984-48-8	
Sulfate	ND	mg/L	1.0	0.017	1		10/05/18 05:06	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 Hammond - Huffaker Road
Pace Project No.: 2610031

QC Batch: 14995 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
Associated Lab Samples: 2610031001, 2610031002

METHOD BLANK: 67141 Matrix: Water
Associated Lab Samples: 2610031001, 2610031002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.000036	10/09/18 13:40	

LABORATORY CONTROL SAMPLE: 67142

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	.0025	0.0027	109	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 67143 67144

Parameter	Units	269871003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	.0025	.0025	0.0025	0.0022	101	87	75-125	15	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 Hammond - Huffaker Road
Pace Project No.: 2610031

QC Batch: 14855 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 2610031001, 2610031002

METHOD BLANK: 66522 Matrix: Water
Associated Lab Samples: 2610031001, 2610031002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00078	10/08/18 18:29	
Arsenic	mg/L	ND	0.0050	0.00057	10/08/18 18:29	
Barium	mg/L	ND	0.010	0.00078	10/08/18 18:29	
Beryllium	mg/L	ND	0.0030	0.000050	10/08/18 18:29	
Boron	mg/L	ND	0.040	0.0039	10/08/18 18:29	
Cadmium	mg/L	ND	0.0010	0.000093	10/08/18 18:29	
Calcium	mg/L	ND	0.50	0.014	10/08/18 18:29	
Chromium	mg/L	ND	0.010	0.0016	10/08/18 18:29	
Cobalt	mg/L	ND	0.010	0.00052	10/08/18 18:29	
Copper	mg/L	ND	0.025	0.0013	10/08/18 18:29	
Lead	mg/L	ND	0.0050	0.00027	10/08/18 18:29	
Lithium	mg/L	ND	0.050	0.00097	10/08/18 18:29	
Molybdenum	mg/L	ND	0.010	0.0019	10/08/18 18:29	
Nickel	mg/L	ND	0.010	0.00095	10/08/18 18:29	
Selenium	mg/L	ND	0.010	0.0014	10/08/18 18:29	
Silver	mg/L	ND	0.010	0.00095	10/08/18 18:29	
Thallium	mg/L	ND	0.0010	0.00014	10/08/18 18:29	
Vanadium	mg/L	ND	0.010	0.0019	10/08/18 18:29	
Zinc	mg/L	0.0030J	0.010	0.0021	10/08/18 18:29	

LABORATORY CONTROL SAMPLE: 66523

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	.1	0.11	106	80-120	
Arsenic	mg/L	.1	0.10	103	80-120	
Barium	mg/L	.1	0.10	102	80-120	
Beryllium	mg/L	.1	0.11	111	80-120	
Boron	mg/L	1	1.0	104	80-120	
Cadmium	mg/L	.1	0.10	102	80-120	
Calcium	mg/L	1	1.0	102	80-120	
Chromium	mg/L	.1	0.10	103	80-120	
Cobalt	mg/L	.1	0.097	97	80-120	
Copper	mg/L	.1	0.10	100	80-120	
Lead	mg/L	.1	0.10	102	80-120	
Lithium	mg/L	.1	0.11	110	80-120	
Molybdenum	mg/L	.1	0.10	103	80-120	
Nickel	mg/L	.1	0.099	99	80-120	
Selenium	mg/L	.1	0.10	102	80-120	
Silver	mg/L	.1	0.10	102	80-120	
Thallium	mg/L	.1	0.10	102	80-120	

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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 Hammond - Huffaker Road
Pace Project No.: 2610031

LABORATORY CONTROL SAMPLE: 66523

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Vanadium	mg/L	.1	0.10	104	80-120	
Zinc	mg/L	.1	0.11	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 66524 66525

Parameter	Units	2610033001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	.1	.1	0.11	0.10	109	102	75-125	7	20	
Arsenic	mg/L	0.0014J	.1	.1	0.11	0.10	104	102	75-125	2	20	
Barium	mg/L	0.089	.1	.1	0.19	0.18	102	94	75-125	4	20	
Beryllium	mg/L	ND	.1	.1	0.095	0.094	95	94	75-125	1	20	
Boron	mg/L	0.43	1	1	1.3	1.3	89	90	75-125	0	20	
Cadmium	mg/L	ND	.1	.1	0.10	0.10	101	100	75-125	1	20	
Calcium	mg/L	42.5	1	1	41.5	42.3	-94	-14	75-125	2	20	M6
Chromium	mg/L	ND	.1	.1	0.10	0.098	100	98	75-125	3	20	
Cobalt	mg/L	0.00081J	.1	.1	0.099	0.096	98	95	75-125	3	20	
Copper	mg/L	ND	.1	.1	0.098	0.095	98	95	75-125	4	20	
Lead	mg/L	ND	.1	.1	0.10	0.097	100	97	75-125	3	20	
Lithium	mg/L	0.0013J	.1	.1	0.095	0.096	93	95	75-125	2	20	
Molybdenum	mg/L	ND	.1	.1	0.11	0.10	106	101	75-125	5	20	
Nickel	mg/L	ND	.1	.1	0.098	0.096	97	96	75-125	2	20	
Selenium	mg/L	ND	.1	.1	0.10	0.099	100	99	75-125	2	20	
Silver	mg/L	ND	.1	.1	0.10	0.098	101	98	75-125	3	20	
Thallium	mg/L	ND	.1	.1	0.10	0.096	101	96	75-125	5	20	
Vanadium	mg/L	ND	.1	.1	0.10	0.10	103	101	75-125	2	20	
Zinc	mg/L	0.0041J	.1	.1	0.11	0.10	102	99	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 Hammond - Huffaker Road
Pace Project No.: 2610031

QC Batch: 14909
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2610031001, 2610031002

LABORATORY CONTROL SAMPLE: 66853

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	408	102	84-108	

SAMPLE DUPLICATE: 66854

Parameter	Units	2610027005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	693	699	1	10	

SAMPLE DUPLICATE: 66855

Parameter	Units	2610112002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	328	330	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 Hammond - Huffaker Road
Pace Project No.: 2610031

QC Batch: 14765 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2610031001, 2610031002

METHOD BLANK: 65945 Matrix: Water
Associated Lab Samples: 2610031001, 2610031002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.078J	0.25	0.024	10/04/18 21:11	
Fluoride	mg/L	ND	0.30	0.029	10/04/18 21:11	
Sulfate	mg/L	ND	1.0	0.017	10/04/18 21:11	

LABORATORY CONTROL SAMPLE: 65946

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.4	104	90-110	
Fluoride	mg/L	10	10.4	104	90-110	
Sulfate	mg/L	10	10.2	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 65947 65948

Parameter	Units	269951001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2.2	10	10	12.4	12.4	102	101	90-110	0	15	
Fluoride	mg/L	ND	10	10	10.4	10.3	104	103	90-110	0	15	
Sulfate	mg/L	1.0	10	10	11.3	11.1	102	100	90-110	2	15	

MATRIX SPIKE SAMPLE: 65949

Parameter	Units	269951002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5.6	10	15.5	99	90-110	
Fluoride	mg/L	ND	10	10.4	104	90-110	
Sulfate	mg/L	0.52J	10	10.7	101	90-110	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610031

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
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 Hammond - Huffaker Road
Pace Project No.: 2610031

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2610031001	**EB-01**	EPA 3005A	14855	EPA 6020B	14882
2610031002	**FB-02**	EPA 3005A	14855	EPA 6020B	14882
2610031001	**EB-01**	EPA 7470A	14995	EPA 7470A	15035
2610031002	**FB-02**	EPA 7470A	14995	EPA 7470A	15035
2610031001	**EB-01**	SM 2540C	14909		
2610031002	**FB-02**	SM 2540C	14909		
2610031001	**EB-01**	EPA 300.0	14765		
2610031002	**FB-02**	EPA 300.0	14765		

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:	Joju Abraham / Lauren Petty	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Geosyntec	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:	SCS10348606	Pace Quote:	
Phone:	(404)506-7239 Fax	Project Name:	Plant Hammond - Huffaker Road	Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	328.3

Regulatory Agency	
State / Location	GA

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 (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals (App. III + State) *	TDS,Chloride,Fluoride,Sulfat	Metals (App IV)**	Residual Chlorine (Y/N)
1	FB-01	WT	G	10/02/18	1805	10/02/18	1815	25	4	1		3						Y	Y	Y	Y	N
2	FB-02	WT	G	10/02/18	1750	10/02/18	1800	25	4	1		3						Y	Y	Y	Y	N
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

NM 10/02/18

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
* Metals list: Sb,As,Ba,Be,B,Cd,Ca,Cr,Co,Cu,Pb,Ni,Se,Ag,Tl,V,Zn	Nadia Mushus	10/02/18	1825	Nardos Tilahun	10/2/18	1830
** Metals App IV: Li, Hg, Mo	Nardos Tilahun	10/2/18	2030	[illegible] Lew	10/2/18	2030
	[illegible] Lew	10/3/18	1000	Mike Nguyen / Pace	10/2/18	1000
				M Zaliman	10/3/18	1300

SAMPLE CONDITIONS			
TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
4C	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Nadia Muskus

SIGNATURE of SAMPLER: Nadia Muskus DATE Signed: 10/02/18

WO# : 2610031

2610031

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 2610031

PM: BM Due Date: 10/10/18

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 83 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 4°C Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 10/03/18 MP

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: GW		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed: Lot # of added preservative:
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

October 26, 2018

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610032

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on October 03, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Maria Padilla, Georgia Power
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610032

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610032

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2610032001	**EB-01**	Water	10/02/18 18:15	10/03/18 13:00
2610032002	**FB-02**	Water	10/02/18 18:00	10/03/18 13:00

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610032

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2610032001	**EB-01**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2610032002	**FB-02**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610032

Sample: EB-01 **Lab ID: 2610032001** Collected: 10/02/18 18:15 Received: 10/03/18 13:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.144 ± 0.145 (0.277) C:93% T:NA**	pCi/L	10/17/18 10:01	13982-63-3	
Radium-228	EPA 9320	**0.169 ± 0.285 (0.620) C:74% T:84%**	pCi/L	10/18/18 16:10	15262-20-1	
Total Radium	Total Radium Calculation	**0.313 ± 0.430 (0.897)**	pCi/L	10/22/18 12:11	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 Hammond - Huffaker Road
Pace Project No.: 2610032

Sample: FB-02 **Lab ID: 2610032002** Collected: 10/02/18 18:00 Received: 10/03/18 13:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.313 ± 0.257 (0.436) C:96% T:NA**	pCi/L	10/17/18 10:01	13982-63-3	
Radium-228	EPA 9320	**0.521 ± 0.421 (0.842) C:75% T:82%**	pCi/L	10/18/18 16:24	15262-20-1	
Total Radium	Total Radium Calculation	**0.834 ± 0.678 (1.28)**	pCi/L	10/22/18 12:11	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 Hammond - Huffaker Road
Pace Project No.: 2610032

QC Batch: 315903 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 2610032001, 2610032002

METHOD BLANK: 1541952 Matrix: Water
Associated Lab Samples: 2610032001, 2610032002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.882 ± 0.409 (0.676) C:77% T:84%	pCi/L	10/18/18 16:11	

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 Hammond - Huffaker Road
Pace Project No.: 2610032

QC Batch: 315902 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 2610032001, 2610032002

METHOD BLANK: 1541951 Matrix: Water
Associated Lab Samples: 2610032001, 2610032002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0238 ± 0.0883 (0.229) C:97% T:NA	pCi/L	10/17/18 10:01	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610032

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610032

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2610032001	**EB-01**	EPA 9315	315902		
2610032002	**FB-02**	EPA 9315	315902		
2610032001	**EB-01**	EPA 9320	315903		
2610032002	**FB-02**	EPA 9320	315903		
2610032001	**EB-01**	Total Radium Calculation	317509		
2610032002	**FB-02**	Total Radium Calculation	317509		

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	

Section B — Required Project Information:

Report To:	Joju Abraham / Lauren Petty
Copy To:	Geosyntec
Purchase Order #:	SCS10348606
Project Name:	Plant Hammond - Huffaker Road
Project #:	

Section C — Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Pace Profile #:	328.3

Regulatory Agency:

State / Location: GA

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

Requested Analysis Filtered (Y/N): N N 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)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals (App. III + State) *	TDS,Chloride,Fluoride,Sulfat	Metals (App IV) **								Residual Chlorine (Y/N)
1	FB-01	WT	G	10/02/18	1805	10/02/18	1815	25	4	1		3							Y	Y	Y								N
2	FB-02	WT	G	10/02/18	1750	10/02/18	1800	25	4	1		3							Y	Y	Y								N
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

NM 10/02/18 NM 10/02/18 NM 10/02/18 NM 10/02/18 NM 10/02/18 NM 10/02/18

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
* Metals list: Sb,As,Ba,Be,B,Cd,Ca,Cr,Co,Cu,Pb,Ni,Se,Ag,Tl,V,Zn	Noelia Muskus	10/02/18	1825	Nardos Tilahun	10/2/18	1830	
** Metals App IV : Li, Hg, Mo	Nardos Tilahun	10/2/18	2030	[signature]	10/2/18	2030	
	[signature]	10/3/18	1000	Mike Nguyen / Pace	10/2/18	1000	
				M Dalman	10/3/18	1300	4.8 Y Y Y

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
4.8	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Noelia Muskus

SIGNATURE of SAMPLER: Noelia Muskus DATE Signed: 10/02/18

WO#: 2610032

2610032

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 2610032

PM: BM Due Date: 10/31/18

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used: B3 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 4°C Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 10/03/18 mp

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: GW		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed: Lot # of added preservative:
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

October 15, 2018

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610116

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on October 04, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Maria Padilla, Georgia Power
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610116

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Texas Certification #: T104704397-08-TX
Virginia Certification #: 460204

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610116

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2610116001	**FB-03**	Water	10/03/18 16:49	10/04/18 12:30
2610116002	**EB-02**	Water	10/03/18 17:01	10/04/18 12:30

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610116

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2610116001	**FB-03**	EPA 6020B	CSW	19
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
2610116002	**EB-02**	EPA 6020B	CSW	19
		EPA 7470A	DRB	1
		EPA 300.0	RLC	3

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610116

Sample: FB-03 **Lab ID: 2610116001** Collected: 10/03/18 16:49 Received: 10/04/18 12:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	10/09/18 14:10	10/11/18 20:00	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	10/09/18 14:10	10/11/18 20:00	7440-38-2	
Barium	ND	mg/L	0.010	0.00078	1	10/09/18 14:10	10/11/18 20:00	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	10/09/18 14:10	10/11/18 20:00	7440-41-7	
Boron	**0.0048J**	mg/L	0.040	0.0039	1	10/09/18 14:10	10/11/18 20:00	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	10/09/18 14:10	10/11/18 20:00	7440-43-9	
Calcium	ND	mg/L	0.50	0.014	1	10/09/18 14:10	10/11/18 20:00	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	10/09/18 14:10	10/11/18 20:00	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	10/09/18 14:10	10/11/18 20:00	7440-48-4	
Copper	ND	mg/L	0.025	0.0013	1	10/09/18 14:10	10/11/18 20:00	7440-50-8	
Lead	ND	mg/L	0.0050	0.00027	1	10/09/18 14:10	10/11/18 20:00	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	10/09/18 14:10	10/11/18 20:00	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	10/09/18 14:10	10/11/18 20:00	7439-98-7	
Nickel	ND	mg/L	0.010	0.00095	1	10/09/18 14:10	10/11/18 20:00	7440-02-0	
Selenium	ND	mg/L	0.010	0.0014	1	10/09/18 14:10	10/11/18 20:00	7782-49-2	
Silver	ND	mg/L	0.010	0.00095	1	10/09/18 14:10	10/11/18 20:00	7440-22-4	
Thallium	ND	mg/L	0.0010	0.00014	1	10/09/18 14:10	10/11/18 20:00	7440-28-0	
Vanadium	ND	mg/L	0.010	0.0019	1	10/09/18 14:10	10/11/18 20:00	7440-62-2	
Zinc	**0.0026J**	mg/L	0.010	0.0021	1	10/09/18 14:10	10/11/18 20:00	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	10/10/18 08:25	10/10/18 12:29	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**15.0J**	mg/L	25.0	10.0	1		10/08/18 17:48		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.071J**	mg/L	0.25	0.024	1		10/09/18 07:23	16887-00-6	B
Fluoride	ND	mg/L	0.30	0.029	1		10/09/18 07:23	16984-48-8	
Sulfate	**0.056J**	mg/L	1.0	0.017	1		10/09/18 07:23	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 Hammond - Huffaker Road
Pace Project No.: 2610116

Sample: EB-02 **Lab ID: 2610116002** Collected: 10/03/18 17:01 Received: 10/04/18 12:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	10/09/18 14:10	10/11/18 20:06	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	10/09/18 14:10	10/11/18 20:06	7440-38-2	
Barium	ND	mg/L	0.010	0.00078	1	10/09/18 14:10	10/11/18 20:06	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	10/09/18 14:10	10/11/18 20:06	7440-41-7	
Boron	ND	mg/L	0.040	0.0039	1	10/09/18 14:10	10/11/18 20:06	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	10/09/18 14:10	10/11/18 20:06	7440-43-9	
Calcium	ND	mg/L	0.50	0.014	1	10/09/18 14:10	10/11/18 20:06	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	10/09/18 14:10	10/11/18 20:06	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	10/09/18 14:10	10/11/18 20:06	7440-48-4	
Copper	ND	mg/L	0.025	0.0013	1	10/09/18 14:10	10/11/18 20:06	7440-50-8	
Lead	ND	mg/L	0.0050	0.00027	1	10/09/18 14:10	10/11/18 20:06	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	10/09/18 14:10	10/11/18 20:06	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	10/09/18 14:10	10/11/18 20:06	7439-98-7	
Nickel	ND	mg/L	0.010	0.00095	1	10/09/18 14:10	10/11/18 20:06	7440-02-0	
Selenium	ND	mg/L	0.010	0.0014	1	10/09/18 14:10	10/11/18 20:06	7782-49-2	
Silver	ND	mg/L	0.010	0.00095	1	10/09/18 14:10	10/11/18 20:06	7440-22-4	
Thallium	ND	mg/L	0.0010	0.00014	1	10/09/18 14:10	10/11/18 20:06	7440-28-0	
Vanadium	ND	mg/L	0.010	0.0019	1	10/09/18 14:10	10/11/18 20:06	7440-62-2	
Zinc	**0.0029J**	mg/L	0.010	0.0021	1	10/09/18 14:10	10/11/18 20:06	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	10/10/18 08:25	10/10/18 12:32	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.098J**	mg/L	0.25	0.024	1		10/09/18 09:16	16887-00-6	B
Fluoride	ND	mg/L	0.30	0.029	1		10/09/18 09:16	16984-48-8	
Sulfate	ND	mg/L	1.0	0.017	1		10/09/18 09:16	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 Hammond - Huffaker Road
Pace Project No.: 2610116

QC Batch: 15032 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
Associated Lab Samples: 2610116001, 2610116002

METHOD BLANK: 67254 Matrix: Water
Associated Lab Samples: 2610116001, 2610116002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.000036	10/10/18 11:47	

LABORATORY CONTROL SAMPLE: 67255

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	.0025	0.0025	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 67256 67257

Parameter	Units	269791027 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	.0025	.0025	0.0026	0.0026	103	105	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 Hammond - Huffaker Road
Pace Project No.: 2610116

QC Batch: 15013
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020B MET
Associated Lab Samples: 2610116001, 2610116002

METHOD BLANK: 67190
Matrix: Water
Associated Lab Samples: 2610116001, 2610116002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00078	10/11/18 17:43	
Arsenic	mg/L	ND	0.0050	0.00057	10/11/18 17:43	
Barium	mg/L	ND	0.010	0.00078	10/11/18 17:43	
Beryllium	mg/L	ND	0.0030	0.000050	10/11/18 17:43	
Boron	mg/L	ND	0.040	0.0039	10/11/18 17:43	
Cadmium	mg/L	ND	0.0010	0.000093	10/11/18 17:43	
Calcium	mg/L	ND	0.50	0.014	10/11/18 17:43	
Chromium	mg/L	ND	0.010	0.0016	10/11/18 17:43	
Cobalt	mg/L	ND	0.010	0.00052	10/11/18 17:43	
Copper	mg/L	ND	0.025	0.0013	10/11/18 17:43	
Lead	mg/L	ND	0.0050	0.00027	10/11/18 17:43	
Lithium	mg/L	ND	0.050	0.00097	10/11/18 17:43	
Molybdenum	mg/L	ND	0.010	0.0019	10/11/18 17:43	
Nickel	mg/L	ND	0.010	0.00095	10/11/18 17:43	
Selenium	mg/L	ND	0.010	0.0014	10/11/18 17:43	
Silver	mg/L	ND	0.010	0.00095	10/11/18 17:43	
Thallium	mg/L	ND	0.0010	0.00014	10/11/18 17:43	
Vanadium	mg/L	ND	0.010	0.0019	10/11/18 17:43	
Zinc	mg/L	ND	0.010	0.0021	10/11/18 17:43	

LABORATORY CONTROL SAMPLE: 67191

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	.1	0.10	102	80-120	
Arsenic	mg/L	.1	0.098	98	80-120	
Barium	mg/L	.1	0.097	97	80-120	
Beryllium	mg/L	.1	0.10	100	80-120	
Boron	mg/L	1	0.98	98	80-120	
Cadmium	mg/L	.1	0.10	100	80-120	
Calcium	mg/L	1	1.0	101	80-120	
Chromium	mg/L	.1	0.099	99	80-120	
Cobalt	mg/L	.1	0.097	97	80-120	
Copper	mg/L	.1	0.10	101	80-120	
Lead	mg/L	.1	0.10	100	80-120	
Lithium	mg/L	.1	0.097	97	80-120	
Molybdenum	mg/L	.1	0.10	100	80-120	
Nickel	mg/L	.1	0.10	100	80-120	
Selenium	mg/L	.1	0.098	98	80-120	
Silver	mg/L	.1	0.097	97	80-120	
Thallium	mg/L	.1	0.098	98	80-120	

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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 Hammond - Huffaker Road
Pace Project No.: 2610116

LABORATORY CONTROL SAMPLE: 67191

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Vanadium	mg/L	.1	0.10	100	80-120	
Zinc	mg/L	.1	0.10	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 67194 67195

Parameter	Units	2610117002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	.1	.1	0.11	0.11	108	110	75-125	2	20	
Arsenic	mg/L	ND	.1	.1	0.11	0.11	106	108	75-125	2	20	
Barium	mg/L	0.028	.1	.1	0.13	0.13	101	103	75-125	1	20	
Beryllium	mg/L	ND	.1	.1	0.096	0.096	96	96	75-125	0	20	
Boron	mg/L	6.9	1	1	9.9	8.0	295	107	75-125	21	20	R1
Cadmium	mg/L	ND	.1	.1	0.10	0.10	104	104	75-125	1	20	
Calcium	mg/L	286	1	1	348	284	6160	-242	75-125	20	20	M6
Chromium	mg/L	ND	.1	.1	0.10	0.10	102	102	75-125	1	20	
Cobalt	mg/L	0.016	.1	.1	0.12	0.12	102	99	75-125	2	20	
Copper	mg/L	ND	.1	.1	0.10	0.096	100	96	75-125	4	20	
Lead	mg/L	ND	.1	.1	0.098	0.099	98	99	75-125	1	20	
Lithium	mg/L	ND	.1	.1	0.099	0.097	98	97	75-125	1	20	
Molybdenum	mg/L	ND	.1	.1	0.11	0.11	109	108	75-125	1	20	
Nickel	mg/L	0.0024J	.1	.1	0.10	0.10	101	99	75-125	1	20	
Selenium	mg/L	ND	.1	.1	0.11	0.11	105	105	75-125	0	20	
Silver	mg/L	ND	.1	.1	0.097	0.097	97	97	75-125	0	20	
Thallium	mg/L	ND	.1	.1	0.10	0.10	100	99	75-125	1	20	
Vanadium	mg/L	ND	.1	.1	0.11	0.11	105	106	75-125	1	20	
Zinc	mg/L	0.0034J	.1	.1	0.10	0.10	98	99	75-125	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610116

QC Batch: 14910
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2610116001

LABORATORY CONTROL SAMPLE: 66856

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	400	100	84-108	

SAMPLE DUPLICATE: 66857

Parameter	Units	2610112003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	238	232	3	10	

SAMPLE DUPLICATE: 66858

Parameter	Units	2610117001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	700	615	13	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: Plant Hammond - Huffaker Road
Pace Project No.: 2610116

QC Batch: 14939 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2610116001, 2610116002

METHOD BLANK: 66933 Matrix: Water
Associated Lab Samples: 2610116001, 2610116002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.078J	0.25	0.024	10/08/18 16:40	
Fluoride	mg/L	ND	0.30	0.029	10/08/18 16:40	
Sulfate	mg/L	ND	1.0	0.017	10/08/18 16:40	

LABORATORY CONTROL SAMPLE: 66934

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.3	103	90-110	
Fluoride	mg/L	10	10.2	102	90-110	
Sulfate	mg/L	10	11.0	110	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 66935 66936

Parameter	Units	2610035001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.7	10	10	11.7	11.7	101	101	90-110	0	15	
Fluoride	mg/L	0.076J	10	10	10.0	10.0	99	100	90-110	0	15	
Sulfate	mg/L	38.5	10	10	44.7	44.8	62	63	90-110	0	15	M1

MATRIX SPIKE SAMPLE: 66937

Parameter	Units	2610037001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	3.1	10	13.4	103	90-110	
Fluoride	mg/L	0.22J	10	10.3	101	90-110	
Sulfate	mg/L	48.6	10	53.6	50	90-110	E

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 Hammond - Huffaker Road
Pace Project No.: 2610116

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
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 Hammond - Huffaker Road
Pace Project No.: 2610116

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2610116001	**FB-03**	EPA 3005A	15013	EPA 6020B	15073
2610116002	**EB-02**	EPA 3005A	15013	EPA 6020B	15073
2610116001	**FB-03**	EPA 7470A	15032	EPA 7470A	15116
2610116002	**EB-02**	EPA 7470A	15032	EPA 7470A	15116
2610116001	**FB-03**	SM 2540C	14910		
2610116001	**FB-03**	EPA 300.0	14939		
2610116002	**EB-02**	EPA 300.0	14939		

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 / Lauren Petty	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Geosyntec	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:	SCS10348606	Pace Quote:	
Phone:	(404)506-7239 Fax	Project Name:	Plant Hammond - Huffaker Road	Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Requested Due Date:	Standard TAT	Project #:	GW6581	Pace Profile #:	328 3

Regulatory Agency

State / Location: GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: Metals (App. III + State) *	TDS,Chloride,Fluoride,Sulfate	Metals (App III) **	Residual Chlorine (Y/N)
1	FB-03	WT	G	10/03/18	1639	10/03/18	1649	26°C	4	1		3						Y	Y	Y	Y	N
2	EB-02	WT	G	10/03/18	1651	10/03/18	1701	26°C	4	1		3						Y	Y	Y	Y	N
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

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

NM 10/03/18 NM 10/03/18 NM 10/03/18

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
* Metals list: Sb,As,Ba,Be,B,Cd,Ca,Cr,Co,Cu,Pb,Ni,Se,Ag,Tl,V,Zn	Noelia Muskus	10/03/18	17:45	Nardos Tilahun	10/3/18	17:45	
** Metals App III: Li, Hg, Mo	Nardos Tilahun	10/3/18	19:30	Letts Lowe	10/4/18	19:30	
	Letts Lowe	10/4/18	1000	Mike Nguyen / Pace	10/4/18	1000	
				M2aNman	10/4/18	1230	20°C Y Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Noelia Muskus

SIGNATURE of SAMPLER: Noelia Muskus DATE Signed: 10/03/18

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
20°C	Y	Y	Y

WO#: 2610116

2610116

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 2610116

PM: BM Due Date: 10/11/18

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 83 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 2°C Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 10/04/18 MK

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)

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

October 29, 2018

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610118

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on October 04, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Maria Padilla, Georgia Power
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610118

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

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110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610118

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2610118001	**FB-03**	Water	10/03/18 16:49	10/04/18 12:30
2610118002	**EB-02**	Water	10/03/18 17:01	10/04/18 12:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610118

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2610118001	**FB-03**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2610118002	**EB-02**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610118

Sample: FB-03 **Lab ID: 2610118001** Collected: 10/03/18 16:49 Received: 10/04/18 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0651 ± 0.149 (0.353) C:96% T:NA**	pCi/L	10/17/18 09:37	13982-63-3	
Radium-228	EPA 9320	**0.355 ± 0.346 (0.706) C:71% T:82%**	pCi/L	10/19/18 14:21	15262-20-1	
Total Radium	Total Radium Calculation	**0.420 ± 0.495 (1.06)**	pCi/L	10/22/18 12:29	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610118

Sample: EB-02 **Lab ID: 2610118002** Collected: 10/03/18 17:01 Received: 10/04/18 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.0323 ± 0.0875 (0.217) C:97% T:NA**	pCi/L	10/17/18 09:37	13982-63-3	
Radium-228	EPA 9320	**0.0225 ± 0.322 (0.748) C:74% T:84%**	pCi/L	10/19/18 14:21	15262-20-1	
Total Radium	Total Radium Calculation	**0.0548 ± 0.410 (0.965)**	pCi/L	10/22/18 12:29	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610118

QC Batch: 316253 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 2610118001, 2610118002

METHOD BLANK: 1543390 Matrix: Water
Associated Lab Samples: 2610118001, 2610118002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.293 ± 0.309 (0.637) C:77% T:81%	pCi/L	10/19/18 11:16	

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 Hammond - Huffaker Road
Pace Project No.: 2610118

QC Batch: 316252 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 2610118001, 2610118002

METHOD BLANK: 1543389 Matrix: Water
Associated Lab Samples: 2610118001, 2610118002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.132 ± 0.137 (0.260) C:96% T:NA	pCi/L	10/17/18 09:36	

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 Hammond - Huffaker Road
Pace Project No.: 2610118

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610118

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2610118001	**FB-03**	EPA 9315	316252		
2610118002	**EB-02**	EPA 9315	316252		
2610118001	**FB-03**	EPA 9320	316253		
2610118002	**EB-02**	EPA 9320	316253		
2610118001	**FB-03**	Total Radium Calculation	317515		
2610118002	**EB-02**	Total Radium Calculation	317515		

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 / Lauren Petty	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Geosyntec	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #	SCS10348606	Pace Quote:	
Phone:	(404)506-7239 Fax	Project Name:	Plant Hammond - Huffaker Road	Pace Project Manager:	betsy mcdaniel@pacelabs.com,
Requested Due Date:	Standard TAT	Project #:	GW6501	Pace Profile #:	328.3

Regulatory Agency: —

State / Location: GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals (App. III + State) *	TDS,Chloride,Fluoride,Sulfat	Metals (App III) **	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				
1	FB-03	WT	G	10/03/18	1639	10/03/18	1649	26.3	4	1		3						N	Y	Y	Y	N
2	EB-02	WT	G	10/03/18	1651	10/03/18	1701	26.0	4	1		3						N	Y	Y	Y	N
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

NM 10/03/18 NM 10/03/18 NM 10/03/18

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
* Metals list: Sb,As,Ba,Be,B,Cd,Ca,Cr,Co,Cu,Pb,Ni,Se,Ag,Tl,V,Zn	Naelia Muskus	10/03/18	17:45	Nardos Tilahun	10/3/18	17:45	
** Metals App III: Li, Hg, Mo	Nardos Tilahun	10/3/18	19:30	[illegible]	10/4/18	19:30	
	[illegible]	10/4/18	1000	Mike Nguyen / Pace	10/4/18	1000	
				[signature]	10/4/18	1230	20°F Y Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Naelia Muskus

SIGNATURE of SAMPLER: Naelia Muskus DATE Signed: 10/03/18

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
20°F	Y	Y	Y

WO# : 2610118

2610118

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power Project #

WO#: 2610118

PM: BM Due Date: 11/01/18

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 83 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 2°C Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 10/04/18 MR

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12. See Comment.
-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: The Radiums were not on the COC but samples were present.

Project Manager Review: **Date:**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

October 15, 2018

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610161

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on October 05, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Maria Padilla, Georgia Power
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
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(770)734-4200

CERTIFICATIONS

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610161

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Texas Certification #: T104704397-08-TX
Virginia Certification #: 460204

Pace Analytical Services, LLC
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SAMPLE SUMMARY

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610161

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2610161001	**FB-04**	Water	10/04/18 17:00	10/05/18 11:30

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SAMPLE ANALYTE COUNT

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610161

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2610161001	**FB-04**	EPA 6020B	CSW	19
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3

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ANALYTICAL RESULTS

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610161

Sample: FB-04 **Lab ID: 2610161001** Collected: 10/04/18 17:00 Received: 10/05/18 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	10/09/18 16:23	10/12/18 17:42	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	10/09/18 16:23	10/12/18 17:42	7440-38-2	
Barium	ND	mg/L	0.010	0.00078	1	10/09/18 16:23	10/12/18 17:42	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	10/09/18 16:23	10/12/18 17:42	7440-41-7	
Boron	ND	mg/L	0.040	0.0039	1	10/09/18 16:23	10/12/18 17:42	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	10/09/18 16:23	10/12/18 17:42	7440-43-9	
Calcium	ND	mg/L	0.50	0.014	1	10/09/18 16:23	10/12/18 17:42	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	10/09/18 16:23	10/12/18 17:42	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	10/09/18 16:23	10/12/18 17:42	7440-48-4	
Copper	ND	mg/L	0.025	0.0013	1	10/09/18 16:23	10/12/18 17:42	7440-50-8	
Lead	ND	mg/L	0.0050	0.00027	1	10/09/18 16:23	10/12/18 17:42	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	10/09/18 16:23	10/12/18 17:42	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	10/09/18 16:23	10/12/18 17:42	7439-98-7	
Nickel	ND	mg/L	0.010	0.00095	1	10/09/18 16:23	10/12/18 17:42	7440-02-0	
Selenium	ND	mg/L	0.010	0.0014	1	10/09/18 16:23	10/12/18 17:42	7782-49-2	
Silver	ND	mg/L	0.010	0.00095	1	10/09/18 16:23	10/12/18 17:42	7440-22-4	
Thallium	ND	mg/L	0.0010	0.00014	1	10/09/18 16:23	10/12/18 17:42	7440-28-0	
Vanadium	ND	mg/L	0.010	0.0019	1	10/09/18 16:23	10/12/18 17:42	7440-62-2	
Zinc	**0.0042J**	mg/L	0.010	0.0021	1	10/09/18 16:23	10/12/18 17:42	7440-66-6	B
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	10/10/18 08:25	10/10/18 12:34	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	ND	mg/L	25.0	10.0	1		10/08/18 18:02		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.17J**	mg/L	0.25	0.024	1		10/10/18 19:43	16887-00-6	B
Fluoride	ND	mg/L	0.30	0.029	1		10/10/18 19:43	16984-48-8	
Sulfate	ND	mg/L	1.0	0.017	1		10/10/18 19:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610161

QC Batch: 15032
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Associated Lab Samples: 2610161001

METHOD BLANK: 67254 Matrix: Water
Associated Lab Samples: 2610161001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.000036	10/10/18 11:47	

LABORATORY CONTROL SAMPLE: 67255

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	.0025	0.0025	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 67256 67257

Parameter	Units	269791027 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	.0025	.0025	0.0026	0.0026	103	105	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
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(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610161

QC Batch: 15051
QC Batch Method: EPA 3005A
Associated Lab Samples: 2610161001

Analysis Method: EPA 6020B
Analysis Description: 6020B MET

METHOD BLANK: 67344
Matrix: Water
Associated Lab Samples: 2610161001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00078	10/12/18 16:10	
Arsenic	mg/L	ND	0.0050	0.00057	10/12/18 16:10	
Barium	mg/L	ND	0.010	0.00078	10/12/18 16:10	
Beryllium	mg/L	ND	0.0030	0.000050	10/12/18 16:10	
Boron	mg/L	ND	0.040	0.0039	10/12/18 16:10	
Cadmium	mg/L	ND	0.0010	0.000093	10/12/18 16:10	
Calcium	mg/L	ND	0.50	0.014	10/12/18 16:10	
Chromium	mg/L	ND	0.010	0.0016	10/12/18 16:10	
Cobalt	mg/L	ND	0.010	0.00052	10/12/18 16:10	
Copper	mg/L	ND	0.025	0.0013	10/12/18 16:10	
Lead	mg/L	ND	0.0050	0.00027	10/12/18 16:10	
Lithium	mg/L	ND	0.050	0.00097	10/12/18 16:10	
Molybdenum	mg/L	ND	0.010	0.0019	10/12/18 16:10	
Nickel	mg/L	ND	0.010	0.00095	10/12/18 16:10	
Selenium	mg/L	ND	0.010	0.0014	10/12/18 16:10	
Silver	mg/L	ND	0.010	0.00095	10/12/18 16:10	
Thallium	mg/L	ND	0.0010	0.00014	10/12/18 16:10	
Vanadium	mg/L	ND	0.010	0.0019	10/12/18 16:10	
Zinc	mg/L	0.0029J	0.010	0.0021	10/12/18 16:10	

LABORATORY CONTROL SAMPLE: 67345

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	.1	0.11	108	80-120	
Arsenic	mg/L	.1	0.10	103	80-120	
Barium	mg/L	.1	0.10	104	80-120	
Beryllium	mg/L	.1	0.10	105	80-120	
Boron	mg/L	1	1.0	103	80-120	
Cadmium	mg/L	.1	0.10	104	80-120	
Calcium	mg/L	1	1.0	104	80-120	
Chromium	mg/L	.1	0.11	106	80-120	
Cobalt	mg/L	.1	0.10	103	80-120	
Copper	mg/L	.1	0.11	105	80-120	
Lead	mg/L	.1	0.10	103	80-120	
Lithium	mg/L	.1	0.10	105	80-120	
Molybdenum	mg/L	.1	0.10	103	80-120	
Nickel	mg/L	.1	0.11	106	80-120	
Selenium	mg/L	.1	0.10	101	80-120	
Silver	mg/L	.1	0.10	104	80-120	
Thallium	mg/L	.1	0.10	104	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610161

LABORATORY CONTROL SAMPLE: 67345

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Vanadium	mg/L	.1	0.11	105	80-120	
Zinc	mg/L	.1	0.10	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 67346 67347

Parameter	Units	2610159001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	.1	.1	0.11	0.11	109	107	75-125	2	20	
Arsenic	mg/L	ND	.1	.1	0.11	0.10	105	105	75-125	1	20	
Barium	mg/L	0.18	.1	.1	0.29	0.29	116	107	75-125	3	20	
Beryllium	mg/L	ND	.1	.1	0.096	0.094	96	94	75-125	2	20	
Boron	mg/L	0.082	1	1	1.0	1.0	95	92	75-125	3	20	
Cadmium	mg/L	ND	.1	.1	0.10	0.10	104	102	75-125	2	20	
Calcium	mg/L	41.7	1	1	50.9	43.6	917	191	75-125	15	20	M6
Chromium	mg/L	ND	.1	.1	0.11	0.10	108	103	75-125	5	20	
Cobalt	mg/L	ND	.1	.1	0.11	0.10	105	103	75-125	3	20	
Copper	mg/L	ND	.1	.1	0.10	0.10	104	100	75-125	4	20	
Lead	mg/L	ND	.1	.1	0.099	0.098	99	98	75-125	1	20	
Lithium	mg/L	0.011J	.1	.1	0.11	0.11	97	95	75-125	2	20	
Molybdenum	mg/L	ND	.1	.1	0.11	0.10	107	102	75-125	5	20	
Nickel	mg/L	ND	.1	.1	0.10	0.10	104	101	75-125	3	20	
Selenium	mg/L	ND	.1	.1	0.10	0.10	103	101	75-125	2	20	
Silver	mg/L	ND	.1	.1	0.10	0.099	104	99	75-125	4	20	
Thallium	mg/L	ND	.1	.1	0.10	0.10	100	100	75-125	0	20	
Vanadium	mg/L	ND	.1	.1	0.11	0.11	109	106	75-125	3	20	
Zinc	mg/L	0.0041J	.1	.1	0.11	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 Hammond - Huffaker Road
Pace Project No.: 2610161

QC Batch: 14931
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2610161001

LABORATORY CONTROL SAMPLE: 66900

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	406	102	84-108	

SAMPLE DUPLICATE: 66901

Parameter	Units	2610164001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	11.0J	17.0J	43	10	D6

SAMPLE DUPLICATE: 66902

Parameter	Units	2610162002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	135	128	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: Plant Hammond - Huffaker Road
Pace Project No.: 2610161

QC Batch: 15084 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2610161001

METHOD BLANK: 67495 Matrix: Water
Associated Lab Samples: 2610161001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.16J	0.25	0.024	10/10/18 14:23	
Fluoride	mg/L	ND	0.30	0.029	10/10/18 14:23	
Sulfate	mg/L	ND	1.0	0.017	10/10/18 14:23	

LABORATORY CONTROL SAMPLE: 67496

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.5	105	90-110	
Fluoride	mg/L	10	10	100	90-110	
Sulfate	mg/L	10	10.7	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 67497 67498

Parameter	Units	2610158001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	6.1	10	10	16.5	16.5	104	105	90-110	0	15	
Fluoride	mg/L	0.24J	10	10	10.3	10.3	100	100	90-110	0	15	
Sulfate	mg/L	209	10	10	154	154	-555	-554	90-110	0	15	E,M1

MATRIX SPIKE SAMPLE: 67499

Parameter	Units	2610158002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.4	10	11.9	105	90-110	
Fluoride	mg/L	0.17J	10	10.2	100	90-110	
Sulfate	mg/L	5.2	10	15.6	104	90-110	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610161

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610161

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2610161001	**FB-04**	EPA 3005A	15051	EPA 6020B	15111
2610161001	**FB-04**	EPA 7470A	15032	EPA 7470A	15116
2610161001	**FB-04**	SM 2540C	14931		
2610161001	**FB-04**	EPA 300.0	15084		

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 / Lauren Petty	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Geosyntec	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:	SCS10348606	Pace Quote:	
Phone:	(404)506-7239 Fax	Project Name:	Plant Hammond - Huffaker Road	Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Requested Due Date:	Standard TAT	Project #:		Pace Profile #:	328.3

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)	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	Metals (App. III + State) *	TDS,Chloride,Fluoride,Sulfate	Metals, Appl **	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	Y	Y	Y	
1	FB-04	WT	G	10/4/18	1645	10/04/18	1700	23.0	4	1		3							Y	Y	Y	N
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

NM 10/04/18

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
* Metals list: Sb,As,Ba,Be,B,Cd,Ca,Cr,Co,Cu,Pb,Ni,Se,Ag,Tl,V,Zn	Noelia Moskos	10/04/18	1800	Nardos Tilahun	10/4/18	1800	
** Metals App IV: Li, Hg, Mo	Nardos Tilahun	10/4/18	1950	GTBlair	10/4/18	KP 50	
	GTBlair	10/5/18	1000	Mike Narayan	10/5/18	1000	
				M Rahman	10/05/18	1130	4°C Y Y Y

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	Noelia Moskos		
SIGNATURE of SAMPLER:	Noelia Moskos	DATE Signed:	10/04/18

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

WO#: 2610161

2610161

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 2610161

PM: BM **Due Date: 10/12/18**

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 83 **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 4°C **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 10/05/18 MR

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: W	☑Yes ☐No ☐N/A	12.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed: Lot # of added preservative:
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

October 17, 2018

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610209

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on October 08, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This revised report replaces the report issued on October 15, 2018. The report has been revised to remove mercury, lithium, and molybdenum data from GWC-23 per consultant request. No other changes have been made to this report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Maria Padilla, Georgia Power
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610209

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Texas Certification #: T104704397-08-TX
Virginia Certification #: 460204

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610209

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2610209001	**GWC-23**	Water	10/05/18 12:18	10/08/18 11:00
2610209002	**FB-05**	Water	10/05/18 13:05	10/08/18 11:00

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610209

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2610209001	**GWC-23**	EPA 6020B	CSW	17
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
2610209002	**FB-05**	EPA 6020B	CSW	19
		EPA 7470A	DRB	1
		SM 2540C	JPT	1
		EPA 300.0	RLC	3

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110 Technology Parkway
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(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610209

Sample: GWC-23 **Lab ID: 2610209001** Collected: 10/05/18 12:18 Received: 10/08/18 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	10/10/18 13:15	10/12/18 20:32	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	10/10/18 13:15	10/12/18 20:32	7440-38-2	
Barium	**0.065**	mg/L	0.010	0.00078	1	10/10/18 13:15	10/12/18 20:32	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	10/10/18 13:15	10/12/18 20:32	7440-41-7	
Boron	**0.039J**	mg/L	0.040	0.0039	1	10/10/18 13:15	10/12/18 20:32	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	10/10/18 13:15	10/12/18 20:32	7440-43-9	
Calcium	**39.3**	mg/L	25.0	0.69	50	10/10/18 13:15	10/12/18 20:38	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	10/10/18 13:15	10/12/18 20:32	7440-47-3	
Cobalt	**0.00058J**	mg/L	0.010	0.00052	1	10/10/18 13:15	10/12/18 20:32	7440-48-4	
Copper	ND	mg/L	0.025	0.0013	1	10/10/18 13:15	10/12/18 20:32	7440-50-8	
Lead	**0.00042J**	mg/L	0.0050	0.00027	1	10/10/18 13:15	10/12/18 20:32	7439-92-1	
Nickel	**0.0014J**	mg/L	0.010	0.00095	1	10/10/18 13:15	10/12/18 20:32	7440-02-0	
Selenium	ND	mg/L	0.010	0.0014	1	10/10/18 13:15	10/12/18 20:32	7782-49-2	
Silver	ND	mg/L	0.010	0.00095	1	10/10/18 13:15	10/12/18 20:32	7440-22-4	
Thallium	ND	mg/L	0.0010	0.00014	1	10/10/18 13:15	10/12/18 20:32	7440-28-0	
Vanadium	ND	mg/L	0.010	0.0019	1	10/10/18 13:15	10/12/18 20:32	7440-62-2	
Zinc	**0.0048J**	mg/L	0.010	0.0021	1	10/10/18 13:15	10/12/18 20:32	7440-66-6	B
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**210**	mg/L	25.0	10.0	1		10/09/18 16:57		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**1.6**	mg/L	0.25	0.024	1		10/11/18 09:35	16887-00-6	
Fluoride	**0.18J**	mg/L	0.30	0.029	1		10/11/18 09:35	16984-48-8	
Sulfate	**9.3**	mg/L	1.0	0.017	1		10/11/18 09:35	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610209

Sample: FB-05 **Lab ID: 2610209002** Collected: 10/05/18 13:05 Received: 10/08/18 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	10/10/18 13:15	10/12/18 20:44	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	10/10/18 13:15	10/12/18 20:44	7440-38-2	
Barium	ND	mg/L	0.010	0.00078	1	10/10/18 13:15	10/12/18 20:44	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	10/10/18 13:15	10/12/18 20:44	7440-41-7	
Boron	ND	mg/L	0.040	0.0039	1	10/10/18 13:15	10/12/18 20:44	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	10/10/18 13:15	10/12/18 20:44	7440-43-9	
Calcium	**0.021J**	mg/L	0.50	0.014	1	10/10/18 13:15	10/12/18 20:44	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	10/10/18 13:15	10/12/18 20:44	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	10/10/18 13:15	10/12/18 20:44	7440-48-4	
Copper	ND	mg/L	0.025	0.0013	1	10/10/18 13:15	10/12/18 20:44	7440-50-8	
Lead	ND	mg/L	0.0050	0.00027	1	10/10/18 13:15	10/12/18 20:44	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	10/10/18 13:15	10/12/18 20:44	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	10/10/18 13:15	10/12/18 20:44	7439-98-7	
Nickel	ND	mg/L	0.010	0.00095	1	10/10/18 13:15	10/12/18 20:44	7440-02-0	
Selenium	ND	mg/L	0.010	0.0014	1	10/10/18 13:15	10/12/18 20:44	7782-49-2	
Silver	ND	mg/L	0.010	0.00095	1	10/10/18 13:15	10/12/18 20:44	7440-22-4	
Thallium	ND	mg/L	0.0010	0.00014	1	10/10/18 13:15	10/12/18 20:44	7440-28-0	
Vanadium	ND	mg/L	0.010	0.0019	1	10/10/18 13:15	10/12/18 20:44	7440-62-2	
Zinc	**0.010**	mg/L	0.010	0.0021	1	10/10/18 13:15	10/12/18 20:44	7440-66-6	B
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	10/11/18 10:20	10/11/18 17:32	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**31.0**	mg/L	25.0	10.0	1		10/09/18 16:57		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.17J**	mg/L	0.25	0.024	1		10/11/18 09:58	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		10/11/18 09:58	16984-48-8	
Sulfate	ND	mg/L	1.0	0.017	1		10/11/18 09:58	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 Hammond - Huffaker Road
Pace Project No.: 2610209

QC Batch: 15185
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Associated Lab Samples: 2610209002

METHOD BLANK: 67911 Matrix: Water
Associated Lab Samples: 2610209002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.000036	10/11/18 16:47	

LABORATORY CONTROL SAMPLE: 67912

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	.0025	0.0026	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 67913 67914

Parameter	Units	2610090002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	0.95 ug/L	.0025	.0025	0.0032	0.0031	89	88	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 Hammond - Huffaker Road
Pace Project No.: 2610209

QC Batch: 15129 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 2610209001, 2610209002

METHOD BLANK: 67679 Matrix: Water
Associated Lab Samples: 2610209001, 2610209002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00078	10/12/18 19:18	
Arsenic	mg/L	ND	0.0050	0.00057	10/12/18 19:18	
Barium	mg/L	ND	0.010	0.00078	10/12/18 19:18	
Beryllium	mg/L	ND	0.0030	0.000050	10/12/18 19:18	
Boron	mg/L	ND	0.040	0.0039	10/12/18 19:18	
Cadmium	mg/L	ND	0.0010	0.000093	10/12/18 19:18	
Calcium	mg/L	ND	0.50	0.014	10/12/18 19:18	
Chromium	mg/L	ND	0.010	0.0016	10/12/18 19:18	
Cobalt	mg/L	ND	0.010	0.00052	10/12/18 19:18	
Copper	mg/L	ND	0.025	0.0013	10/12/18 19:18	
Lead	mg/L	ND	0.0050	0.00027	10/12/18 19:18	
Lithium	mg/L	ND	0.050	0.00097	10/12/18 19:18	
Molybdenum	mg/L	ND	0.010	0.0019	10/12/18 19:18	
Nickel	mg/L	ND	0.010	0.00095	10/12/18 19:18	
Selenium	mg/L	ND	0.010	0.0014	10/12/18 19:18	
Silver	mg/L	ND	0.010	0.00095	10/12/18 19:18	
Thallium	mg/L	ND	0.0010	0.00014	10/12/18 19:18	
Vanadium	mg/L	ND	0.010	0.0019	10/12/18 19:18	
Zinc	mg/L	0.0024J	0.010	0.0021	10/12/18 19:18	

LABORATORY CONTROL SAMPLE: 67680

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	.1	0.11	108	80-120	
Arsenic	mg/L	.1	0.10	100	80-120	
Barium	mg/L	.1	0.096	96	80-120	
Beryllium	mg/L	.1	0.098	98	80-120	
Boron	mg/L	1	0.96	96	80-120	
Cadmium	mg/L	.1	0.10	101	80-120	
Calcium	mg/L	1	0.98	98	80-120	
Chromium	mg/L	.1	0.099	99	80-120	
Cobalt	mg/L	.1	0.097	97	80-120	
Copper	mg/L	.1	0.10	100	80-120	
Lead	mg/L	.1	0.096	96	80-120	
Lithium	mg/L	.1	0.099	99	80-120	
Molybdenum	mg/L	.1	0.096	96	80-120	
Nickel	mg/L	.1	0.10	101	80-120	
Selenium	mg/L	.1	0.098	98	80-120	
Silver	mg/L	.1	0.099	99	80-120	
Thallium	mg/L	.1	0.095	95	80-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610209

LABORATORY CONTROL SAMPLE: 67680

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Vanadium	mg/L	.1	0.10	102	80-120	
Zinc	mg/L	.1	0.10	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 67681 67682

Parameter	Units	2610208001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	.1	.1	0.12	0.12	119	117	75-125	2	20	
Arsenic	mg/L	ND	.1	.1	0.11	0.11	106	105	75-125	1	20	
Barium	mg/L	0.081	.1	.1	0.18	0.17	95	91	75-125	2	20	
Beryllium	mg/L	ND	.1	.1	0.11	0.11	107	105	75-125	2	20	
Boron	mg/L	0.15	1	1	1.2	1.2	106	106	75-125	0	20	
Cadmium	mg/L	ND	.1	.1	0.11	0.11	107	108	75-125	1	20	
Calcium	mg/L	39.6	1	1	41.8	41.2	229	168	75-125	1	20	M6
Chromium	mg/L	ND	.1	.1	0.11	0.10	107	105	75-125	2	20	
Cobalt	mg/L	ND	.1	.1	0.11	0.10	105	103	75-125	2	20	
Copper	mg/L	ND	.1	.1	0.11	0.10	106	104	75-125	3	20	
Lead	mg/L	ND	.1	.1	0.10	0.099	100	99	75-125	1	20	
Lithium	mg/L	0.016J	.1	.1	0.12	0.12	106	102	75-125	3	20	
Molybdenum	mg/L	ND	.1	.1	0.11	0.11	106	107	75-125	1	20	
Nickel	mg/L	ND	.1	.1	0.11	0.10	107	104	75-125	3	20	
Selenium	mg/L	ND	.1	.1	0.11	0.11	106	105	75-125	1	20	
Silver	mg/L	ND	.1	.1	0.11	0.10	106	105	75-125	1	20	
Thallium	mg/L	ND	.1	.1	0.10	0.098	100	98	75-125	2	20	
Vanadium	mg/L	ND	.1	.1	0.11	0.11	111	111	75-125	1	20	
Zinc	mg/L	0.0029J	.1	.1	0.11	0.11	110	105	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: Plant Hammond - Huffaker Road
Pace Project No.: 2610209

QC Batch: 15066
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2610209001, 2610209002

LABORATORY CONTROL SAMPLE: 67393

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	396	99	84-108	

SAMPLE DUPLICATE: 67394

Parameter	Units	2610166001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	10200	10100	1	10	

SAMPLE DUPLICATE: 67395

Parameter	Units	2610210001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	813	828	2	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 Hammond - Huffaker Road
Pace Project No.: 2610209

QC Batch: 15085
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2610209001, 2610209002

METHOD BLANK: 67500 Matrix: Water
Associated Lab Samples: 2610209001, 2610209002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.024	10/11/18 06:47	
Fluoride	mg/L	ND	0.30	0.029	10/11/18 06:47	
Sulfate	mg/L	ND	1.0	0.017	10/11/18 06:47	

LABORATORY CONTROL SAMPLE: 67501

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.5	105	90-110	
Fluoride	mg/L	10	10.2	102	90-110	
Sulfate	mg/L	10	10.8	108	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 67502 67503

Parameter	Units	2610208001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.5	10	10	12.0	12.0	105	105	90-110	0	15	
Fluoride	mg/L	0.21J	10	10	10.3	10.3	101	101	90-110	0	15	
Sulfate	mg/L	10.6	10	10	20.5	20.5	99	99	90-110	0	15	

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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 Hammond - Huffaker Road
Pace Project No.: 2610209

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

Pace Analytical Services, LLC
110 Technology Parkway
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(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond - Huffaker Road
Pace Project No.: 2610209

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2610209001	**GWC-23**	EPA 3005A	15129	EPA 6020B	15152
2610209002	**FB-05**	EPA 3005A	15129	EPA 6020B	15152
2610209002	**FB-05**	EPA 7470A	15185	EPA 7470A	15229
2610209001	**GWC-23**	SM 2540C	15066		
2610209002	**FB-05**	SM 2540C	15066		
2610209001	**GWC-23**	EPA 300.0	15085		
2610209002	**FB-05**	EPA 300.0	15085		

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:	Standard TAT

Section B — Required Project Information:

Report To:	Joju Abraham / Lauren Petty
Copy To:	Geosyntec
Purchase Order #:	SCS10348606
Project Name:	Plant Hammond - Huffaker Road
Project #:	GW6581

Section C — Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Pace Profile #:	328.3

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)	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	Metals (App. III + State) *	TDS,Chloride,Fluoride,Sulfate	Metals (App III) **	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				
1	GWC-23	WT	G	10/05/18	1204	10/05/18	1218	21.5	4	1		3						N	Y	Y		N
2	FB-05	WT	G	10/05/18	1255	10/05/18	1305	20°	4	1		3						N	Y	Y	Y	N
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

NM 10/05/18 1100

NM 10/05/18 1100

NM 10/05/18

1

2

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
* Metals list: Sb,As,Ba,Be,B,Cd,Ca,Cr,Co,Cu,Pb,Ni,Se,Ag,Tl,V,Zn	Noelia Muskus	10/5/18	0945	Mike Nguyen / Pace	10/8/18	0945
** Metals App III :				Charlie Hart	10/8/18	1100

SAMPLE CONDITIONS

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
2.5	Y	Y	X

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Noelia Muskus

SIGNATURE of SAMPLER: Noelia Muskus DATE Signed: 10/05/18

WO# : 2610209

2610209

Sample Condition Upon Receipt

WO#: 2610209

PM: BM Due Date: 10/15/18

CLIENT: GAPower-CCR

Pace Analytical

Client Name: GA Power

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other

Proj. Due Date:
Proj. Name:

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other

Thermometer Used 082 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 2.5°C Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 10/8/18 CA

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. Rads present but not listed on COC CA 10/8/18
-Includes date/time/ID/Analysis Matrix: GW		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) Rads	☑Yes ☐No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Person Contacted: Date/Time: Field Data Required? Y / N

Comments/ Resolution:

Project Manager Review: Date:

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

April 11, 2019

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Hammond AP
Pace Project No.: 2616931

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on April 03, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
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CERTIFICATIONS

Project: Plant Hammond AP
Pace Project No.: 2616931

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Virginia Certification #: 460204

Pace Analytical Services, LLC
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(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond AP
Pace Project No.: 2616931

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2616931001	**HGWC-120**	Water	04/02/19 13:19	04/03/19 11:10
2616931002	**HGWA-122**	Water	04/02/19 10:10	04/03/19 11:10

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SAMPLE ANALYTE COUNT

Project: Plant Hammond AP
Pace Project No.: 2616931

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2616931001	**HGWC-120**	EPA 6020B	CSW	2
		SM 2540C	RLC	1
		EPA 300.0	RLC	3
2616931002	**HGWA-122**	EPA 6020B	CSW	2
		SM 2540C	RLC	1
		EPA 300.0	RLC	3

Pace Analytical Services, LLC
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(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond AP
Pace Project No.: 2616931

Sample: HGWC-120 **Lab ID: 2616931001** Collected: 04/02/19 13:19 Received: 04/03/19 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Boron	**1.1**	mg/L	0.040	0.0039	1	04/05/19 15:23	04/09/19 19:23	7440-42-8	
Calcium	**150**	mg/L	25.0	0.69	50	04/05/19 15:23	04/09/19 19:28	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**540**	mg/L	25.0	10.0	1		04/09/19 18:49		D6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**3.1**	mg/L	0.25	0.024	1		04/05/19 19:26	16887-00-6	
Fluoride	**0.47**	mg/L	0.30	0.029	1		04/05/19 19:26	16984-48-8	
Sulfate	**256**	mg/L	10.0	0.17	10		04/06/19 03:40	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 Hammond AP
Pace Project No.: 2616931

Sample: HGWA-122 **Lab ID: 2616931002** Collected: 04/02/19 10:10 Received: 04/03/19 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Boron	**0.18**	mg/L	0.040	0.0039	1	04/05/19 15:23	04/09/19 19:34	7440-42-8	
Calcium	**60.9**	mg/L	25.0	0.69	50	04/05/19 15:23	04/09/19 19:40	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**814**	mg/L	25.0	10.0	1		04/09/19 18:49		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**3.6**	mg/L	0.25	0.024	1		04/05/19 19:50	16887-00-6	
Fluoride	**0.20J**	mg/L	0.30	0.029	1		04/05/19 19:50	16984-48-8	
Sulfate	**39.6**	mg/L	1.0	0.017	1		04/05/19 19:50	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 Hammond AP
Pace Project No.: 2616931

QC Batch: 25906 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 2616931001, 2616931002

METHOD BLANK: 116817 Matrix: Water
Associated Lab Samples: 2616931001, 2616931002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	mg/L	ND	0.040	0.0039	04/09/19 18:14	
Calcium	mg/L	ND	0.50	0.014	04/09/19 18:14	

LABORATORY CONTROL SAMPLE: 116818

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	mg/L	1	0.94	94	80-120	
Calcium	mg/L	1	0.97	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 116819 116820

Parameter	Units	2616933004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	mg/L	0.99	1	1	1.9	2.0	92	96	75-125	2	20	
Calcium	mg/L	101	1	1	140	115	3930	1380	75-125	20	20	M6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond AP
Pace Project No.: 2616931

QC Batch: 26059 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2616931001, 2616931002

LABORATORY CONTROL SAMPLE: 117667

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	407	102	84-108	

SAMPLE DUPLICATE: 117668

Parameter	Units	2616931001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	540	670	21	10	D6

SAMPLE DUPLICATE: 117669

Parameter	Units	2617082006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	728	766	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

QUALITY CONTROL DATA

Project: Plant Hammond AP
Pace Project No.: 2616931

QC Batch: 25882 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2616931001, 2616931002

METHOD BLANK: 116732 Matrix: Water
Associated Lab Samples: 2616931001, 2616931002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.029J	0.25	0.024	04/05/19 15:47	
Fluoride	mg/L	ND	0.30	0.029	04/05/19 15:47	
Sulfate	mg/L	ND	1.0	0.017	04/05/19 15:47	

LABORATORY CONTROL SAMPLE: 116733

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.5	105	90-110	
Fluoride	mg/L	10	10.4	104	90-110	
Sulfate	mg/L	10	10.2	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 116734 116735

Parameter	Units	2616927001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	4.4	10	10	14.5	14.6	101	102	90-110	0	15	
Fluoride	mg/L	ND	10	10	10.6	10.6	106	106	90-110	0	15	
Sulfate	mg/L	4.9	10	10	14.3	14.4	94	95	90-110	0	15	

MATRIX SPIKE SAMPLE: 116736

Parameter	Units	2616927002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.7	10	11.3	96	90-110	
Fluoride	mg/L	0.12J	10	10.4	103	90-110	
Sulfate	mg/L	23.8	10	30.8	70	90-110	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond AP
Pace Project No.: 2616931

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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 Hammond AP
Pace Project No.: 2616931

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2616931001	**HGWC-120**	EPA 3005A	25906	EPA 6020B	25928
2616931002	**HGWA-122**	EPA 3005A	25906	EPA 6020B	25928
2616931001	**HGWC-120**	SM 2540C	26059		
2616931002	**HGWA-122**	SM 2540C	26059		
2616931001	**HGWC-120**	EPA 300.0	25882		
2616931002	**HGWA-122**	EPA 300.0	25882		

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:

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 TAT

Section B — Required Project Information:

Report To:	Joju Abraham
Copy To:	Lauren Petty, Geosyntec
Purchase Order #:	SCS10348606
Project Name:	Plant Hammond AP
Project #:	

Section C — Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Pace Profile #:	327.1.2

GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N): Metals (App. III & App. IV)	TDS, Cl, F, SO4	Radium 226/228	Residual Chlorine (Y/N)
1	HGWC-120	WT	G	4/2/19	1249	4/2/19	1319	18	5	2		3						Y	Y	Y	1
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

NM 4/2/19

WO# : 2616931

2616931

Additional Comments:

Relinquished by / Affiliation	Date	Time	Accepted by / Affiliation	Date	Time
Noelia Muskus Georgia	4/2/19	1930	WBlaw/Geosyntec	4/2/19	1930
WBlaw/Geosyntec	4/3/19	0954	1 Pace	4/3/19	0954
			MZalman	4/3/19	1110

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Noelia Muskus

SIGNATURE of SAMPLER: Noelia Muskus DATE Signed: 4/2/19

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
1.0	Y	Y	Y

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 2 Of 2

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 TAT

Section B — Required Project Information:

Report To:	Joju Abraham
Copy To:	Lauren Petty, Geosyntec
Purchase Order #:	SCS10348606
Project Name:	Plant Hammond AP
Project #:	

Section C — Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Pace Profile #:	327.1.2

GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test: Metals (App. III & App. IV)	TDS, Cl, F, SO4	Radium 226/228	Residual Chlorine (Y/N)
1	HGVA-122	WT	G	4-2	0955	4-2	1010		5	2		3						Y	Y	Y	
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

AR 4-2-2019

WO#: 2616931

PM: BM Due Date: 04/10/19

CLIENT: GAPower-CCR

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
		4-2-19	1745	Marlin Marlow/Georgetec	4/2/19	1745	
	Marlin Marlow/Georgetec	4/2/19	1930	Will Law/Geosyntec	4/2/19	1930	
	Will Law/Geosyntec	4/3/19	0984	Power	4.3.19	0984	
				M Dalman	4/3/19	1110	1.0 Y Y Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Aaron Reeder

SIGNATURE of SAMPLER: [signature] DATE Signed: 4-2-2019

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
1.0	Y	Y	Y

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 2616931

PM: BM Due Date: 04/10/19

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 83 Type of Ice: Wet Blue None

☐ Samples on ice, cooling process has begun

Cooler Temperature 1.0 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 4/3/19 MR

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

April 11, 2019

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Hammond AP
Pace Project No.: 2616992

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on April 04, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Sakina Mckenzie for
Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond AP
Pace Project No.: 2616992

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Virginia Certification #: 460204

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond AP
Pace Project No.: 2616992

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2616992001	**HGWC-121A**	Water	04/03/19 10:09	04/04/19 11:00
2616992002	**HGWC-124**	Water	04/03/19 11:45	04/04/19 11:00

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond AP
Pace Project No.: 2616992

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2616992001	**HGWC-121A**	EPA 6020B	CSW	2
		SM 2540C	RLC	1
		EPA 300.0	RLC	3
2616992002	**HGWC-124**	EPA 6020B	CSW	2
		SM 2540C	RLC	1
		EPA 300.0	RLC	3

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond AP
Pace Project No.: 2616992

Sample: HGWC-121A **Lab ID: 2616992001** Collected: 04/03/19 10:09 Received: 04/04/19 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Boron	**3.0**	mg/L	2.0	0.20	50	04/05/19 15:23	04/09/19 21:17	7440-42-8	
Calcium	**184**	mg/L	25.0	0.69	50	04/05/19 15:23	04/09/19 21:17	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**785**	mg/L	25.0	10.0	1		04/10/19 16:41		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**35.9**	mg/L	0.25	0.024	1		04/05/19 23:56	16887-00-6	
Fluoride	**0.14J**	mg/L	0.30	0.029	1		04/05/19 23:56	16984-48-8	
Sulfate	**230**	mg/L	10.0	0.17	10		04/06/19 04:30	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 Hammond AP
Pace Project No.: 2616992

Sample: HGWC-124 **Lab ID: 2616992002** Collected: 04/03/19 11:45 Received: 04/04/19 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Boron	**0.45**	mg/L	0.040	0.0039	1	04/05/19 15:23	04/09/19 21:34	7440-42-8	
Calcium	**96.7**	mg/L	25.0	0.69	50	04/05/19 15:23	04/09/19 21:40	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**369**	mg/L	25.0	10.0	1		04/10/19 16:41		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**3.4**	mg/L	0.25	0.024	1		04/06/19 00:21	16887-00-6	
Fluoride	**0.089J**	mg/L	0.30	0.029	1		04/06/19 00:21	16984-48-8	
Sulfate	**75.2**	mg/L	10.0	0.17	10		04/06/19 04:55	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 Hammond AP
Pace Project No.: 2616992

QC Batch: 25906 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 2616992001, 2616992002

METHOD BLANK: 116817 Matrix: Water
Associated Lab Samples: 2616992001, 2616992002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	mg/L	ND	0.040	0.0039	04/09/19 18:14	
Calcium	mg/L	ND	0.50	0.014	04/09/19 18:14	

LABORATORY CONTROL SAMPLE: 116818

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	mg/L	1	0.94	94	80-120	
Calcium	mg/L	1	0.97	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 116819 116820

Parameter	Units	2616933004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	mg/L	0.99	1	1	1.9	2.0	92	96	75-125	2	20	
Calcium	mg/L	101	1	1	140	115	3930	1380	75-125	20	20	M6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond AP
Pace Project No.: 2616992

QC Batch: 26129 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2616992001, 2616992002

LABORATORY CONTROL SAMPLE: 117954

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	412	103	84-108	

SAMPLE DUPLICATE: 118270

Parameter	Units	2616972001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	290	303	4	10	

SAMPLE DUPLICATE: 118610

Parameter	Units	2616992002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	369	359	3	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond AP
Pace Project No.: 2616992

QC Batch: 25882 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2616992001, 2616992002

METHOD BLANK: 116732 Matrix: Water
Associated Lab Samples: 2616992001, 2616992002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.029J	0.25	0.024	04/05/19 15:47	
Fluoride	mg/L	ND	0.30	0.029	04/05/19 15:47	
Sulfate	mg/L	ND	1.0	0.017	04/05/19 15:47	

LABORATORY CONTROL SAMPLE: 116733

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.5	105	90-110	
Fluoride	mg/L	10	10.4	104	90-110	
Sulfate	mg/L	10	10.2	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 116734 116735

Parameter	Units	2616927001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	4.4	10	10	14.5	14.6	101	102	90-110	0	15	
Fluoride	mg/L	ND	10	10	10.6	10.6	106	106	90-110	0	15	
Sulfate	mg/L	4.9	10	10	14.3	14.4	94	95	90-110	0	15	

MATRIX SPIKE SAMPLE: 116736

Parameter	Units	2616927002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.7	10	11.3	96	90-110	
Fluoride	mg/L	0.12J	10	10.4	103	90-110	
Sulfate	mg/L	23.8	10	30.8	70	90-110	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond AP
Pace Project No.: 2616992

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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 Hammond AP
Pace Project No.: 2616992

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2616992001	**HGWC-121A**	EPA 3005A	25906	EPA 6020B	25928
2616992002	**HGWC-124**	EPA 3005A	25906	EPA 6020B	25928
2616992001	**HGWC-121A**	SM 2540C	26129		
2616992002	**HGWC-124**	SM 2540C	26129		
2616992001	**HGWC-121A**	EPA 300.0	25882		
2616992002	**HGWC-124**	EPA 300.0	25882		

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:	jebraham@southernco.com
Phone:	(404)506-7239 Fax:
Requested Due Date:	Standard

Section B — Required Project Information:

Report To:	Joju Abraham
Copy To:	Lauren Petty, Geosyntec
Purchase Order #:	SCS10348606
Project Name:	Plant Hammond AP
Project #:	

Section C — Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Pace Profile #:	327.1.2

GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Metals (App. III & App. IV)	TDS, Cl, F, SO4	Radium 226/228	Residual Chlorine (Y/N)
1	HGWC-121A	WT	G	4-3-19	0952	4-3-19	1609		5	2		3						Y	Y	Y	
2	HGWC-124	WT	G	4-3-19	1130	4-3-19	1145		5	2		3						Y	Y	Y	
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

AR - 4-3-2019

WO# : 2616992

2616992

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)
		4-3-19	1810	Amelia Markham	4/3/19	1810				
	Amelia Markham / Georgia	4/3/19	1900	Lauren Petty / Geosyntec	4/3/19	1900				
	Lauren Petty / Geosyntec	4/4/19	905	Pace	4.4.19	0905				
				M Zalman	4/4/19	1100	3.5	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Aaron Reeder

SIGNATURE of SAMPLER: DATE Signed:

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 2616992

PM: BM Due Date: 04/11/19

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other

Thermometer Used 83 Type of Ice: ☑ Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 3.5 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 4/4/19 MR

Temp should be above freezing to 6°C

			Comments:
Chain of Custody Present:	☑Yes	☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No ☐N/A	7.
Sufficient Volume:	☑Yes	☐No ☐N/A	8.
Correct Containers Used:	☑Yes	☐No ☐N/A	9.
-Pace Containers Used:	☑Yes	☐No ☐N/A	
Containers Intact:	☑Yes	☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No ☑N/A	11.
Sample Labels match COC:	☑Yes	☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix:		W	
All containers needing preservation have been checked.	☑Yes	☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No ☑N/A	15.
Trip Blank Present:	☐Yes	☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):			

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

May 01, 2019

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Hammond
Pace Project No.: 2617148

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on April 08, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This revised report replaces the one issued on 4/16/2019. The report has been revised to correct metals units per consultant request. No other changes have been made to this report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond
Pace Project No.: 2617148

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Virginia Certification #: 460204

Asheville Certification IDs

2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond
Pace Project No.: 2617148

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2617148001	**FB-01**	Water	04/05/19 08:50	04/08/19 15:30

Pace Analytical Services, LLC
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Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond
Pace Project No.: 2617148

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2617148001	**FB-01**	EPA 6020B	SER	19	PASI-A
		EPA 7470A	RDT	1	PASI-A
		SM 2540C	RLC	1	PASI-GA
		EPA 300.0	RLC	3	PASI-GA

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(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2617148

Sample: FB-01 **Lab ID: 2617148001** Collected: 04/05/19 08:50 Received: 04/08/19 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A								
Antimony	ND	mg/L	0.0030	0.00011	1	04/16/19 07:51	04/16/19 18:55	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.000060	1	04/16/19 07:51	04/16/19 18:55	7440-38-2	
Barium	**0.000078J**	mg/L	0.010	0.000060	1	04/16/19 07:51	04/16/19 18:55	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	04/16/19 07:51	04/16/19 18:55	7440-41-7	
Boron	ND	mg/L	0.10	0.0026	1	04/16/19 07:51	04/16/19 18:55	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000070	1	04/16/19 07:51	04/16/19 18:55	7440-43-9	
Calcium	**0.024J**	mg/L	0.50	0.021	1	04/16/19 07:51	04/16/19 18:55	7440-70-2	
Chromium	ND	mg/L	0.010	0.00042	1	04/16/19 07:51	04/16/19 18:55	7440-47-3	
Cobalt	ND	mg/L	0.010	0.000050	1	04/16/19 07:51	04/16/19 18:55	7440-48-4	
Copper	ND	mg/L	0.025	0.00023	1	04/16/19 07:51	04/16/19 18:55	7440-50-8	
Lead	ND	mg/L	0.0050	0.000050	1	04/16/19 07:51	04/16/19 18:55	7439-92-1	
Lithium	ND	mg/L	0.050	0.00042	1	04/16/19 07:51	04/16/19 18:55	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00010	1	04/16/19 07:51	04/16/19 18:55	7439-98-7	
Nickel	ND	mg/L	0.010	0.00011	1	04/16/19 07:51	04/16/19 18:55	7440-02-0	
Selenium	ND	mg/L	0.010	0.000080	1	04/16/19 07:51	04/16/19 18:55	7782-49-2	
Silver	ND	mg/L	0.010	0.000050	1	04/16/19 07:51	04/16/19 18:55	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000060	1	04/16/19 07:51	04/16/19 18:55	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00012	1	04/16/19 07:51	04/16/19 18:55	7440-62-2	
Zinc	**0.017**	mg/L	0.010	0.0011	1	04/16/19 07:51	04/16/19 18:55	7440-66-6	C0
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00020	0.00010	1	04/11/19 21:25	04/15/19 18:37	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	ND	mg/L	25.0	10.0	1		04/11/19 20:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.11J**	mg/L	0.25	0.024	1		04/10/19 22:29	16887-00-6	B
Fluoride	ND	mg/L	0.30	0.029	1		04/10/19 22:29	16984-48-8	
Sulfate	**0.069J**	mg/L	1.0	0.017	1		04/10/19 22:29	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 Hammond
Pace Project No.: 2617148

QC Batch: 468895
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Associated Lab Samples: 2617148001

METHOD BLANK: 2546716 Matrix: Water
Associated Lab Samples: 2617148001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.00010	04/15/19 18:06	

LABORATORY CONTROL SAMPLE: 2546717

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0021	83	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2546718 2546719

Parameter	Units	92424398001 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	0.0019	0.0019	77	77	75-125	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 Hammond
Pace Project No.: 2617148

QC Batch: 469500
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Associated Lab Samples: 2617148001

METHOD BLANK: 2549697
Matrix: Water
Associated Lab Samples: 2617148001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00011	04/16/19 18:48	
Arsenic	mg/L	ND	0.0050	0.000060	04/16/19 18:48	
Barium	mg/L	ND	0.010	0.000060	04/16/19 18:48	
Beryllium	mg/L	ND	0.0030	0.000050	04/16/19 18:48	
Boron	mg/L	ND	0.10	0.0026	04/16/19 18:48	
Cadmium	mg/L	ND	0.0010	0.000070	04/16/19 18:48	
Calcium	mg/L	ND	0.50	0.021	04/16/19 18:48	
Chromium	mg/L	ND	0.010	0.00042	04/16/19 18:48	
Cobalt	mg/L	ND	0.010	0.000050	04/16/19 18:48	
Copper	mg/L	ND	0.025	0.00023	04/16/19 18:48	
Lead	mg/L	ND	0.0050	0.000050	04/16/19 18:48	
Lithium	mg/L	ND	0.050	0.00042	04/16/19 18:48	
Molybdenum	mg/L	ND	0.010	0.00010	04/16/19 18:48	
Nickel	mg/L	ND	0.010	0.00011	04/16/19 18:48	
Selenium	mg/L	ND	0.010	0.000080	04/16/19 18:48	
Silver	mg/L	ND	0.010	0.000050	04/16/19 18:48	
Thallium	mg/L	ND	0.0010	0.000060	04/16/19 18:48	
Vanadium	mg/L	ND	0.010	0.00012	04/16/19 18:48	
Zinc	mg/L	ND	0.010	0.0011	04/16/19 18:48	

LABORATORY CONTROL SAMPLE: 2549698

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.098	98	80-120	
Arsenic	mg/L	0.01	0.0096	96	80-120	
Barium	mg/L	0.05	0.049	98	80-120	
Beryllium	mg/L	0.01	0.0096	96	80-120	
Boron	mg/L	0.05	0.048J	95	80-120	
Cadmium	mg/L	0.01	0.0099	99	80-120	
Calcium	mg/L	0.62	0.64	103	80-120	
Chromium	mg/L	0.05	0.048	97	80-120	
Cobalt	mg/L	0.01	0.0098J	98	80-120	
Copper	mg/L	0.05	0.049	98	80-120	
Lead	mg/L	0.05	0.050	99	80-120	
Lithium	mg/L	0.05	0.049J	98	80-120	
Molybdenum	mg/L	0.05	0.049	98	80-120	
Nickel	mg/L	0.05	0.049	97	80-120	
Selenium	mg/L	0.05	0.050	100	80-120	
Silver	mg/L	0.025	0.025	99	80-120	
Thallium	mg/L	0.01	0.010	100	80-120	

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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 Hammond
Pace Project No.: 2617148

LABORATORY CONTROL SAMPLE: 2549698

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Vanadium	mg/L	0.05	0.049	98	80-120	
Zinc	mg/L	0.05	0.049	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2549699 2549700

Parameter	Units	2617148001 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	0.098	99	98	75-125	1	20	
Arsenic	mg/L	ND	0.01	0.01	0.0098	0.0097	98	97	75-125	1	20	
Barium	mg/L	0.000078J	0.05	0.05	0.049	0.050	99	99	75-125	0	20	
Beryllium	mg/L	ND	0.01	0.01	0.0097	0.0097	97	97	75-125	0	20	
Boron	mg/L	ND	0.05	0.05	0.049J	0.050J	93	95	75-125	2	20	
Cadmium	mg/L	ND	0.01	0.01	0.010	0.0099	100	99	75-125	1	20	
Calcium	mg/L	0.024J	0.62	0.62	0.65	0.65	100	101	75-125	1	20	
Chromium	mg/L	ND	0.05	0.05	0.050	0.049	99	97	75-125	2	20	
Cobalt	mg/L	ND	0.01	0.01	0.010J	0.0099J	100	98	75-125	1	20	
Copper	mg/L	ND	0.05	0.05	0.050	0.050	101	99	75-125	2	20	
Lead	mg/L	ND	0.05	0.05	0.050	0.050	100	99	75-125	1	20	
Lithium	mg/L	ND	0.05	0.05	0.050J	0.048J	99	96	75-125	4	20	
Molybdenum	mg/L	ND	0.05	0.05	0.050	0.050	100	99	75-125	1	20	
Nickel	mg/L	ND	0.05	0.05	0.050	0.049	100	98	75-125	1	20	
Selenium	mg/L	ND	0.05	0.05	0.050	0.050	101	100	75-125	1	20	
Silver	mg/L	ND	0.025	0.025	0.025	0.025	100	100	75-125	0	20	
Thallium	mg/L	ND	0.01	0.01	0.010	0.0099	100	99	75-125	1	20	
Vanadium	mg/L	ND	0.05	0.05	0.050	0.049	99	98	75-125	1	20	
Zinc	mg/L	0.017	0.05	0.05	0.067	0.066	99	98	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 Hammond
Pace Project No.: 2617148

QC Batch: 26252
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2617148001

LABORATORY CONTROL SAMPLE: 118510

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	408	102	84-108	

SAMPLE DUPLICATE: 118512

Parameter	Units	2617150003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2310	2380	3	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617148

QC Batch: 26135
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2617148001

METHOD BLANK: 117979 Matrix: Water
Associated Lab Samples: 2617148001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.064J	0.25	0.024	04/10/19 21:47	
Fluoride	mg/L	ND	0.30	0.029	04/10/19 21:47	
Sulfate	mg/L	ND	1.0	0.017	04/10/19 21:47	

LABORATORY CONTROL SAMPLE: 117980

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.2	102	90-110	
Fluoride	mg/L	10	10.0	100	90-110	
Sulfate	mg/L	10	9.9	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 117981 117982

Parameter	Units	2617207001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	0.25J	10	10	9.9	10	96	97	90-110	1	15	
Fluoride	mg/L	ND	10	10	9.5	9.6	95	96	90-110	1	15	
Sulfate	mg/L	0.13J	10	10	9.5	9.6	94	94	90-110	1	15	

MATRIX SPIKE SAMPLE: 117983

Parameter	Units	2617150001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	131	10	10.5	-1210	90-110	
Fluoride	mg/L	0.13J	10	9.4	93	90-110	
Sulfate	mg/L	392	10	13.7	-3780	90-110	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2617148

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-GA	Pace Analytical Services - Atlanta, GA

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
C0	Result confirmed by second analysis.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond
Pace Project No.: 2617148

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2617148001	**FB-01**	EPA 3010A	469500	EPA 6020B	469558
2617148001	**FB-01**	EPA 7470A	468895	EPA 7470A	468941
2617148001	**FB-01**	SM 2540C	26252		
2617148001	**FB-01**	EPA 300.0	26135		

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 TAT

Section B — Required Project Information:

Report To:	Joju Abraham
Copy To:	Lauren Petty, Geosyntec
Purchase Order #:	SCS10348606
Project Name:	Plant Hammond
Project #:	

Section C — Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Pace Profile #:	327 (AP) or 328 (Huff)

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	Requested Analysis Filtered (Y/N): Metals (App. III & App. IV)	Mets (App. III, App. IV, D&O)	Metals (App. III & D&O)	TDS, Cl, F, SO4	Radium 226/228	Residual Chlorine (Y/N)
1	FB-01	WT	G	4/5/19	0940	4/15/19	0850	17	5	2		3						Y	Y	—	Y	Y		—
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									

NM 4/5/19

WO#: 2617148

2617148

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)
	Nadia Muskus/Geosyntec	4/5/19	1945	WB Leal / Geosyntec	4/5/19	1945				
	WB Leal/Geosyntec	4/8/19	1116	[illegible] / Pace	4.8.19	1116				
				MQuinan	4/8/19	1530	1.1	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Nadia Muskus

SIGNATURE of SAMPLER: Nadia Muskus DATE Signed: 4/5/19

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 2617148

PM: BM **Due Date: 04/15/19**

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 83 **Type of Ice:** Wet Blue None

☐ Samples on ice, cooling process has begun

Cooler Temperature 1.1 **Biological Tissue is Frozen:** Yes No

Date and Initials of person examining contents: 4/8/19 MR

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

May 01, 2019

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Hammond
Pace Project No.: 2617149

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on April 08, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond
Pace Project No.: 2617149

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
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 Hammond
Pace Project No.: 2617149

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2617149001	**FB-01**	Water	04/05/19 08:50	04/08/19 15:30

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond
Pace Project No.: 2617149

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2617149001	**FB-01**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 2617149

Sample: FB-01 **Lab ID: 2617149001** Collected: 04/05/19 08:50 Received: 04/08/19 15:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.114 ± 0.161 (0.330) C:92% T:NA**	pCi/L	04/18/19 08:25	13982-63-3	
Radium-228	EPA 9320	**0.160 ± 0.258 (0.561) C:88% T:76%**	pCi/L	04/18/19 12:31	15262-20-1	
Total Radium	Total Radium Calculation	**0.274 ± 0.419 (0.891)**	pCi/L	04/22/19 11:27	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 Hammond
Pace Project No.: 2617149

QC Batch: 337915 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 2617149001

METHOD BLANK: 1644524 Matrix: Water
Associated Lab Samples: 2617149001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.664 ± 0.303 (0.504) C:90% T:91%	pCi/L	04/18/19 12:31	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 2617149

QC Batch: 337923 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 2617149001

METHOD BLANK: 1644541 Matrix: Water
Associated Lab Samples: 2617149001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.170 ± 0.213 (0.439) C:94% T:NA	pCi/L	04/18/19 08:05	

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.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2617149

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond
Pace Project No.: 2617149

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2617149001	**FB-01**	EPA 9315	337923		
2617149001	**FB-01**	EPA 9320	337915		
2617149001	**FB-01**	Total Radium Calculation	339294		

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 TAT

Section B — Required Project Information:

Report To:	Joju Abraham
Copy To:	Lauren Petty, Geosyntec
Purchase Order #:	SCS10348606
Project Name:	Plant Hammond
Project #:	

Section C — Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Pace Profile #:	327 (AP) or 328 (Huff)

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	Requested Analysis Filtered (Y/N): Metals (App. III & App. IV)	Metals (App. III, App. IV, D&O)	Metals (App. III & D&O)	TDS, Cl, F, SO4	Radium 226/228	Residual Chlorine (Y/N)
1	FB-01	WT	G	4/5/19	0940	4/15/19	0850	17	5	2		3							Y	—		Y	Y	—
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

NM 4/5/19

WO# : 2617149

2617149

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Nadia Muskus / Georgia Power	4/5/19	1945	[illegible] / Geosyntec	4/5/19	1945	
	[illegible] / Geosyntec	4/8/19	1116	[illegible] / Pace	4.8.19	1116	
				[illegible]	4/8/19	1530	1.1 Y Y Y

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Nadia Muskus

SIGNATURE of SAMPLER: Nadia Muskus DATE Signed: 4/5/19

Sample Condition Upon Receipt

Face Analytical

Client Name: GA Power

Project #

WO#: 2617149

PM: BM Due Date: 05/06/19

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 83 Type of Ice: Wet Blue None

Cooler Temperature 1.1 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

☐ Samples on ice, cooling process has begun

Date and Initials of person examining contents: 4/8/19 MR

Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W				
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No		Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.
Trip Blank Present:	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased):				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

May 03, 2019

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Hammond
Pace Project No.: 2617207

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on April 09, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This revised report replaces the one issued on 4/16/2019. The report has been revised to correct metals units per consultant request. No other changes have been made to this report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond
Pace Project No.: 2617207

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Virginia Certification #: 460204

Asheville Certification IDs

2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond
Pace Project No.: 2617207

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2617207001	**FB-02**	Water	04/08/19 17:45	04/09/19 13:30
2617207002	**EB-01**	Water	04/08/19 18:00	04/09/19 13:30

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond
Pace Project No.: 2617207

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2617207001	**FB-02**	EPA 6020B	JMW1	19	PASI-A
		EPA 7470A	RDT	1	PASI-A
		SM 2540C	RLC	1	PASI-GA
		EPA 300.0	RLC	3	PASI-GA
2617207002	**EB-01**	EPA 6020B	JMW1	19	PASI-A
		EPA 7470A	RDT	1	PASI-A
		SM 2540C	RLC	1	PASI-GA
		EPA 300.0	RLC	3	PASI-GA

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2617207

Sample: FB-02 **Lab ID: 2617207001** Collected: 04/08/19 17:45 Received: 04/09/19 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A								
Antimony	ND	mg/L	0.0030	0.00011	1	04/10/19 19:59	04/12/19 01:04	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.000060	1	04/10/19 19:59	04/12/19 01:04	7440-38-2	
Barium	ND	mg/L	0.010	0.000060	1	04/10/19 19:59	04/12/19 01:04	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	04/10/19 19:59	04/12/19 01:04	7440-41-7	
Boron	ND	mg/L	0.10	0.0026	1	04/10/19 19:59	04/12/19 01:04	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000070	1	04/10/19 19:59	04/12/19 01:04	7440-43-9	
Calcium	ND	mg/L	0.50	0.021	1	04/10/19 19:59	04/12/19 01:04	7440-70-2	
Chromium	ND	mg/L	0.010	0.00042	1	04/10/19 19:59	04/12/19 01:04	7440-47-3	
Cobalt	ND	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 01:04	7440-48-4	
Copper	ND	mg/L	0.025	0.00023	1	04/10/19 19:59	04/12/19 01:04	7440-50-8	
Lead	ND	mg/L	0.0050	0.000050	1	04/10/19 19:59	04/12/19 01:04	7439-92-1	
Lithium	ND	mg/L	0.050	0.00042	1	04/10/19 19:59	04/12/19 01:04	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00010	1	04/10/19 19:59	04/12/19 01:04	7439-98-7	
Nickel	ND	mg/L	0.010	0.00011	1	04/10/19 19:59	04/12/19 01:04	7440-02-0	
Selenium	ND	mg/L	0.010	0.000080	1	04/10/19 19:59	04/12/19 01:04	7782-49-2	
Silver	ND	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 01:04	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000060	1	04/10/19 19:59	04/12/19 01:04	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00012	1	04/10/19 19:59	04/12/19 01:04	7440-62-2	
Zinc	ND	mg/L	0.010	0.0011	1	04/10/19 19:59	04/12/19 01:04	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00020	0.00010	1	04/11/19 21:25	04/15/19 18:39	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**14.0J**	mg/L	25.0	10.0	1		04/11/19 20:54		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.25J**	mg/L	0.25	0.024	1		04/11/19 00:54	16887-00-6	B
Fluoride	ND	mg/L	0.30	0.029	1		04/11/19 00:54	16984-48-8	
Sulfate	**0.13J**	mg/L	1.0	0.017	1		04/11/19 00:54	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 Hammond
Pace Project No.: 2617207

Sample: EB-01 **Lab ID: 2617207002** Collected: 04/08/19 18:00 Received: 04/09/19 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A								
Antimony	ND	mg/L	0.0030	0.00011	1	04/10/19 19:59	04/12/19 01:08	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.000060	1	04/10/19 19:59	04/12/19 01:08	7440-38-2	
Barium	ND	mg/L	0.010	0.000060	1	04/10/19 19:59	04/12/19 01:08	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	04/10/19 19:59	04/12/19 01:08	7440-41-7	
Boron	ND	mg/L	0.10	0.0026	1	04/10/19 19:59	04/12/19 01:08	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000070	1	04/10/19 19:59	04/12/19 01:08	7440-43-9	
Calcium	ND	mg/L	0.50	0.021	1	04/10/19 19:59	04/12/19 01:08	7440-70-2	
Chromium	ND	mg/L	0.010	0.00042	1	04/10/19 19:59	04/12/19 01:08	7440-47-3	
Cobalt	ND	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 01:08	7440-48-4	
Copper	ND	mg/L	0.025	0.00023	1	04/10/19 19:59	04/12/19 01:08	7440-50-8	
Lead	ND	mg/L	0.0050	0.000050	1	04/10/19 19:59	04/12/19 01:08	7439-92-1	
Lithium	ND	mg/L	0.050	0.00042	1	04/10/19 19:59	04/12/19 01:08	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00010	1	04/10/19 19:59	04/12/19 01:08	7439-98-7	
Nickel	ND	mg/L	0.010	0.00011	1	04/10/19 19:59	04/12/19 01:08	7440-02-0	
Selenium	ND	mg/L	0.010	0.000080	1	04/10/19 19:59	04/12/19 01:08	7782-49-2	
Silver	ND	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 01:08	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000060	1	04/10/19 19:59	04/12/19 01:08	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00012	1	04/10/19 19:59	04/12/19 01:08	7440-62-2	
Zinc	ND	mg/L	0.010	0.0011	1	04/10/19 19:59	04/12/19 01:08	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00020	0.00010	1	04/11/19 21:25	04/15/19 18:41	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**12.0J**	mg/L	25.0	10.0	1		04/11/19 20:54		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.22J**	mg/L	0.25	0.024	1		04/11/19 03:19	16887-00-6	B
Fluoride	ND	mg/L	0.30	0.029	1		04/11/19 03:19	16984-48-8	
Sulfate	**0.38J**	mg/L	1.0	0.017	1		04/11/19 03:19	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 Hammond
Pace Project No.: 2617207

QC Batch: 468895 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
Associated Lab Samples: 2617207001, 2617207002

METHOD BLANK: 2546716 Matrix: Water
Associated Lab Samples: 2617207001, 2617207002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.00010	04/15/19 18:06	

LABORATORY CONTROL SAMPLE: 2546717

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0021	83	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2546718 2546719

Parameter	Units	92424398001 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	0.0019	0.0019	77	77	75-125	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 Hammond
Pace Project No.: 2617207

QC Batch: 468622 Analysis Method: EPA 6020B
QC Batch Method: EPA 3010A Analysis Description: 6020 MET
Associated Lab Samples: 2617207001, 2617207002

METHOD BLANK: 2545263 Matrix: Water
Associated Lab Samples: 2617207001, 2617207002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00011	04/11/19 20:42	
Arsenic	mg/L	ND	0.0050	0.000060	04/11/19 20:42	
Barium	mg/L	ND	0.010	0.000060	04/11/19 20:42	
Beryllium	mg/L	ND	0.0030	0.000050	04/11/19 20:42	
Boron	mg/L	ND	0.10	0.0026	04/11/19 20:42	
Cadmium	mg/L	ND	0.0010	0.000070	04/11/19 20:42	
Calcium	mg/L	ND	0.50	0.021	04/11/19 20:42	
Chromium	mg/L	ND	0.010	0.00042	04/11/19 20:42	
Cobalt	mg/L	ND	0.010	0.000050	04/11/19 20:42	
Copper	mg/L	ND	0.025	0.00023	04/11/19 20:42	
Lead	mg/L	ND	0.0050	0.000050	04/11/19 20:42	
Lithium	mg/L	ND	0.050	0.00042	04/11/19 20:42	
Molybdenum	mg/L	ND	0.010	0.00010	04/11/19 20:42	
Nickel	mg/L	ND	0.010	0.00011	04/11/19 20:42	
Selenium	mg/L	ND	0.010	0.000080	04/11/19 20:42	
Silver	mg/L	ND	0.010	0.000050	04/11/19 20:42	
Thallium	mg/L	ND	0.0010	0.000060	04/11/19 20:42	
Vanadium	mg/L	ND	0.010	0.00012	04/11/19 20:42	
Zinc	mg/L	ND	0.010	0.0011	04/11/19 20:42	

LABORATORY CONTROL SAMPLE: 2545264

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	100	80-120	
Arsenic	mg/L	0.01	0.0099	99	80-120	
Barium	mg/L	0.05	0.049	99	80-120	
Beryllium	mg/L	0.01	0.010	104	80-120	
Boron	mg/L	0.05	0.052J	104	80-120	
Cadmium	mg/L	0.01	0.010	102	80-120	
Calcium	mg/L	0.62	0.64	102	80-120	
Chromium	mg/L	0.05	0.051	102	80-120	
Cobalt	mg/L	0.01	0.010	102	80-120	
Copper	mg/L	0.05	0.051	103	80-120	
Lead	mg/L	0.05	0.050	100	80-120	
Lithium	mg/L	0.05	0.050	100	80-120	
Molybdenum	mg/L	0.05	0.051	102	80-120	
Nickel	mg/L	0.05	0.051	102	80-120	
Selenium	mg/L	0.05	0.051	101	80-120	
Silver	mg/L	0.025	0.025	102	80-120	
Thallium	mg/L	0.01	0.010	100	80-120	

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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 Hammond
Pace Project No.: 2617207

LABORATORY CONTROL SAMPLE: 2545264

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Vanadium	mg/L	0.05	0.051	101	80-120	
Zinc	mg/L	0.05	0.051	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2545265 2545266

Parameter	Units	2617144001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L		0.1	0.1	0.099	0.099	99	99	75-125	0	20	
Arsenic	mg/L		0.01	0.01	0.0091J	0.0089J	91	89	75-125	2	20	
Barium	mg/L		0.05	0.05	0.085	0.085	85	85	75-125	0	20	
Beryllium	mg/L		0.01	0.01	0.0086	0.0089	86	89	75-125	4	20	
Boron	mg/L	1.0J	0.05	0.05	1.0J	1.0J	67	48	75-125	1	20	M6
Cadmium	mg/L		0.01	0.01	0.011	0.011	99	99	75-125	0	20	
Calcium	mg/L	70.0	0.62	0.62	71.3	74.8	207	759	75-125	5	20	M6
Chromium	mg/L		0.05	0.05	0.048	0.048	96	95	75-125	1	20	
Cobalt	mg/L		0.01	0.01	0.015	0.015	97	96	75-125	1	20	
Copper	mg/L		0.05	0.05	0.049	0.048	98	97	75-125	1	20	
Lead	mg/L		0.05	0.05	0.048	0.048	96	96	75-125	0	20	
Lithium	mg/L		0.05	0.05	0.043J	0.044J	82	85	75-125	3	20	
Molybdenum	mg/L		0.05	0.05	0.050	0.049	99	99	75-125	1	20	
Nickel	mg/L		0.05	0.05	0.051	0.051	96	96	75-125	0	20	
Selenium	mg/L		0.05	0.05	0.044	0.044	89	88	75-125	1	20	
Silver	mg/L		0.025	0.025	0.023	0.023	92	91	75-125	1	20	
Thallium	mg/L		0.01	0.01	0.0096	0.0096	96	96	75-125	0	20	
Vanadium	mg/L		0.05	0.05	0.050	0.050	100	100	75-125	0	20	
Zinc	mg/L		0.05	0.05	0.047	0.047	86	86	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 Hammond
Pace Project No.: 2617207

QC Batch: 26252
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2617207001, 2617207002

LABORATORY CONTROL SAMPLE: 118510

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	408	102	84-108	

SAMPLE DUPLICATE: 118512

Parameter	Units	2617150003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2310	2380	3	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617207

QC Batch: 26135 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2617207001, 2617207002

METHOD BLANK: 117979 Matrix: Water
Associated Lab Samples: 2617207001, 2617207002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.064J	0.25	0.024	04/10/19 21:47	
Fluoride	mg/L	ND	0.30	0.029	04/10/19 21:47	
Sulfate	mg/L	ND	1.0	0.017	04/10/19 21:47	

LABORATORY CONTROL SAMPLE: 117980

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.2	102	90-110	
Fluoride	mg/L	10	10.0	100	90-110	
Sulfate	mg/L	10	9.9	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 117981 117982

Parameter	Units	2617207001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	0.25J	10	10	9.9	10	96	97	90-110	1	15	
Fluoride	mg/L	ND	10	10	9.5	9.6	95	96	90-110	1	15	
Sulfate	mg/L	0.13J	10	10	9.5	9.6	94	94	90-110	1	15	

MATRIX SPIKE SAMPLE: 117983

Parameter	Units	2617150001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	131	10	10.5	-1210	90-110	
Fluoride	mg/L	0.13J	10	9.4	93	90-110	
Sulfate	mg/L	392	10	13.7	-3780	90-110	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2617207

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-GA	Pace Analytical Services - Atlanta, GA

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
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 Hammond
Pace Project No.: 2617207

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2617207001	**FB-02**	EPA 3010A	468622	EPA 6020B	468673
2617207002	**EB-01**	EPA 3010A	468622	EPA 6020B	468673
2617207001	**FB-02**	EPA 7470A	468895	EPA 7470A	468941
2617207002	**EB-01**	EPA 7470A	468895	EPA 7470A	468941
2617207001	**FB-02**	SM 2540C	26252		
2617207002	**EB-01**	SM 2540C	26252		
2617207001	**FB-02**	EPA 300.0	26135		
2617207002	**EB-01**	EPA 300.0	26135		

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Pace Analytical

Page : 1 Of 1

Section A Required Client Information:

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 TAT

Section B Required Project Information:

Report To:	Joju Abraham
Copy To:	Lauren Petty, Geosyntec
Purchase Order #:	SCS10348606
Project Name:	Plant Hammond
Project #:	

Section C Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Pace Profile #:	327 (AP) or 328 (Huff)

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	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals (App. III & App. IV)	Mets (App. III, App. IV, D&O)	Metals (App. III & D&O)	TDS, Cl, F, SO4	Radium 226/228	Residual Chlorine (Y/N)
1	FB-02	WT	G	4/8/19	1740	4/8/19	1745	19	5	2		3							-	Y	-	Y	Y	-
2	EB-01	WT	G	4/8/19	1755	4/8/19	1800	19	6	2		3							-	Y	-	Y	Y	-
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

NM 4/8/19

WO#:2617207

2617207

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Noelia Muskus / Geo	4/8/19	2010	EB Laws / Geosyntec	4/8/19	2010	
	EB Laws / Geosyntec	4/9/19	1127	[illegible] / Pace	4.9.19	1127	
				M Rahman	4/9/19	1330	

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
0.7	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Noelia Muskus

SIGNATURE of SAMPLER: Noelia Muskus DATE Signed: 4/8/19

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 2617207

PM: BM **Due Date: 04/16/19**

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 83

Type of Ice: Wet Blue None

☐ Samples on ice, cooling process has begun

Cooler Temperature 0.7

Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 4/9/19 AK

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

May 01, 2019

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Hammond
Pace Project No.: 2617208

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on April 09, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond
Pace Project No.: 2617208

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
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 Hammond
Pace Project No.: 2617208

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2617208001	**FB-02**	Water	04/08/19 17:45	04/09/19 13:30
2617208002	**EB-01**	Water	04/08/19 18:00	04/09/19 13:30

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Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond
Pace Project No.: 2617208

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2617208001	**FB-02**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2617208002	**EB-01**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

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(770)734-4200

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond
Pace Project No.: 2617208

Sample: FB-02 **Lab ID: 2617208001** Collected: 04/08/19 17:45 Received: 04/09/19 13:30 Matrix: Water
PWS: Site ID: Sample Type:

Comments: • Sample collection time on containers does not match COC; client was notified.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.170 ± 0.1000 (0.159) C:93% T:NA**	pCi/L	04/22/19 21:19	13982-63-3	
Radium-228	EPA 9320	**0.521 ± 0.334 (0.615) C:78% T:79%**	pCi/L	04/25/19 14:16	15262-20-1	
Total Radium	Total Radium Calculation	**0.691 ± 0.434 (0.774)**	pCi/L	04/26/19 09:32	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 Hammond
Pace Project No.: 2617208

Sample: EB-01 **Lab ID: 2617208002** Collected: 04/08/19 18:00 Received: 04/09/19 13:30 Matrix: Water
PWS: Site ID: Sample Type:

Comments: • Sample collection time on containers does not match COC; client was notified.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.108 ± 0.128 (0.243) C:87% T:NA**	pCi/L	04/22/19 21:19	13982-63-3	
Radium-228	EPA 9320	**0.370 ± 0.318 (0.634) C:81% T:75%**	pCi/L	04/25/19 14:16	15262-20-1	
Total Radium	Total Radium Calculation	**0.478 ± 0.446 (0.877)**	pCi/L	04/26/19 09:32	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: Plant Hammond
Pace Project No.: 2617208

QC Batch: 338631 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 2617208001, 2617208002

METHOD BLANK: 1648339 Matrix: Water
Associated Lab Samples: 2617208001, 2617208002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.146 ± 0.0893 (0.139) C:90% T:NA	pCi/L	04/22/19 21:19	

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 Hammond
Pace Project No.: 2617208

QC Batch: 338745 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 2617208001, 2617208002

METHOD BLANK: 1648702 Matrix: Water
Associated Lab Samples: 2617208001, 2617208002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.552 ± 0.362 (0.681) C:81% T:74%	pCi/L	04/25/19 11:04	

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 Hammond
Pace Project No.: 2617208

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond
Pace Project No.: 2617208

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2617208001	**FB-02**	EPA 9315	338631		
2617208002	**EB-01**	EPA 9315	338631		
2617208001	**FB-02**	EPA 9320	338745		
2617208002	**EB-01**	EPA 9320	338745		
2617208001	**FB-02**	Total Radium Calculation	340066		
2617208002	**EB-01**	Total Radium Calculation	340066		

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:

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 TAT

Section B — Required Project Information:

Report To:	Joju Abraham
Copy To:	Lauren Petty, Geosyntec
Purchase Order #:	SCS10348606
Project Name:	Plant Hammond
Project #:	

Section C — Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Pace Profile #:	327 (AP) or 328 (Huff)

Regulatory Agency:

State / Location: GA

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 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)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals (App. III & App. IV)	Mets (App. III, App. IV, D&O)	Metals (App. III & D&O)	TDS, Cl, F, SO4	Radium 226/228	Residual Chlorine (Y/N)
1	FB-02	WT	G	4/8/19	1740	4/8/19	1745	19	5	2		3							-	Y	-	Y	Y	-
2	EB-01	WT	G	4/8/19	1755	4/8/19	1800	19	5	2		3							-	Y	-	Y	Y	-
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

NM 4/8/19

WO#: 2617208

2617208

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Noelia Muskus / Geo	4/8/19	2010	EBlow / Geosyntec	4/8/19	2010				
	EBlow / Geosyntec	4/9/19	1127	[illegible] / Pace	4.9.19	1127				
				MRahman	4/9/19	1330	0.7	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Noelia Muskus

SIGNATURE of SAMPLER: Noelia Muskus

DATE Signed: 4/8/19

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 2617208

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other

Tracking #:

PM: BM Due Date: 05/07/19

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes

CLIENT: GAPower-CCR

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 83

Type of Ice: Wet Blue None

☐ Samples on ice, cooling process has begun

Cooler Temperature 0.7

Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 4/9/19 MR

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

June 20, 2019

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Hammond AP
Pace Project No.: 2619806

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on June 18, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond AP
Pace Project No.: 2619806

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Virginia Certification #: 460204

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond AP
Pace Project No.: 2619806

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2619806001	**HGWC-120**	Water	06/17/19 13:20	06/18/19 12:00
2619806002	**HGWC-121A**	Water	06/17/19 14:40	06/18/19 12:00

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond AP
Pace Project No.: 2619806

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2619806001	**HGWC-120**	EPA 6020B	CSW	2
		EPA 300.0	MWB	2
2619806002	**HGWC-121A**	EPA 6020B	CSW	2
		SM 2540C	M1O	1
		EPA 300.0	MWB	2

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond AP
Pace Project No.: 2619806

Sample: HGWC-120 **Lab ID: 2619806001** Collected: 06/17/19 13:20 Received: 06/18/19 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Boron	**1.1**	mg/L	0.040	0.0049	1	06/18/19 16:30	06/19/19 15:36	7440-42-8	
Calcium	**164**	mg/L	5.0	0.55	50	06/18/19 16:30	06/19/19 15:42	7440-70-2	M6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Fluoride	**1.2**	mg/L	0.30	0.029	1		06/20/19 04:31	16984-48-8	
Sulfate	**243**	mg/L	10.0	0.17	10		06/20/19 05:39	14808-79-8	M1

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond AP
Pace Project No.: 2619806

Sample: HGWC-121A **Lab ID: 2619806002** Collected: 06/17/19 14:40 Received: 06/18/19 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Boron	**2.4**	mg/L	0.040	0.0049	1	06/18/19 16:30	06/19/19 16:35	7440-42-8	
Calcium	**173**	mg/L	5.0	0.55	50	06/18/19 16:30	06/19/19 16:41	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**751**	mg/L	10.0	10.0	1		06/19/19 17:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**32.9**	mg/L	0.25	0.024	1		06/20/19 06:25	16887-00-6	M1
Sulfate	**219**	mg/L	10.0	0.17	10		06/20/19 06:02	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 Hammond AP
Pace Project No.: 2619806

QC Batch: 30489 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 2619806001, 2619806002

METHOD BLANK: 137204 Matrix: Water
Associated Lab Samples: 2619806001, 2619806002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	mg/L	ND	0.040	0.0049	06/19/19 15:18	
Calcium	mg/L	ND	0.10	0.011	06/19/19 15:18	

LABORATORY CONTROL SAMPLE: 137205

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	mg/L	1	0.96	96	80-120	
Calcium	mg/L	1	0.91	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 137206 137207

Parameter	Units	2619806001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	mg/L	1.1	1	1	2.1	2.1	97	100	75-125	1	20	
Calcium	mg/L	164	1	1	168	176	381	1150	75-125	4	20	M6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond AP
Pace Project No.: 2619806

QC Batch: 30523
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2619806002

LABORATORY CONTROL SAMPLE: 137322

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	414	104	84-108	

SAMPLE DUPLICATE: 137323

Parameter	Units	2619806002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	751	783	4	10	

SAMPLE DUPLICATE: 137664

Parameter	Units	2619850002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	233	256	9	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 Hammond AP
Pace Project No.: 2619806

QC Batch: 30603 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2619806001, 2619806002

METHOD BLANK: 137790 Matrix: Water
Associated Lab Samples: 2619806001, 2619806002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.024	06/20/19 03:46	
Fluoride	mg/L	ND	0.30	0.029	06/20/19 03:46	
Sulfate	mg/L	ND	1.0	0.017	06/20/19 03:46	

LABORATORY CONTROL SAMPLE: 137791

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	9.9	99	90-110	
Fluoride	mg/L	10	9.7	97	90-110	
Sulfate	mg/L	10	9.7	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 137792 137793

Parameter	Units	2619806001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.0	10	10	12.2	12.3	91	93	90-110	1	15	
Fluoride	mg/L	1.2	10	10	10.2	10.3	90	91	90-110	1	15	
Sulfate	mg/L	243	10	10	202	202	-408	-409	90-110	0	15	E,M1
Sulfate	mg/L	243	10	10	202	202	-408	-409	90-110	0	15	E,M1

MATRIX SPIKE SAMPLE: 137794

Parameter	Units	2619806002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	32.9	10	39.1	62	90-110	M1
Fluoride	mg/L	0.97	10	10.3	93	90-110	
Sulfate	mg/L	219	10	184	-348	90-110	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond AP
Pace Project No.: 2619806

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond AP
Pace Project No.: 2619806

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2619806001	**HGWC-120**	EPA 3005A	30489	EPA 6020B	30498
2619806002	**HGWC-121A**	EPA 3005A	30489	EPA 6020B	30498
2619806002	**HGWC-121A**	SM 2540C	30523		
2619806001	**HGWC-120**	EPA 300.0	30603		
2619806002	**HGWC-121A**	EPA 300.0	30603		

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, Lauren Petty	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Geosyntec	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:	SCS10382775	Pace Quote:	
Phone:	(404)506-7239 Fax	Project Name:	Plant Hammond Resample	Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Requested Due Date:	Standard TAT	Project #:	GW0581	Pace Profile #:	327 (AP) or 328 (Huff)

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)	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	Barium	Boron	Calcium	Chloride	Fluoride	Sulfate	TDS	Residual Chlorine (Y/N)
1	HGWC-120	WT	G	06/17	13:10	06/17	13:20	20	2	1		1				.			.	X	X		X	X		N
2	HGWC-121A	WT	G	06/17	14:30	06/17	14:40	21	2	1		1							X	X	X		X	X		N
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

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

NM 6/17/19

WO#: 2619806

2619806

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Dalton Anderson (GP)	6/17/19	18:20	Mollie Mullins (Georgia)	6/17/19	18:00	
	Mollie Mullins (Geot	6/18/19	08:30	M. RAHMAN	6/18/19	0830	
				M Rahman	6/18/19	1200	

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
0.7	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dalton Anderson

SIGNATURE of SAMPLER: DATE Signed: 6/17/19

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power Project #

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other

WO#: 2619806

Tracking #:

PM: BM Due Date: 06/20/19

CLIENT: GAPower-CCR

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 83 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 0.7 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 6/18/19 MK

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)

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

June 21, 2019

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Hammond AP
Pace Project No.: 2619850

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on June 19, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond AP
Pace Project No.: 2619850

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Virginia Certification #: 460204

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond AP
Pace Project No.: 2619850

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2619850001	**HGWC-124**	Water	06/18/19 09:40	06/19/19 09:50
2619850002	**HGWA-122**	Water	06/18/19 11:50	06/19/19 09:50

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond AP
Pace Project No.: 2619850

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2619850001	**HGWC-124**	EPA 6020B	CSW	2
		SM 2540C	M1O	1
		EPA 300.0	MWB	2
2619850002	**HGWA-122**	EPA 6020B	CSW	2
		SM 2540C	M1O	1
		EPA 300.0	MWB	3

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond AP
Pace Project No.: 2619850

Sample: HGWC-124 **Lab ID: 2619850001** Collected: 06/18/19 09:40 Received: 06/19/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Boron	**0.45**	mg/L	0.040	0.0049	1	06/19/19 16:00	06/20/19 17:10	7440-42-8	
Calcium	**97.1**	mg/L	5.0	0.55	50	06/19/19 16:00	06/20/19 17:16	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**323**	mg/L	10.0	10.0	1		06/19/19 17:35		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**2.3J**	mg/L	2.5	0.24	10		06/20/19 16:36	16887-00-6	
Sulfate	**75.3**	mg/L	10.0	0.17	10		06/20/19 16:36	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond AP
Pace Project No.: 2619850

Sample: HGWA-122 **Lab ID: 2619850002** Collected: 06/18/19 11:50 Received: 06/19/19 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Boron	**0.25**	mg/L	0.040	0.0049	1	06/19/19 16:00	06/20/19 17:22	7440-42-8	
Calcium	**75.0**	mg/L	5.0	0.55	50	06/19/19 16:00	06/20/19 17:27	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**233**	mg/L	10.0	10.0	1		06/19/19 17:36		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**3.2**	mg/L	0.25	0.024	1		06/20/19 15:05	16887-00-6	
Fluoride	**0.14J**	mg/L	0.30	0.029	1		06/20/19 15:05	16984-48-8	
Sulfate	**44.5**	mg/L	1.0	0.017	1		06/20/19 15:05	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 Hammond AP
Pace Project No.: 2619850

QC Batch: 30563 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 2619850001, 2619850002

METHOD BLANK: 137554 Matrix: Water
Associated Lab Samples: 2619850001, 2619850002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	mg/L	ND	0.040	0.0049	06/20/19 15:52	
Calcium	mg/L	ND	0.10	0.011	06/20/19 15:52	

LABORATORY CONTROL SAMPLE: 137555

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	mg/L	1	0.98	98	80-120	
Calcium	mg/L	1	0.97	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 137556 137557

Parameter	Units	2619848002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	mg/L	0.54	1	1	1.4	1.5	90	100	75-125	7	20	
Calcium	mg/L	76.5	1	1	78.8	76.5	235	2	75-125	3	20	M6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond AP
Pace Project No.: 2619850

QC Batch: 30523 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2619850001, 2619850002

LABORATORY CONTROL SAMPLE: 137322

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	414	104	84-108	

SAMPLE DUPLICATE: 137323

Parameter	Units	2619806002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	751	783	4	10	

SAMPLE DUPLICATE: 137664

Parameter	Units	2619850002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	233	256	9	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 Hammond AP
Pace Project No.: 2619850

QC Batch: 30603
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2619850001, 2619850002

METHOD BLANK: 137790 Matrix: Water
Associated Lab Samples: 2619850001, 2619850002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.024	06/20/19 03:46	
Fluoride	mg/L	ND	0.30	0.029	06/20/19 03:46	
Sulfate	mg/L	ND	1.0	0.017	06/20/19 03:46	

LABORATORY CONTROL SAMPLE: 137791

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	9.9	99	90-110	
Fluoride	mg/L	10	9.7	97	90-110	
Sulfate	mg/L	10	9.7	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 137792 137793

Parameter	Units	2619806001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.0	10	10	12.2	12.3	91	93	90-110	1	15	
Fluoride	mg/L	1.2	10	10	10.2	10.3	90	91	90-110	1	15	
Sulfate	mg/L	243	10	10	202	202	-408	-409	90-110	0	15	E,M1

MATRIX SPIKE SAMPLE: 137794

Parameter	Units	2619806002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	32.9	10	39.1	62	90-110	M1
Fluoride	mg/L	0.97	10	10.3	93	90-110	
Sulfate	mg/L	219	10	184	-348	90-110	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond AP
Pace Project No.: 2619850

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond AP
Pace Project No.: 2619850

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2619850001	**HGWC-124**	EPA 3005A	30563	EPA 6020B	30597
2619850002	**HGWA-122**	EPA 3005A	30563	EPA 6020B	30597
2619850001	**HGWC-124**	SM 2540C	30523		
2619850002	**HGWA-122**	SM 2540C	30523		
2619850001	**HGWC-124**	EPA 300.0	30603		
2619850002	**HGWA-122**	EPA 300.0	30603		

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:	2-day TAT

Section B — Required Project Information:

Report To:	Joju Abraham, Lauren Petty
Copy To:	Geosyntec
Purchase Order #:	SCS10382775
Project Name:	Plant Hammond Resample
Project #:	GWC6581

Section C — Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Pace Profile #:	327 (AP) or 328 (Huff)

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)	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	Barium	Boron	Calcium	Chloride	Fluoride	Sulfate	TDS	Residual Chlorine (Y/N)
1	HGWC-124	WT	G	6/18/19	9:30	6/18/19	9:40	25	2	1		1							X	X	X		X	X		N
2	HGWA-122	WT	G	6/18/19	11:40	6/18/19	11:50	19	2	1		1							X	X	X	X	X	X		N
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

DA 06/18/19

WO# : 2619850

2619850

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	Dalton Anderson (GSE)	6/18/19	14:00	Mollie Murham/Geosyntec	6/18/19	18:00
	Mollie Murham/Geosyntec	6/19/19	08:50	Pace	6/19/19	0850
				M Zalman	6/19/19	0950

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dalton Anderson

SIGNATURE of SAMPLER: DATE Signed: 6/18/19

SAMPLE CONDITIONS				
TEMP in C	2.0			
Received on Ice (Y/N)	Y			
Custody Sealed Cooler (Y/N)	Y			
Samples Intact (Y/N)	Y			

Sample Condition Upon Receipt

Face Analytical

Client Name: GA Power Project # _____

WO# : 2619850

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other _

Tracking #: _____

PM: BM Due Date: 06/21/19

CLIENT: GAPower-CCR

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other _____

Thermometer Used 83 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 2.0 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6 °C

Date and Initials of person examining contents: 6/19/19 MR

Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☑Yes	☐No	☐N/A	7. 48 hr. TAT.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: W	☑Yes	☐No	☐N/A	12.
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation. exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes	☐No	☐N/A	Initial when completed / Lot # of added preservative
	☐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): _____				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

June 20, 2019

Joju Abraham
Georgia Power - Coal Combustion Residuals
2480 Maner Road
Atlanta, GA 30339

RE: Project: Plant Hammond
Pace Project No.: 2619807

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on June 18, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond
Pace Project No.: 2619807

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Virginia Certification #: 460204

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond
Pace Project No.: 2619807

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2619807001	**EB-01**	Water	06/17/19 09:54	06/18/19 12:00

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(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond
Pace Project No.: 2619807

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2619807001	**EB-01**	EPA 6020B	CSW	3
		SM 2540C	M1O	1
		EPA 300.0	MWB	3

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110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2619807

Sample: EB-01 **Lab ID: 2619807001** Collected: 06/17/19 09:54 Received: 06/18/19 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Barium	ND	mg/L	0.010	0.00049	1	06/18/19 16:30	06/19/19 16:47	7440-39-3	
Boron	ND	mg/L	0.040	0.0049	1	06/18/19 16:30	06/19/19 16:47	7440-42-8	
Calcium	ND	mg/L	0.10	0.011	1	06/18/19 16:30	06/19/19 16:47	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**14.0**	mg/L	10.0	10.0	1		06/19/19 17:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.93**	mg/L	0.25	0.024	1		06/20/19 06:47	16887-00-6	
Fluoride	**0.33**	mg/L	0.30	0.029	1		06/20/19 06:47	16984-48-8	
Sulfate	ND	mg/L	1.0	0.017	1		06/20/19 06:47	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 Hammond
Pace Project No.: 2619807

QC Batch: 30489
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020B MET
Associated Lab Samples: 2619807001

METHOD BLANK: 137204 Matrix: Water
Associated Lab Samples: 2619807001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	mg/L	ND	0.010	0.00049	06/19/19 15:18	
Boron	mg/L	ND	0.040	0.0049	06/19/19 15:18	
Calcium	mg/L	ND	0.10	0.011	06/19/19 15:18	

LABORATORY CONTROL SAMPLE: 137205

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	0.1	0.095	95	80-120	
Boron	mg/L	1	0.96	96	80-120	
Calcium	mg/L	1	0.91	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 137206 137207

Parameter	Units	2619806001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.052	0.1	0.1	0.15	0.15	100	100	75-125	0	20	
Boron	mg/L	1.1	1	1	2.1	2.1	97	100	75-125	1	20	
Calcium	mg/L	164	1	1	168	176	381	1150	75-125	4	20	M6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2619807

QC Batch: 30523
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2619807001

LABORATORY CONTROL SAMPLE: 137322

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	414	104	84-108	

SAMPLE DUPLICATE: 137323

Parameter	Units	2619806002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	751	783	4	10	

SAMPLE DUPLICATE: 137664

Parameter	Units	2619850002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	233	256	9	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 Hammond
Pace Project No.: 2619807

QC Batch: 30603
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2619807001

METHOD BLANK: 137790 Matrix: Water
Associated Lab Samples: 2619807001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.024	06/20/19 03:46	
Fluoride	mg/L	ND	0.30	0.029	06/20/19 03:46	
Sulfate	mg/L	ND	1.0	0.017	06/20/19 03:46	

LABORATORY CONTROL SAMPLE: 137791

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	9.9	99	90-110	
Fluoride	mg/L	10	9.7	97	90-110	
Sulfate	mg/L	10	9.7	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 137792 137793

Parameter	Units	2619806001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.0	10	10	12.2	12.3	91	93	90-110	1	15	
Fluoride	mg/L	1.2	10	10	10.2	10.3	90	91	90-110	1	15	
Sulfate	mg/L	243	10	10	202	202	-408	-409	90-110	0	15	E,M1
Sulfate	mg/L	243	10	10	202	202	-408	-409	90-110	0	15	E,M1

MATRIX SPIKE SAMPLE: 137794

Parameter	Units	2619806002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	32.9	10	39.1	62	90-110	M1
Fluoride	mg/L	0.97	10	10.3	93	90-110	
Sulfate	mg/L	219	10	184	-348	90-110	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2619807

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond
Pace Project No.: 2619807

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2619807001	**EB-01**	EPA 3005A	30489	EPA 6020B	30498
2619807001	**EB-01**	SM 2540C	30523		
2619807001	**EB-01**	EPA 300.0	30603		

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, Lauren Petty	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Geosyntec	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:	SCS10382775	Pace Quote:	
Phone:	(404)506-7239 Fax	Project Name:	Plant Hammond Resample	Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Requested Due Date:	Standard TAT	Project #:	GW0591	Pace Profile #:	327 (AP) or 328 (Huff)

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)	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	Barium	Boron	Calcium	Chloride	Fluoride	Sulfate	TDS	Residual Chlorine (Y/N)
1	EB-01	WT	G	6/17	9:53	6/17	9:53		2	1		1							X	X	X	X	X	X	X	N
2																										
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

NM 6/17/19

WO# : 2619807

2619807

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	Dalton Anderson (Geo)	6/17/19	18:00	Malia Mumtaz (Geosyntec)	6/17/19	18:00
	Malia Mumtaz (Geo)	6/18/19	08:30	M RAHMAN	6/18/19	0830
				M Rahman	6/18/19	1200

SAMPLE CONDITIONS

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
0.7	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dalton Anderson

SIGNATURE of SAMPLER: [signature] DATE Signed: 6/17/19

Sample Condition Upon Receipt

Face Analytical

Client Name: GA Power Project #

WO#: 2619807

PM: BM **Due Date: 06/20/19**

CLIENT: GAPower-CCR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Thermometer Used 83 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 0.7 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 6/18/19 MK

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)

Data Validation Reports

ENVIRONMENTAL STANDARDS

Setting the Standards for Innovative Environmental Solutions

Stage 2A Data Verification Report
Georgia Power
Hammond Fossil Plant
Site Ash Pond 3 & 4
Coal Combustion Residuals Project
Groundwater Samples

This quality assurance (QA) review is based upon an examination of the data generated from the analyses of the 102 groundwater samples collected as part of the eight rounds of 2016-2018 baseline monitoring, at the Georgia Power Hammond Fossil Plant facility. These samples were collectively analyzed by Pace Analytical Services, Inc. (Pace), of Peachtree Corners, Georgia, for total metals by SW-846 Method 6020B; for total mercury by SW-846 Method 7470A; for total dissolved solids (TDS) by Standard Methods (SM) 2540C; and for anions (specifically, chloride, fluoride, and sulfate) by US EPA Method 300.0. In addition, these samples were collectively analyzed by Pace of Greensburg, Pennsylvania, for total radium-226 by SW-846 Method 9315, for total radium-228 by SW-846 Method 9320, and for combined radium-226+228 by calculation.

This review was performed with guidance from the US EPA Region IV Environmental Investigations Standard Operating Procedures and Quality Assurance Manual (November 2001); the US EPA Region IV Data Validation Standard Operating Procedures (SOPs; US EPA Region IV, September 2011); and the applied analytical methods. These validation guidance documents, with the exception of the analytical methods, specifically address analyses performed in accordance with the Contract Laboratory Program (CLP) analytical methods and are not completely applicable to the type of analyses and analytical protocols performed for the SW-846, US EPA, and SM methods utilized by the laboratory for these samples. Environmental Standards, Inc. (Environmental Standards) used professional judgment to determine the usability of the analytical results and compliance relative to the SW-846, US EPA, and SM methods utilized by the laboratory.

Summary

The analytical results and associated laboratory quality control (QC) samples were reviewed to determine the integrity of the reported analytical results and to ensure that the data met the established data quality objectives.

The following sampling events were evaluated as part of this QA review: Event 1, collected 8/30/2016 through 8/31/2016; Event 2, collected 10/20/2016 through 11/7/2016; Event 3, collected 1/13/2017 through 1/31/2017; Event 4, collected 5/23/2017 through 6/3/2017; Event 5, collected 8/11/2017 through 10/2/2017; Event 6, collected 11/13/2017 through 11/15/2017;

Event 7, collected 6/4/2018 through 6/7/2018; and Event 8, collected 10/1/2018 through 10/5/2018.

The following samples were evaluated as part of this QA review: HGWA-111, HGWA-112, HGWA-113, HGWA-122, HGWC-101, HGWC-103, HGWC-105, HGWC-107, HGWC-109, HGWC-117, HGWC-118, HGWC-120, HGWC-121, HGWC-121A, and HGWC-124.

The following Pace inorganic Sample Delivery Groups (SDGs) were evaluated as part of this QA review: AZH0983, AZI0019, AZJ0623, AZJ0697, AZJ0726, AZJ0820, AZK0264, AAA0455, AAA0861, AAA0924, AAB0021, AAE0811, AAE0857, AAE0898, AAF0136, AAH0433, AAJ0054, AAK0534, AAK0578, 265790, 265791, 265794, 265859, 265864, 265888, 265889, 269951, 2610033, 2610037, 2610112, and 2610210.

The following Pace radiological SDGs were evaluated as part of this QA review: 30194831, 30195007, 30200226, 30200506, 30200747, 30201008, 30202041, 30208165, 30209139, 30209265, 30209600, 30219828, 30219999, 30220164, 30220780, 30227120, 30232039, 30236279, 30236436, 265790, 265791, 265794, 265859, 265864, 265888, 265889, 269952, 2610034, 2610038, 2610113, and 2610211.

All data are considered usable as reported, or usable after integration of data validation qualifications.

Inorganic and Radiological Data Review

Data validation was performed for these samples based on the sample results, summary QC data, and raw data provided by the laboratory. The findings offered in this report for the inorganic analyses are based upon a review of the following QC measures:

- Sample condition upon laboratory receipt
- Chain-of-Custody (COC) Records
- Blank analysis results
- Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries and precision
- Laboratory duplicate precision
- Sample holding times
- Case Narratives
- Chemical yield
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries and precision
- Field duplicate precision

The above QC measures were evaluated against the analytical method requirements and QC acceptance criteria. The data were validated based on guidance from the US EPA Region IV Data Validation SOPs, the referenced procedures, and were qualified as appropriate as described in the sections below.

Comments and Exceptions

1. In the metals fraction, the laboratory did not report a set number of significant figures for results < 0.1 mg/L. All results that were < 0.1 mg/L were reported to four decimal places. As a result, reported sample results ranged from one to three significant figures. In addition, the anions results < 1 mg/L were reported to two decimal places, which led to sample results with 1 to 2 significant figures.

2. The data validator applied qualification to combined radium-226+228 based upon the QC samples associated with the analyses of the individual isotopes, radium-226 and radium-228. The electronic data deliverable (EDD) and the database only include the laboratory results for the combined radium-226+228; therefore, qualification of the individual isotopes is not addressed in this QA review.

3. SW-846 Method 9315 includes all alpha-emitting isotopes of radium. In order to analyze for only radium-226, a 21-day ingrowth period must be used. The radium-226 reported by the laboratory did not undergo a 21-day ingrowth; therefore, the results reported as radium-226 potentially contain additional alpha-emitting radium isotopes and could be high biased.

4. Combined radium-226+228 was reported as the summation of the calculated activities for radium-226 and radium-228. As consistent with routine radiological reporting conventions, negative activities were reported for the radium-226 and radium-228 analyses; however, all negative activities were entered as zero in the calculation of combined radium-226+228 activity.

5. The combined radium-226+228 sample-specific minimum detectable concentration (MDC) was reported as the summation of the MDCs for radium-226 and radium-228.

Consequently, there may be instances where a detection was observed in one of the individual isotopes but the combined radium-226+228 result was reported as "not-detected" due to the laboratory's reporting convention for combined radium-226+228.

6. The combined radium-226+228 result uncertainty was reported as the summation of the calculated uncertainties for radium-226 and radium-228. If routine statistical uncertainty reporting conventions were followed, the result uncertainty would have been reported as the root sum square (RSS; the square root of the sum of the squared individual uncertainties).

7. The laboratory did not flag results < the MDC as "not-detected" in the data package provided. The data validator qualified these samples as "U" on the data tables.

8. In SDG 30195007, the laboratory Case Narrative indicated that insufficient sample volume was received for sample HGWC-118. This sample was not analyzed for radium-226 or radium-228 as part of sampling Event 1.

9. In SDG 30200226, the laboratory did not provide the original COC associated with the radium analysis. As this item was not needed to complete the data validation and had been included in SDG AZJ0623, the laboratory had not been requested to provide this information. Qualification of data due to this issue was not warranted.

10. In SDG 30232039, the laboratory did not provide the original COC associated with the radium analysis. As this item was not needed to complete the data validation and had been included in SDG AAJ0054, the laboratory had not been requested to provide this information. Qualification of data due to this issue was not warranted.

11. The data package for the radium analyses in SDG 30227120 did not include the Quality Control Sample Performance Assessment summaries for the associated analytical batches. The summaries for two batches, 268401 and 268400, were obtained from the data package for SDG 30227121. Data were not qualified due to this issue.

12. In SDG 30236279, the sample identification (ID) on the COC for sample HGWC-103 had been logged in by the laboratory as HGWA-103; therefore, the sample ID on the COC and laboratory data report do not match. Qualification of data due to this issue was not warranted.

13. In SDGs AAA0455 and 30208165, the collection date for sample HGWC-121 was listed as "1/13/16" on the COC. The correct collection date for sample HGWC-121 was 1/13/17. The laboratory logged in this sample using the correct collection date. Qualification of data due to this issue was not warranted.

14. In SDGs AAE0898 and 30220164, the laboratory noted on the COC that the labels for sample HGWC-120 listed the sample ID as "HGWC-121." The laboratory logged in this sample as HGWC-120 according to the COC. Qualification of data due to this issue was not warranted.

15. In SDGs 2610037 and 2610038, the sample collection date for all samples was listed as "10/2" on the COC. The complete collection date for these samples was 10/2/18. The laboratory logged in these samples using the complete sample collection date. Qualification of data due to this issue was not warranted.

16. In SDG 30236279, the laboratory did not provide the original COC associated with the radium analysis. As this item was not needed to complete the data validation and had been included in SDG AAK0534, the laboratory had not been requested to provide this information. Qualification of data due to this issue was not warranted.

17. In SDG 30236436, the laboratory did not provide the original COC associated with the radium analysis. As this item was not needed to complete the data validation and had been included in SDG AAK0578, the laboratory had not been requested to provide this information. Qualification of data due to this issue was not warranted.

18. In Event 7 SDGs 265790, 265791, 265794, 265859, 265864, 265888, and 265889 the laboratory did not provide the subcontracted COC Record or the Sample Login Receipt Checklist from Pace in Greensburg, Pennsylvania. As these items were not needed to complete the data validation, the laboratory had not been requested to provide this information. Qualification of data due to this issue was not warranted.

19. In Event 8 SDGs 269952, 2610034, 2610038, 2610113, and 2610211 the laboratory did not provide the subcontracted COC Record or the Sample Login Receipt Checklist from Pace in Greensburg, Pennsylvania. As these items were not needed to complete the data validation, the laboratory had not been requested to provide this information. Qualification of data due to this issue was not warranted.

20. In several SDGs, Pace Atlanta did not relinquish the samples to Pace Pittsburgh on the subcontracted COC Record. As these items were not needed to complete the data validation, the laboratory had not been requested to provide this information. Qualification of data due to this issue was not warranted.

21. The following field duplicate pairs (see table) were submitted and analyzed for inorganic and radiological parameters with this data set. Acceptable precision and sample representativeness (the relative percent difference [RPD] between results was ≤ 20% when both results were ≥ 5× the reporting limit [RL], the difference between results was ≤ the RL when at least one result was < 5× the RL, or replicate error ratio [RER] < 3) were demonstrated by the reported results in the field duplicate pair evaluation with the exception of the parameters indicated in the Overall Assessment of Data Section below.

Laboratory SDG(s)	Sample	Field Duplicate
AZI0019 30195007	HGWC-103	Dup-1
AZJ0623 30200226	HGWC-117	Dup-1
AAA0924 30209265	HGWC-120	Dup-1
AAE0811 30219828	HGWC-118	Dup-1
AAK0578 30236436	HGWC-124	Dup-1
265859	HGWC-103	FD-02
2610112 2610113	HGWC-117	FD-03
2610210 2610211	HGWC-121A	FD-05

Overall Assessment of Data

Based on a review of the data, qualification of data was warranted as noted below.

Laboratory SDG(s)	Event	Sample(s)	Analyte(s)	Qualifier(s)	Reason(s) for Qualification
AZH0983	1	all samples	mercury	U*	BL – Method blank contamination
AZI0019	1	HGWC-117 and HGWC-120	mercury	U*	BL – Method blank contamination
30195007	1	HGWC-117, HGWC-124, and HGWC-121	combined radium-226+228	U*	BL – Method blank contamination
AZH0983	1	all samples	fluoride	U*	BF – Field blank contamination
AZI0019	1	HGWC-117, HGWC-124, HGWC-118, HGWC-101, HGWC-103, HGWC-105, HGWC-107, HGWC-121, and HGWC-109	fluoride	U*	BF – Field blank contamination
AZH0983	1	HGWA-122	boron	U*	BE – Equipment blank contamination
AZI0019	1	HGWC-124, HGWC-101, and HGWC-109	boron	U*	BE – Equipment blank contamination
30195007	1	HGWC-117, HGWC-124, HGWC-107, HGWC-121, HGWC-109, and HGWC-103	combined radium-226+228	U*	BE – Equipment blank contamination
30200226	2	HGWC-118 and HGWC-101	combined radium-226+228	U*	BL – Method blank contamination
AZJ0623	2	all samples	fluoride	U*	BF – Field blank contamination
AZJ0697	2	HGWA-112 and HGWC-103	fluoride	U*	BF – Field blank contamination
AZJ0726	2	HGWC-105	fluoride	U*	BF – Field blank contamination
AAB0021	3	HGWC-103, HGWC-101, and HGWC-118	mercury	U*	BL – Method blank contamination
AAA0861	3	all samples	mercury	U*	BF – Field blank contamination BE – Equipment blank contamination

Laboratory SDG(s)	Event	Sample(s)	Analyte(s)	Qualifier(s)	Reason(s) for Qualification
AAB0021	3	HGWC-103, HGWC-101, HGWC-118, and HGWC-109	mercury	U*	BF – Field blank contamination BE – Equipment blank contamination
30209600	3	HGWC-118 and HGWC-107	combined radium-226+228	U*	BL – Method blank contamination BE – Equipment blank contamination
AAF0136	4	HGWC-121A	arsenic	U*	BF – Field blank contamination
AAE0898	4	all samples	mercury	U*	BE – Equipment blank contamination
AAH0433	5	all samples	fluoride	U*	BL – Method blank contamination
30236436	6	HGWC-120	combined radium-226+228	U*	BL – Method blank contamination
AAK0534	6	HGWA-112	sulfate	U*	BF – Field blank contamination
269951	8	all samples	mercury	U*	BL – Method blank contamination
269951	8	HGWA-111 and HGWA-113	boron	U*	BF – Field blank contamination
30195007	1	HGWC-120	combined radium-226+228	J	BL – Method blank contamination BE – Equipment blank contamination
265790	7	HGWA-112	TDS	J	BF – Field blank contamination
265794	7	HGWA-113	TDS	J	BF – Field blank contamination
265859	7	HGWC-103	sulfate	J	H – Holding time exceeded
265888	7	HGWC-117	sulfate	J	H – Holding time exceeded
265889	7	HGWC-118	sulfate	J	H – Holding time exceeded
30200226	2	HGWC-118 and HGWC-101	combined radium-226+228	J (unless previously flagged "U*")	L+ – High LCS recovery

Laboratory SDG(s)	Event	Sample(s)	Analyte(s)	Qualifier(s)	Reason(s) for Qualification
30200747	2	HGWC-105 and HGWC-109	combined radium-226+228	J	L+ – High LCS recovery
30209600	3	HGWC-118 and HGWC-107	combined radium-226+228	J (unless previously flagged "U*")	L+ – High LCS recovery
30194831	1	all samples	combined radium-226+228	UJ	L- – Low LCS recovery
30220164	4	all samples	combined radium-226+228	UJ	L- – Low LCS recovery
265859	7	HGWC-101	combined radium-226+228	UJ	L- – Low LCS recovery
265888	7	HGWC-117	combined radium-226+228	UJ	L- – Low LCS recovery
265889	7	HGWC-118	combined radium-226+228	UJ	L- – Low LCS recovery
269952	8	all samples	combined radium-226+228	J/UJ	L- – Low LCSD recovery
2610034	8	all samples	combined radium-226+228	J/UJ	L- – Low LCSD recovery
2610038	8	all samples	combined radium-226+228	J/UJ	L- – Low LCSD recovery
2610113	8	all samples	combined radium-226+228	UJ	L- – Low LCS recovery
2610211	8	HGWC-121A	combined radium-226+228	UJ	L- – Low LCS recovery
AAK0534	6	HGWA-113 and HGWC-118	fluoride	J	M+ – High MS recovery
2610113	8	HGWC-117	combined radium-226+228	UJ	FD – Field duplicate imprecision

- All inorganic positive results reported between the method detection limit (MDL) and RL have been flagged "J."
- All radiological results reported below the MDC have been flagged "U."

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Report approved by: David I. Thal, CEAC, CQA, Principal Chemist
Date: 1/22/19

INORGANIC AND RADIOLOGICAL DATA QUALIFIERS

U - The analyte was analyzed for, but was not detected above the level of the reported sample reporting/method detection limit.

U* - This analyte should be considered "not-detected" because it was detected in an associated blank at a similar level.

UJ - The analyte was analyzed for, but was not detected above the level of the reported sample reporting/method detection limit. The reported method detection limit is approximate and may be inaccurate or imprecise.

J - The analyte was positively identified but the result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R - The data are unusable. The sample results are rejected due to serious analytical deficiencies in the ability to analyze the sample and meet quality control criteria. The analyte may or may not be present in the sample.

UR - The analyte was analyzed for, but was not detected above the level of the reported sample reporting or method detection; however, the data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The analyte may or may not be present in the sample.

Reason Codes and Explanations

Reason Code	Explanation
BE	Equipment blank contamination. The result should be considered "not-detected."
BF	Field blank contamination. The result should be considered "not-detected."
BL	Laboratory blank contamination. The result should be considered "not-detected."
BN	Negative laboratory blank contamination.
C	Initial and/or continuing calibration issue, indeterminate bias.
C+	Initial and/or continuing calibration issue. The result may be biased high.
C-	Initial and/or continuing calibration issue. The result may be biased low.
FD	Field duplicate imprecision.
FG	Total versus dissolved imprecision.
H	Holding time exceeded.
I	Internal standard recovery outside of acceptance limits.
L	LCS and LCSD recoveries outside of acceptance limits, indeterminate bias.
L+	LCS and/or LCSD recoveries outside of acceptance limits. The result may be biased high.
L-	LCS and/or LCSD recoveries outside of acceptance limits. The result may be biased low.
LD	Laboratory duplicate imprecision.
LP	LCS/LCSD imprecision.
M	MS and MSD recoveries outside of acceptance limits, indeterminate bias.
M+	MS and/or MSD recoveries outside of acceptance limits. The result may be biased high.
M-	MS and/or MSD recoveries outside of acceptance limits. The result may be biased low.
MP	MS/MSD imprecision.
P	Post-digestion spike recoveries outside of acceptance limits, indeterminate bias.
P+	Post-digestion spike recovery outside of acceptance limits. The result may be biased high.
P-	Post-digestion spike recovery outside of acceptance limits. The result may be biased low.
Q	Chemical preservation issue.
R	RL standards outside of acceptance limits, indeterminate bias.
R+	RL standard(s) outside of acceptance limits. The result may be biased high.
R-	RL standard(s) outside of acceptance limits. The result may be biased low.
T	Temperature preservation issue.
SD	Serial dilution imprecision.
Y	Chemical yields outside of acceptance limits, indeterminate bias.
Y+	Chemical yield(s) outside of acceptance limits. The result may be biased high.
Y-	Chemical yield(s) outside of acceptance limits. The result may be biased low.
ZZ	Other

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+Memorandum

Date:	May 28, 2019
To:	Whitney Law
From:	Kristoffer Henderson
CC:	J. Caprio
Subject:	**Stage 2A Data Validations - Level II Data Deliverables – Pace Analytical Services, LLC Project Numbers 2616881, 2616929, 2616931, 2616992, 2616994, 2617069, 2617144, 2617148 and 2617207**

SITE: Plant Hammond AP

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of fourteen aqueous samples, one field duplicate, one equipment blank and two field blanks collected 1-8 April 2019, as part of the Plant Hammond AP on-site sampling event.

The samples were analyzed at Pace Analytical Services, LLC, Peachtree Corners, Georgia, for the following analytical tests:

- Metals by EPA Methods 3005A/6020B and 3010A/6020B
- Mercury by EPA Method 7470A
- Anions by EPA Method 300.0
- Total Dissolved Solids (TDS) by Standard Method 2540C

EXECUTIVE SUMMARY

Overall, based on this Stage 2A data validation covering the quality control (QC) parameters listed below and based on the information provided, the data as qualified are usable for meeting project objectives. The qualified data should be used within the limitations of the qualification.

The data were reviewed based on the pertinent methods referenced in the laboratory reports, professional and technical judgment and the following documents:

- US EPA Region IV Data Validation Standard Operating Procedures (US EPA Region IV, September 2011);
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017 (EPA 540-R-2017-001);

- Southern Company Services, Inc., Standard Operating Procedure (hereafter referred to as the SOP) for Level 2A Verification of Coal Combustion Residuals Data, Environmental Testing Laboratory Program, Draft, November 21, 2017, Revision 0, Prepared by Environmental Standards, Inc., Valley Forge, Pennsylvania.

The following samples were analyzed and reported in the laboratory reports:

Laboratory ID	Client ID
2616881001	HGWA-111
2616929001	HGWA-112
2616929002	HGWA-113
2616931001	HGWC-120
2616931002	HGWA-122
2616992001	HGWC-121A
2616992002	HGWC-124
2616994001	HGWC-109
2616994002	HGWC-107

Laboratory ID	Client ID
2617069001	HGWC-103
2617069002	FD-01
2617069003	HGWC-105
2617069004	HGWC-101
2617144001	HGWC-117
2617144002	HGWC-118
2617148001	FB-01
2617207001	FB-02
2617207002	EB-01

The samples were received within 0-6^{o}C. No sample preservation issues were noted by the laboratory.

The following issues were noted with the chain of custody (COC) forms:

- 2616881, 2616929 and 2616931: The year was missing from the start and stop times for the sample collections.
- 2616881, 2617069, 2617148 and 2617207: The relinquishing signature, date and time were missing for the third sample transfer.
- 2616929: The relinquishing signature, date and time were missing for the third sample transfer on page one of the COC. The relinquishing signature, date and time were missing for the fourth sample transfer on page two of the COC.
- 2616931, 2616992, 2616994 and 2617144: The relinquishing signature, date and time were missing for the fourth sample transfer.
- 2617069: A collection time was not listed for the field duplicate. The field duplicate was logged in with the collection time of 00:00.

Laboratory report 2616881 was revised on April 11, 2019 to remove the Appendix IV parameters per the client's request.

1.0 METALS

The samples were analyzed by EPA methods 3005A/6020B and 3010A/6020B. (Mercury was evaluated separately in Section 2.0, below).

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Time
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Equipment Blank
- ✓ Field Blank
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

1.1 Overall Assessment

The metals data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this dataset is 100%.

1.2 Holding Time

The holding time for the metals analysis of a water sample is 180 days from sample collection to analysis. The holding times were met for the sample analyses.

1.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Five method blanks were reported (batches 25905, 25906 468126, 468622 and 469500). Metals were not detected in the method blanks above the method detection limits (MDLs).

1.4 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two sample set specific MS/MSD pairs were reported using samples HGWC-117 and FB-01. The recovery and relative percent difference (RPD) results were within the laboratory and SOP specified acceptance criteria, with the following exceptions.

2617144: The recoveries of boron were low and outside the laboratory and SOP specified acceptance criteria and the recoveries of calcium were high and outside the laboratory and SOP specified acceptance criteria in the MS/MSD pair using sample HGWC-117. Since the boron and calcium concentrations in sample HGWC-117 were greater than four times the spiked concentrations, no qualifications were applied to the data, based on professional and technical judgment.

Three batch MS/MSD pairs were reported. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

1.5 Laboratory Control Sample (LCS)

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Five LCSs were reported. The recovery results were within the laboratory and SOP specified acceptance criteria.

1.6 Equipment Blank

One equipment blank was collected with the sample set, EB-01. Metals were not detected in the equipment blank above the MDLs.

1.7 Field Blank

Two field blanks were collected with the sample set, FB-01 and FB-02. Metals were not detected in the field blanks above the MDLs, with the following exceptions.

Barium and calcium were detected at estimated concentrations greater than the MDLs and less than the reporting limits (RLs) and zinc was detected above the RL in FB-01. Since barium, calcium and zinc were not reported in the associated samples, no qualifications were applied to the data.

1.8 Field Duplicate

One field duplicate, FD-01, was collected with the sample set. Acceptable precision (RPD $\leq$ 20% or difference < RL) was demonstrated between the field duplicate and the original sample, HGWC-103.

1.9 Sensitivity

The samples were reported to the MDLs. Elevated non-detect results were not reported.

1.10 Electronic Data Deliverables (EDDs) Review

The results and sample IDs in the EDDs were reviewed against the information provided by the associated level II reports at a minimum of 20% as part of the data validation process. The laboratory flags M6 and C0 used in the level II reports were not included in the EDDs. In addition, there were several laboratory report specific EDDs that included project data for samples from a different laboratory report when the sample was used for laboratory batch QC (i.e. if the sample was used for the MS/MSD analyses). No other discrepancies were identified between the level II reports and the EDDs.

2.0 MERCURY

The samples were analyzed by EPA method 7470A.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Time
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Equipment Blank
- ✓ Field Blank
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

2.1 Overall Assessment

The mercury data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this dataset is 100%.

2.2 Holding Time

The holding time for the mercury analysis of a water sample is 28 days from sample collection to analysis. The holding times were met for the sample analyses.

2.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported (batch 468895). Mercury was not detected in the method blank above the MDL.

2.4 Matrix Spike/Matrix Spike Duplicate

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One batch MS/MSD pair was reported. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

2.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was reported. The recovery result was within the laboratory and SOP specified acceptance criteria.

2.6 Equipment Blank

One equipment blank was collected with the sample set, EB-01. Mercury was not detected in the equipment blank above the MDL.

2.7 Field Blank

Two field blanks were collected with the sample set, FB-01 and FB-02. Mercury was not detected in the field blanks above the MDL.

2.8 Field Duplicate

One field duplicate, FD-01, was collected with the sample set. Acceptable precision (RPD $\leq$ 20% or difference < RL) was demonstrated between the field duplicate and the original sample, HGWC-103.

2.9 Sensitivity

The samples were reported to the MDL. Elevated non-detect results were not reported.

2.10 Electronic Data Deliverables (EDDs) Review

The results and sample IDs in the EDDs were reviewed against the information provided by the associated level II reports at a minimum of 20% as part of the data validation process. There were several laboratory report specific EDDs that included project data for samples from a different

laboratory report when the sample was used for laboratory batch QC (i.e. if the sample was used for the MS/MSD analyses). No other discrepancies were identified between the level II reports and the EDDs.

3.0 WET CHEMISTRY

The samples were analyzed for anions (fluoride, chloride, and sulfate) by EPA method 300.0 and TDS by Standard Method 2540C.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Times
⊗ Method Blank
✓ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
⊗ Laboratory Duplicate
⊗ Equipment Blank
⊗ Field Blank
✓ Field Duplicate
✓ Sensitivity
✓ Electronic Data Deliverables Review

3.1 Overall Assessment

The wet chemistry data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for these analyses, for this dataset is 100%.

3.2 Holding Times

The holding time for the fluoride, chloride and sulfate analysis of a water sample is 28 days from sample collection to analysis. The holding time for TDS analysis of a water sample is 7 days from sample collection to analysis. The holding times were met for the sample analyses.

3.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Five method blanks were reported for the anions (batches 25881, 25882, 226061, 26064 and 26135). The anions were not detected in the method blanks above the MDLs, with the following exceptions.

2616881: Chloride (0.069 mg/L) and sulfate (0.028 mg/L) were detected at estimated concentrations greater than the MDLs and less than the RLs in the method blank in batch 25881. Since chloride and sulfate were detected at concentrations greater than five times the method blank concentrations in the associated samples, no qualifications were applied to the data.

2616929, 2616931, 2616992 and 2616994: Chloride (0.029 mg/L) was detected at an estimated concentration greater than the MDL and less than the RL in the method blank in batch 25882. Since chloride was detected at concentrations greater than five times the method blank concentration in the associated samples, no qualifications were applied to the data.

2617069: Chloride (0.31 mg/L) was detected at a concentration greater than the RL in the method blank in batch 26061. Since chloride was detected at concentrations greater than five times the method blank concentration in the associated samples, no qualifications were applied to the data.

2617148 and 2617207: Chloride (0.064 mg/L) was detected at an estimated concentration greater than the MDL and less than the RL in the method blank in batch 26135. Therefore, the chloride concentrations in the associated samples less than five times the method blank concentration were U* qualified as not detected at the reported concentrations.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier*	Reason Code**
FB-01	Chloride	0.11	J	0.11	U*	BL
FB-02	Chloride	0.25	J	0.25	U*	BL
EB-01	Chloride	0.22	J	0.22	U*	BL

mg/L-milligrams per liter
J-estimated concentration greater than the MDL and less than the RL
* Validation qualifiers are defined in Attachment 1 at the end of this report
**Reason codes are defined in Attachment 2 at the end of this report

3.4 Matrix Spike/Matrix Spike Duplicate

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Three sample set specific MS/MSD pairs, using samples HGWA-111, HGWC-103 and FB-02 and one MS using sample FD-01 were reported for anions. The recovery and RPD results were within the laboratory and SOP specified acceptance criteria, with the following exceptions.

2617069: The recoveries of sulfate in the MS/MSD pair using sample HGWC-103 were low and outside the laboratory and SOP specified acceptance criteria. Since the sulfate concentration in sample HGWC-103 was greater than four times the spiked concentration, no qualifications were applied to the data, based on professional and technical judgment.

2617069: The recovery of sulfate in the MS using sample FD-01 was low and outside the laboratory and SOP specified acceptance criteria. Since the sulfate concentration in sample FD-01 was greater than four times the spiked concentration, no qualifications were applied to the data, based on professional and technical judgment.

Four batch MSs and two batch MS/MSD pairs were also reported for the anions. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

3.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). LCSs were reported for each analysis and batch as appropriate. The recovery results were within the laboratory and SOP specified acceptance criteria.

3.6 Laboratory Duplicate

Three sample set specific laboratory duplicates were reported for TDS, using samples HGWC-120, HGWC-124 and HGWC-105. The RPD results were within the laboratory and SOP specified acceptance criteria, with the following exception.

The RPD of TDS in the laboratory duplicate using sample HGWC-120 was high and outside the laboratory and SOP specified acceptance criteria. Therefore, the concentration of TDS was J qualified as estimated in sample HGWC-120.

Six batch laboratory duplicates were also reported for TDS. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier	Reason Code
HGWC-120	TDS	540	NA	540	J	LD

mg/L-milligrams per liter
NA-not applicable

3.7 Equipment Blank

One equipment blank was collected with the sample set, EB-01. The wet chemistry parameters were not detected in the equipment blank above the MDLs, with the following exceptions.

TDS (12.0 mg/L), chloride (0.22 mg/L) and sulfate (0.38 mg/L) were detected at estimated concentrations greater than the MDLs and less than the RLs in EB-01. Since the chloride concentration in EB-01 was U qualified due to method blank contamination and TDS was detected in the associated samples at concentrations greater than five times the equipment blank concentration samples, no additional qualifications were applied to the TDS and chloride data, based on professional and technical judgment. However, the sulfate concentrations in the associated sample less than five times the equipment blank concentration were U* qualified as not detected at the reported concentration.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier	Reason Code
HGWA-111	Sulfate	1.7	NA	1.7	U*	BE
HGWA-112	Sulfate	0.78	J	0.78	U*	BE

mg/L-milligrams per liter
J-estimated concentration greater than the MDL and less than the RL
NA-not applicable

3.8 Field Blank

Two field blanks were collected with the sample set, FB-01 and FB-02. The wet chemistry parameters were not detected in the field blanks above the MDLs, with the following exceptions.

Chloride (0.11 mg/L) and sulfate (0.069 mg/L) were detected at estimated concentrations greater than the MDLs and less than the RLs in FB-01. Since the chloride concentration in FB-01 was U qualified due to method blank contamination.

TDS (14.0 mg/L), chloride (0.25 mg/L) and sulfate (0.13 mg/L) were detected at estimated concentrations greater than the MDLs and less than the RLs in FB-02. Since the chloride concentration in FB-02 was U qualified due to method blank contamination and chloride was detected in the associated samples at concentration greater than five times the field blank concentration, no additional qualifications were applied to the chloride and sulfate data, based on professional and technical judgment. However, the TDS concentration in the associated sample less than five times the field blank concentration was U* qualified as not detected at the reported concentration.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier	Reason Code
HGWA-112	TDS	69.0	NA	69	U*	BF

mg/L-milligrams per liter
NA-not applicable

3.9 Field Duplicate

One field duplicate, FD-01, was collected with the sample set. Acceptable precision (RPD ≤ 20% or difference < RL) was demonstrated between the field duplicate and the original sample, HGWC-103.

3.10 Sensitivity

The samples were reported to the MDLs. No elevated non-detect results were reported.

3.11 Electronic Data Deliverables Review

The results and sample IDs in the EDDs were reviewed against the information provided by the associated level II reports at a minimum of 20% as part of the data validation process. The laboratory flag M1, D6 and B used in the level II reports were not included in the EDDs. In addition, there were several laboratory report specific EDDs that included project data for samples from a different laboratory report when the sample was used for laboratory batch QC (i.e. if the sample was used for the MS/MSD analyses). No other discrepancies were identified between the level II reports and the EDDs.

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* * * * *

ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team per the SOP

DATA QUALIFIER DEFINITIONS

U* This analyte should be considered "not-detected" because it was detected in an associated blank at a similar level.

UJ The analyte was analyzed for, but was not detected above the level of the reported sample reporting/method detection limit. The reported method detection limit is approximate and may be inaccurate or imprecise.

J The analyte was positively identified but the result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team per the SOP

Reason Code	Explanation
BE	Equipment blank contamination. The result should be considered "not-detected."
BF	Field blank contamination. The result should be considered "not-detected."
BL	Laboratory blank contamination. The result should be considered "not-detected."
L	LCS and LCSD recoveries outside acceptance limits, indeterminate bias
L-	LCS and/or LCSD recoveries outside of acceptance limits. The result may be biased low.
L+	LCS and/or LCSD recoveries outside of acceptance limits. The result may be biased high.
LD	Laboratory duplicate imprecision.
M-	MS and/or MSD recoveries outside of acceptance limits. The result may be biased low.

Geosyntec consultants

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+Memorandum

Date:	July 1, 2019
To:	Whitney Law
From:	Kristoffer Henderson
CC:	J. Caprio
Subject:	**Stage 2A Data Validations - Level II Data Deliverables – Pace Analytical Services, LLC Project Numbers 2619806, 2619807, 2619809, 2619848 and 2619850**

SITE: Plant Hammond AP

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of eleven aqueous samples and one equipment blank collected 17-18 June 2019, as part of the Plant Hammond AP on-site sampling event.

The samples were analyzed at Pace Analytical Services, LLC, Peachtree Corners, Georgia, for the following analytical tests:

- Metals (Barium, Boron and Calcium) by EPA Methods 3005A/6020B
- Anions (Chloride, Fluoride and Sulfate) by EPA Method 300.0
- Total Dissolved Solids (TDS) by Standard Method 2540C

EXECUTIVE SUMMARY

Overall, based on this Stage 2A data validation covering the quality control (QC) parameters listed below and based on the information provided, the data as qualified are usable for meeting project objectives. The qualified data should be used within the limitations of the qualification.

The data were reviewed based on the pertinent methods referenced in the laboratory reports, professional and technical judgment and the following documents:

- US EPA Region IV Data Validation Standard Operating Procedures (US EPA Region IV, September 2011);
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017 (EPA 540-R-2017-001);
- Southern Company Services, Inc., Standard Operating Procedure (hereafter referred to as the SOP) for Level 2A Verification of Coal Combustion Residuals Data, Environmental

Testing Laboratory Program, Draft, November 21, 2017, Revision 0, Prepared by Environmental Standards, Inc., Valley Forge, Pennsylvania.

The following samples were analyzed and reported in the laboratory reports:

Laboratory ID	Client ID
2619806001	HGWC-120
2619806002	HGWC-121A
2619807001	EB-01
2619809001	HGWC-109
2619809002	HGWC-107
2619809003	HGWC-105

Laboratory ID	Client ID
2619809004	HGWC-103
2619848001	HGWC-101
2619848002	HGWC-118
2619848003	HGWC-117
2619850001	HGWC-124
2619850002	HGWA-122

The samples were received within 0-6°C. No sample preservation issues were noted by the laboratory.

The following issues were noted with the chain of custody (COC) forms:

- 2619806, 2619807, 2619809 and 2619848: The year was missing from the start and stop times for the sample collections.
- 2619806, 2619807, 2619809 and 2619850: The relinquishing signature, date and time were missing for the third sample transfer.
- 2619848: The relinquishing signature, date and time were missing for the fourth sample transfer.

1.0 METALS

The samples were analyzed for metals (barium, boron and calcium) and by EPA methods 3005A/6020B.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Time
✓ Method Blank
✓ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Equipment Blank
✓ Field Blank
✓ Field Duplicate

✓ Sensitivity
⊗ Electronic Data Deliverables Review

1.1 Overall Assessment

The metals data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this dataset is 100%.

1.2 Holding Time

The holding time for the metals analysis of a water sample is 180 days from sample collection to analysis. The holding times were met for the sample analyses.

1.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two method blanks were reported (batches 30489 and 30563). Metals were not detected in the method blanks above the method detection limits (MDLs).

1.4 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two sample set specific MS/MSD pairs were reported using samples HGWC-120 and HGWC-118. The recovery and relative percent difference (RPD) results were within the laboratory and SOP specified acceptance criteria, with the following exceptions.

2619806: The recoveries of calcium were high and outside the laboratory and SOP specified acceptance criteria in the MS/MSD pair using sample HGWC-120. Since the calcium concentration in sample HGWC-120 was greater than four times the spiked concentration, no qualifications were applied to the data, based on professional and technical judgment.

2619848: The MS recovery of calcium was high, and the MSD recovery was low, both outside the laboratory and SOP specified acceptance criteria in the MS/MSD pair using sample HGWC-118. Since the calcium concentration in sample HGWC-118 was greater than four times the spiked concentrations, no qualifications were applied to the data, based on professional and technical judgment.

1.5 Laboratory Control Sample (LCS)

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two LCSs were reported. The recovery results were within the laboratory and SOP specified acceptance criteria.

1.6 Equipment Blank

One equipment blank was collected with the sample sets, EB-01. Metals were not detected in the equipment blank above the MDLs.

1.7 Field Blank

A field blank was not collected with the sample sets.

1.8 Field Duplicate

A field duplicate was not collected with the sample sets.

1.9 Sensitivity

The samples were reported to the MDLs. Elevated non-detect results were not reported.

1.10 Electronic Data Deliverables (EDDs) Review

The results and sample IDs in the EDDs were reviewed against the information provided by the associated level II reports at a minimum of 20% as part of the data validation process. The laboratory flag M6 used in the level II reports were not included in the EDDs. In addition, the laboratory report specific EDDs included project data for samples from a different laboratory report when the sample was used for laboratory batch QC (i.e. if the sample was used for the MS/MSD analyses). No other discrepancies were identified between the level II reports and the EDDs.

2.0 WET CHEMISTRY

The samples were analyzed for anions (chloride, fluoride and sulfate) by EPA method 300.0 and TDS by Standard Method 2540C.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Laboratory Duplicate
- ⊗ Equipment Blank
- ✓ Field Blank
- ✓ Field Duplicate
- ✓ Sensitivity
- ⊗ Electronic Data Deliverables Review

2.1 Overall Assessment

The wet chemistry data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for these analyses, for this dataset is 100%.

2.2 Holding Times

The holding time for the chloride, fluoride and sulfate analysis of a water sample is 28 days from sample collection to analysis. The holding time for TDS analysis of a water sample is 7 days from sample collection to analysis. The holding times were met for the sample analyses.

2.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported for the anions (batch 30603). The anions were not detected in the method blank above the MDLs.

2.4 Matrix Spike/Matrix Spike Duplicate

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One sample set specific MS/MSD pair, using sample HGWC-120 and one MS using sample HGWC-121A were reported for anions. The recovery and RPD results were within the laboratory and SOP specified acceptance criteria, with the following exceptions.

2619806: The recoveries of sulfate in the MS/MSD pairs using samples HGWC-120 and HGWC-121A were low and outside the laboratory and SOP specified acceptance criteria. Since the sulfate concentrations in samples HGWC-120 and HGWC-121A were greater than four times the spiked

concentrations, no qualifications were applied to the data, based on professional and technical judgment.

2.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). LCSs were reported for each analysis and batch. The recovery results were within the laboratory and SOP specified acceptance criteria.

2.6 Laboratory Duplicate

One sample set specific laboratory duplicate was reported for TDS, using sample HGWC-121A. The RPD result was within the laboratory and SOP specified acceptance criteria.

2.7 Equipment Blank

One equipment blank was collected with the sample set, EB-01. The wet chemistry parameters were not detected in the equipment blank above the MDLs, with the following exceptions.

TDS (14.0 mg/L), chloride (0.93 mg/L) and fluoride (0.33 mg/L) were detected at concentrations greater than the RLs in EB-01. Since TDS was detected in the associated samples at concentrations greater than five times the equipment blank concentration, no qualifications were applied to the TDS data, based on professional and technical judgment. However, the chloride and fluoride concentrations in the associated samples less than five times the equipment blank concentrations were U* qualified as not detected at the reported concentrations.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier*	Reason Code**
HGWC-120	Fluoride	1.2	NA	1.2	U*	BE
HGWC-107	Chloride	2.9	NA	2.9	U*	BE
HGWC-118	Fluoride	0.89	NA	0.89	U*	BE
HGWC-124	Chloride	2.3	J	2.3	U*	BE
HGWA-122	Chloride	3.2	NA	3.2	U*	BE
HGWA-122	Fluoride	0.14	J	0.14	U*	BE

mg/L-milligrams per liter
J-estimated concentration greater than the MDL and less than the RL
NA-not applicable
* Validation qualifiers are defined in Attachment 1 at the end of this report
**Reason codes are defined in Attachment 2 at the end of this report

2.8 Field Blank

A field blank was not collected with the sample sets.

2.9 Field Duplicate

A field duplicate was not collected with the sample sets.

2.10 Sensitivity

The samples were reported to the MDLs for the anions and to the RL for TDS. No elevated non-detect results were reported.

2.11 Electronic Data Deliverables Review

The results and sample IDs in the EDDs were reviewed against the information provided by the associated level II reports at a minimum of 20% as part of the data validation process. The laboratory flag M1 used in the level II reports were not included in the EDDs. In addition, the laboratory report specific EDDs included project data for samples from a different laboratory report when the sample was used for laboratory batch QC (i.e. if the sample was used for the MS/MSD analyses). No other discrepancies were identified between the level II reports and the EDDs.

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* * * * *

ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team per the SOP

DATA QUALIFIER DEFINITIONS

U* This analyte should be considered "not-detected" because it was detected in an associated blank at a similar level.

UJ The analyte was analyzed for, but was not detected above the level of the reported sample reporting/method detection limit. The reported method detection limit is approximate and may be inaccurate or imprecise.

J The analyte was positively identified but the result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team per the SOP

Reason Code	Explanation
BE	Equipment blank contamination. The result should be considered "not-detected."
BF	Field blank contamination. The result should be considered "not-detected."
BL	Laboratory blank contamination. The result should be considered "not-detected."
L	LCS and LCSD recoveries outside acceptance limits, indeterminate bias
L-	LCS and/or LCSD recoveries outside of acceptance limits. The result may be biased low.
L+	LCS and/or LCSD recoveries outside of acceptance limits. The result may be biased high.
LD	Laboratory duplicate imprecision.
M-	MS and/or MSD recoveries outside of acceptance limits. The result may be biased low.

APPENDIX A2
Field Data Sheets

Product Name: Low-Flow System

Date: 2016-08-30 16:20:51

Project Information:		Pump Information:	
Operator Name	Markevious Thomas	Pump Model/Type	Alexis Peristaltic
Company Name	ERM	Tubing Type	LDPE
Project Name	Ash Ponds 3 & 4	Tubing Diameter	.17 in
Site Name	GPC-Hammond	Tubing Length	30 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	444108		
Turbidity Make/Model	HI 98703	Pump placement from TOC	22.79 ft

Well Information:		Pumping Information:	
Well ID	HGWA-122	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.2239027 L
Well Total Depth	27.79 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1 in
Depth to Water	15.69 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			+/- 10	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 100
Last 5	15:55:03	300.08	27.37	6.78	389.26	11.10	15.72	0.69	67.33
Last 5	16:00:03	600.01	24.66	6.72	403.33	6.36	15.72	0.53	63.99
Last 5	16:05:03	900.01	24.56	6.72	403.06	2.83	15.72	0.46	62.38
Last 5	16:10:03	1200.01	24.02	6.73	410.09	1.95	15.72	0.41	61.18
Last 5	16:15:03	1500.01	23.91	6.75	416.03	1.58	15.72	0.40	59.95
Variance 0			-0.11	-0.01	-0.27			-0.07	-1.61
Variance 1			-0.54	0.01	7.02			-0.05	-1.20
Variance 2			-0.10	0.02	5.95			-0.01	-1.23

Notes

1550 start purge @ 200mL/min, 1615 all parameters stable, 1620 sampled @200mL/min

Grab Samples

HGWA-122

Sampled @ 1620

Product Name: Low-Flow System

Date: 2016-08-31 13:14:43

Project Information:		Pump Information:	
Operator Name	Markevious Thomas	Pump Model/Type	Micro Purge MP50
Company Name	ERM	Tubing Type	Duel Poly
Project Name	Ash Ponds 3 & 4	Tubing Diameter	.17 in
Site Name	GPC-Hammond	Tubing Length	72 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	444108		
Turbidity Make/Model	HI 98703	Pump placement from TOC	62 ft

Well Information:		Pumping Information:	
Well ID	HGWC-~~124~~-120 ACR 9/2/16	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.5613664 L
Well Total Depth	67.49 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1 in
Depth to Water	~~26.24~~ 46.24 ft ACR 9/2/16	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			+/- 10	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 100
Last 5	12:40:40	1500.02	23.08	6.75	983.54	12.40	46.36	0.15	-29.21
Last 5	12:45:40	1800.02	23.12	6.75	982.31	10.50	46.36	0.15	-30.47
Last 5	12:50:40	2100.02	23.27	6.74	980.75	6.48	46.36	0.13	-29.22
Last 5	12:55:40	2400.02	23.65	6.74	978.21	4.80	46.36	0.14	-29.23
Last 5	13:05:41	3000.95	24.11	6.73	1006.40	3.03	46.36	0.14	-31.35
Variance 0			0.15	-0.00	-1.56			-0.02	1.25
Variance 1			0.39	-0.00	-2.55			0.00	-0.01
Variance 2			0.45	-0.02	28.19			0.00	-2.13

Notes

1220 start purge@200mL/min, 1305 all parameters stable, 1310 sampled@200mL/min

Grab Samples

HGWC-120

Sampled at 1310

Product Name: Low-Flow System

Date: 2016-08-31 15:13:49

Project Information:		Pump Information:	
Operator Name	Markevious Thomas	Pump Model/Type	Alexis Peristaltic
Company Name	ERM	Tubing Type	LDPE
Project Name	Ash Ponds 3 & 4	Tubing Diameter	.17 in
Site Name	GPC-Hammond	Tubing Length	40 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	444108		
Turbidity Make/Model	HI 98703	Pump placement from TOC	32 ft

Well Information:		Pumping Information:	
Well ID	HGWC-121	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.2685369 L
Well Total Depth	37.62 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	2 in
Depth to Water	17.06 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			+/- 10	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 100
Last 5	14:45:10	300.08	26.05	6.62	1252.74	14.70	17.23	0.40	-29.68
Last 5	14:50:10	600.02	23.37	6.63	1286.27	8.83	17.23	0.23	-15.07
Last 5	14:55:10	900.02	23.34	6.61	1304.64	4.58	17.23	0.17	-14.09
Last 5	15:00:10	1200.02	23.16	6.61	1307.55	3.12	17.24	0.16	-11.99
Last 5	15:05:10	1500.02	23.03	6.62	1280.57	2.34	17.24	0.13	-10.47
Variance 0			-0.03	-0.02	18.36			-0.05	0.98
Variance 1			-0.18	0.00	2.92			-0.01	2.10
Variance 2			-0.13	0.01	-26.98			-0.03	1.52

Notes

1440 start purge@200mL/min, 1505 all parameters stable, 1510 sampled@200mL/min

Grab Samples

HGWC-121

Sampled at 1510

Product Name: Low-Flow System

Date: 2016-08-31 10:59:01

Project Information:		Pump Information:	
Operator Name	Markevious Thomas	Pump Model/Type	Alexis Peristaltic
Company Name	ERM	Tubing Type	LDPE
Project Name	Ash Ponds 3 & 4	Tubing Diameter	.17 in
Site Name	GPC-Hammond	Tubing Length	44 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	444108		
Turbidity Make/Model	HI 98703	Pump placement from TOC	30.26 ft

Well Information:		Pumping Information:	
Well ID	HGWC-124	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.2863906 L
Well Total Depth	35.26 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	5 in
Depth to Water	18.06 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			+/- 10	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 100
Last 5	10:30:54	300.08	21.11	7.04	555.82	9.80	18.43	0.16	-0.14
Last 5	10:35:54	600.00	21.15	7.04	552.14	5.16	18.43	0.15	2.76
Last 5	10:40:54	900.00	21.19	7.01	560.77	3.35	18.43	0.13	7.52
Last 5	10:45:54	1200.00	21.40	7.00	559.66	3.88	18.43	0.12	11.75
Last 5	10:50:54	1500.00	21.20	6.99	561.08	4.40	18.44	0.11	10.30
Variance 0			0.04	-0.03	8.64			-0.02	4.75
Variance 1			0.20	-0.01	-1.12			-0.01	4.24
Variance 2			-0.20	-0.01	1.42			-0.01	-1.46

Notes

1010 start purge @ 200mL/min, 1025 SmarTroll restarted, 1050 all parameters stable, 1055 sampled @ 200mL/min

Grab Samples

HGWC-124

Sampled at 1055

Product Name: Low-Flow System

Date: 2016-10-20 11:18:05

Project Information:		Pump Information:	
Operator Name	Andreas Shoredits	Pump Model/Type	Alexis Peristaltic
Company Name	ERM	Tubing Type	LDPE
Project Name	GPC - Plant Hammond	Tubing Diameter	0.17 in
Site Name	AP 3&4	Tubing Length	29 ft
Latitude	34º 15' 30.48"		
Longitude	-85º -20' -33.89"		
Sonde SN	364455		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	22 ft

Well Information:		Pumping Information:	
Well ID	HGWA-122	Final Pumping Rate	200 mL/min
Well diameter	2.00 in	Total System Volume	0.3494393 L
Well Total Depth	27.79 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.24 in
Depth to Water	16.7 ft	Total Volume Pumped	24 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 100
Last 5	10:28:01	3000.02	20.82	6.72	507.09	0.64	16.72	0.14	262.28
Last 5	10:33:01	3300.02	20.77	6.73	507.14	0.49	16.72	0.14	312.59
Last 5	10:38:01	3600.02	21.40	6.73	513.60	0.74	16.71	0.17	354.12
Last 5	10:43:01	3900.02	21.81	6.73	506.01	0.46	16.71	0.20	436.49
Last 5	10:48:01	4200.02	21.93	6.73	506.10	0.48	16.71	0.23	535.47
Variance 0			0.62	-0.00	6.46			0.04	41.53
Variance 1			0.41	-0.00	-7.59			0.03	82.37
Variance 2			0.12	0.00	0.09			0.03	98.98

Notes

Parameters are stable after three consecutive readings and turbidity < 5 NTU; Three well volume purge due to water level within 1.0 ft of top of screen; Start purge at 9:37, stop purge at 10:47; Initial purge rate of 250 ml/min increased to 350 ml/min @ 9:42, to 400 ml/min @ 9:47, and lowered to 200 ml/min @ 10:32; Sample time is 10:50 @ 200 ml/min; Measured TD is 27.78 ft btoc

Grab Samples
HGWA-122
Groundwater sample

Product Name: Low-Flow System

Date: 2016-10-27 12:52:48

Project Information:		Pump Information:	
Operator Name	Tracy Wardell	Pump Model/Type	QED SamplePro
Company Name	ERM	Tubing Type	LDPE
Project Name	GPC - Plant Hammond	Tubing Diameter	0.17 in
Site Name	AP 3&4	Tubing Length	72.5 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	457516		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	62.5 ft

Well Information:		Pumping Information:	
Well ID	HGWC-120	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.5135981 L
Well Total Depth	67.5 ft	Calculated Sample Rate	180 sec
Screen Length	10 ft	Stabilization Drawdown	0.24 in
Depth to Water	46.65 ft	Total Volume Pumped	11.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 10		+/- 0.2	+/- 100
Last 5	12:38:08	1620.01	20.06	6.77	1046.44	9.48	46.67	0.14	19.31
Last 5	12:41:08	1800.01	19.97	6.77	1046.00	6.57	46.67	0.13	17.48
Last 5	12:44:08	1980.01	19.93	6.78	1046.38	4.19	46.67	0.12	16.60
Last 5	12:47:08	2160.02	19.89	6.78	1046.45	3.77	46.67	0.13	16.36
Last 5	12:50:08	2340.01	19.95	6.77	1048.39	3.58	46.67	0.12	15.53
Variance 0			-0.04	0.00	0.38			-0.01	-0.88
Variance 1			-0.04	0.00	0.07			0.01	-0.24
Variance 2			0.06	-0.00	1.94			-0.00	-0.84

Notes

Started purge at 1203

Sample rate 250 mL/min; Clear, no odor. No issues.

Grab Samples

HGWC-120

Sample time 1255

Product Name: Low-Flow System

Date: 2016-11-07 12:43:13

Project Information:		Pump Information:	
Operator Name	W.Virgo	Pump Model/Type	Alexis Peristaltic
Company Name	ERM	Tubing Type	LDPE
Project Name	AP-3	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	40 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	463072		
Turbidity Make/Model	Lamotte 2020We	Pump placement from TOC	33 ft

Well Information:		Pumping Information:	
Well ID	HGWC-121	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.5185369 L
Well Total Depth	37.61 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.44 in
Depth to Water	17.66 ft	Total Volume Pumped	11.25 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 100
Last 5	12:20:50	1200.00	19.90	6.70	1279.12	4.30	17.78	0.44	-77.46
Last 5	12:25:50	1500.00	20.04	6.70	1293.41	3.04	17.78	0.58	-67.94
Last 5	12:30:50	1800.00	19.94	6.71	1299.04	2.69	17.78	0.23	-69.07
Last 5	12:35:50	2100.00	19.92	6.71	1287.81	3.81	17.78	0.12	-71.16
Last 5	12:40:50	2400.00	19.86	6.71	1293.79	2.54	17.78	0.11	-72.19
Variance 0			-0.09	0.01	5.63			-0.35	-1.13
Variance 1			-0.02	0.00	-11.22			-0.11	-2.08
Variance 2			-0.06	0.00	5.98			-0.00	-1.04

Notes

Purging started at 1202 purging at 250 ml/min

Well parameters stable @ 1242. Well sampled at 1245 sample rate 200 ml/min

Grab Samples

HGWC-121

Sample time 1245

Product Name: Low-Flow System

Date: 2016-10-27 12:54:54

Project Information:		Pump Information:	
Operator Name	M. Rogers	Pump Model/Type	Alexis peristaltic
Company Name	ERM	Tubing Type	LDPE
Project Name	Plant Hammond GPC	Tubing Diameter	.17 in
Site Name	AP 3&4	Tubing Length	37 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	364456		
Turbidity Make/Model	Lamotte 2020we	Pump placement from TOC	30 ft

Well Information:		Pumping Information:	
Well ID	HGWC-124	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.3751467 L
Well Total Depth	35.26 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.5 in
Depth to Water	18.34 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			+/- 10	+/- 0.1	+/- 5%	+/- 10		+/- 0.2	+/- 100
Last 5	12:33:32	1800.80	22.31	7.11	466.26	2.83	18.69	0.20	18.36
Last 5	12:38:32	2100.80	22.37	7.08	438.31	1.47	18.69	0.19	23.34
Last 5	12:43:32	2400.80	22.09	7.07	465.85	1.37	18.69	0.18	25.20
Last 5	12:48:32	2700.80	22.21	7.11	464.31	0.92	18.69	0.17	8.40
Last 5	12:53:32	3000.80	23.24	7.06	472.57	0.60	18.69	0.18	24.39
Variance 0			-0.28	-0.01	27.53			-0.00	1.86
Variance 1			0.12	0.03	-1.54			-0.01	-16.80
Variance 2			1.03	-0.05	8.27			0.01	15.99

Notes

Parameters stable

Grab Samples

HGWC-124

Sampling at 1257

Product Name: Low-Flow System

Date: 2017-01-25 13:18:12

Project Information:		Pump Information:	
Operator Name	W.Virgo	Pump Model/Type	Alexis Peristaltic
Company Name	ERM	Tubing Type	LDPE
Project Name	GPC - Plant Hammond	Tubing Diameter	0.17 in
Site Name	AP 3&4	Tubing Length	30 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	449622		
Turbidity Make/Model	LaMotte 2020We	Pump placement from TOC	22.5 ft

Well Information:		Pumping Information:	
Well ID	HGWA-122	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.4739027 L
Well Total Depth	27.45 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	2.28 in
Depth to Water	7.83 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			+/- 10	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 100
Last 5	12:56:01	4499.93	19.07	6.88	477.46	0.77	8.02	3.54	53.35
Last 5	13:01:01	4799.93	19.58	6.87	471.35	0.94	8.02	2.73	53.58
Last 5	13:06:01	5099.93	19.73	6.87	470.31	1.01	8.02	3.25	53.22
Last 5	13:11:01	5399.93	20.18	6.87	463.14	1.10	8.02	3.27	53.61
Last 5	13:16:01	5699.92	19.62	6.88	473.64	1.05	8.02	3.24	53.79
Variance 0			0.14	0.00	-1.04			0.52	-0.36
Variance 1			0.46	0.00	-7.17			0.02	0.38
Variance 2			-0.56	0.01	10.50			-0.03	0.18

Notes

Weather: sunny ~50F. Started Purging well at 11:40. Purge rate 200ml/min
DO had trouble stabilizing. Well parameters stable at 1315. Well sampled @ 1320.

Grab Samples
HGWA-122

Sample Time 13:20

Product Name: Low-Flow System

Date: 2017-01-27 11:52:04

Project Information:		Pump Information:	
Operator Name	Markevious Thomas	Pump Model/Type	QED Bladder
Company Name	ERM	Tubing Type	LDPE
Project Name	GPC - Plant Hammond	Tubing Diameter	0.17 in
Site Name	AP 3&4	Tubing Length	70 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	449622		
Turbidity Make/Model	LaMotte 2020We	Pump placement from TOC	62 ft

Well Information:		Pumping Information:	
Well ID	HGWC-120	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.5524396 L
Well Total Depth	67.49 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	44.64 ft	Total Volume Pumped	18.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 100
Last 5	11:00:16	3299.97	16.09	6.74	1049.43	--	44.68	0.13	5.42
Last 5	11:05:18	3601.97	16.10	6.74	1038.41	--	44.68	0.12	3.78
Last 5	11:10:18	3901.97	15.98	6.74	1053.32	0.17	44.68	0.12	2.74
Last 5	11:15:18	4201.97	16.04	6.74	1053.06	0.20	44.68	0.12	1.27
Last 5	11:20:18	4501.97	16.25	6.74	1052.73	0.19	44.68	0.12	-0.46
Variance 0			-0.12	0.00	14.91			0.00	-1.05
Variance 1			0.06	-0.00	-0.26			-0.01	-1.47
Variance 2			0.21	0.00	-0.33			-0.00	-1.73

Notes

1005 Start purge at 250mL/min; 1050 defective turbidity meter, all previous readings void, suspended logging NTUs;1110 new meter, resume logging NTUs; 1120 all parameters stable; 1125 sampled at 250mL/min. 40F, Partly cloudy and windy.

Grab Samples

HGWC-120

Sampled at 120

HGWC-120

Sampled at 1125

Product Name: Low-Flow System

Date: 2017-01-13 10:48:25

Project Information:		Pump Information:	
Operator Name	Markevious Thomas	Pump Model/Type	Alexis Peristaltic
Company Name	ERM	Tubing Type	LDPE
Project Name	GPC- Plant Hammond	Tubing Diameter	.17 in
Site Name	AP 3&4	Tubing Length	40 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	449622		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	33 ft

Well Information:		Pumping Information:	
Well ID	HGWC-121	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.2685369 L
Well Total Depth	37.61 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1 in
Depth to Water	17.04 ft	Total Volume Pumped	8.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 100
Last 5	10:15:11	900.02	17.79	6.54	1303.93	7.54	17.19	0.17	36.46
Last 5	10:20:11	1200.02	17.74	6.55	1301.80	5.61	17.18	0.15	33.78
Last 5	10:25:11	1500.02	17.68	6.56	1304.89	4.42	17.20	0.14	32.00
Last 5	10:30:11	1799.95	17.75	6.56	1301.83	4.13	17.20	0.14	30.07
Last 5	10:35:11	2099.96	17.77	6.57	1302.47	3.49	17.20	0.13	28.67
Variance 0			-0.06	0.00	3.09			-0.01	-1.78
Variance 1			0.08	0.00	-3.06			-0.00	-1.93
Variance 2			0.01	0.01	0.64			-0.01	-1.40

Notes

1000 start purge at 250mL/min; 1035 all parameters stable; 1040 sampled at 250mL/min. Overcast, light wind, 59F

Grab Samples

HGWC-121

Sampled at 1040

Product Name: Low-Flow System

Date: 2017-01-27 09:53:56

Project Information:		Pump Information:	
Operator Name	M.Burch	Pump Model/Type	Alexis Peristalic
Company Name	ERM	Tubing Type	LDPE
Project Name	GPC - Plant Hammond	Tubing Diameter	0.17 in
Site Name	AP 3&4	Tubing Length	40 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	463453		
Turbidity Make/Model	LaMotte 2020We	Pump placement from TOC	30 ft

Well Information:		Pumping Information:	
Well ID	HGWC-124	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.5185369 L
Well Total Depth	35.26 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	6.12 in
Depth to Water	11.22 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			+/- 10	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 100
Last 5	09:31:25	600.03	14.87	7.09	562.26	3.04	11.71	0.29	-13.62
Last 5	09:36:25	900.02	14.61	7.13	557.24	0.87	11.71	0.41	-5.43
Last 5	09:41:25	1200.02	14.85	7.14	555.01	1.09	11.72	0.45	-0.72
Last 5	09:46:25	1500.02	15.33	7.15	547.08	0.84	11.73	0.56	3.01
Last 5	09:51:24	1799.97	15.14	7.13	550.36	0.39	11.74	0.55	5.69
Variance 0			0.24	0.01	-2.22			0.03	4.71
Variance 1			0.48	0.01	-7.93			0.11	3.72
Variance 2			-0.19	-0.01	3.27			-0.00	2.68

Notes

Starting purge at 0922

Grab Samples

HGWC-124

Start sampling at 1000

Product Name: Low-Flow System

Date: 2017-05-25 09:45:06

Project Information:		Pump Information:	
Operator Name	W.Virgo	Pump Model/Type	Alexis Peristaltic
Company Name	ERM	Tubing Type	LDPE
Project Name	GPC - Plant Hammond	Tubing Diameter	0.17 in
Site Name	AP 3&4	Tubing Length	30 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	364456		
Turbidity Make/Model	LaMotte 2020We	Pump placement from TOC	22 ft

Well Information:		Pumping Information:	
Well ID	HGWA-122	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.4739027 L
Well Total Depth	27.79 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.48 in
Depth to Water	9.34 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			+/- 1	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 100
Last 5	09:23:00	600.03	18.12	6.50	420.16	5.68	9.37	2.54	86.71
Last 5	09:28:00	900.02	18.11	6.51	424.26	3.61	9.38	2.36	87.09
Last 5	09:33:00	1200.03	18.27	6.52	432.96	2.81	9.38	2.31	87.73
Last 5	09:38:00	1500.01	18.16	6.53	437.59	2.00	9.38	2.21	88.34
Last 5	09:43:00	1800.02	18.18	6.55	436.93	1.04	9.38	2.19	88.94
Variance 0			0.15	0.02	8.70			-0.05	0.63
Variance 1			-0.11	0.00	4.63			-0.10	0.62
Variance 2			0.02	0.03	-0.65			-0.02	0.60

Notes

Weather: Sunny ~60F. Started purging at 9:12 purge rate: 200 mL/min
Well parameters stable at: 0943. Sampled at 09:46. Sample rate: 200ml/min

Grab Samples

HGWA-122

Sample Time: 0947

Product Name: Low-Flow System

Date: 2017-05-25 11:26:21

Project Information:		Pump Information:	
Operator Name	Myles Rogers	Pump Model/Type	QED Bladder
Company Name	ERM	Tubing Type	LDPE
Project Name	GPC- Plant Hammond	Tubing Diameter	.17 in
Site Name	AP 3&4	Tubing Length	70 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	513028		
Turbidity Make/Model	LaMotte2020we	Pump placement from TOC	62 ft

Well Information:		Pumping Information:	
Well ID	HGMC-21	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.4024396 L
Well Total Depth	67 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.24 in
Depth to Water	44.65 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			+/- 10	+/- 0.1	+/- 5%	+/- 10		+/- 0.2	+/- 100
Last 5	11:05:02	1800.02	19.00	7.00	986.82	13.16	44.66	0.14	9.45
Last 5	11:10:03	2100.51	18.88	7.00	984.32	8.76	44.66	0.13	7.85
Last 5	11:15:03	2400.51	18.74	7.00	982.72	4.51	44.67	0.11	6.26
Last 5	11:20:03	2700.51	18.51	7.00	984.85	4.71	44.67	0.11	5.07
Last 5	11:25:03	3000.51	18.70	6.99	983.56	4.62	44.67	0.10	3.06
Variance 0			-0.15	-0.00	-1.60			-0.01	-1.59
Variance 1			-0.23	0.00	2.13			-0.00	-1.19
Variance 2			0.18	-0.01	-1.29			-0.01	-2.01

Notes

Parameters stable. Took awhile for turbidity to come down. Weather:cloudy windy

Grab Samples

HGMC-121

Sampling 11:28

Product Name: Low-Flow System

Date: 2017-06-03 11:49:48

Project Information:		Pump Information:	
Operator Name	T. Payne	Pump Model/Type	Alexis Peristaltic
Company Name	ERM	Tubing Type	LDPE
Project Name	Plant Hammond - GPC	Tubing Diameter	0.17 in
Site Name	AP - 3	Tubing Length	45 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	364455		
Turbidity Make/Model	LaMotte2020we	Pump placement from TOC	35.42 ft

Well Information:		Pumping Information:	
Well ID	HGWC-121A	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.290854 L
Well Total Depth	40.42 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.08 in
Depth to Water	15.70 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			+/- 1	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	11:34:27	300.15	21.45	6.72	1209.90	3.60	15.76	0.45	87.04
Last 5	11:39:26	600.02	20.95	6.70	1215.06	3.76	15.78	0.24	84.88
Last 5	11:44:26	900.02	20.93	6.71	1217.27	3.08	15.79	0.17	84.32
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.50	-0.02	5.16			-0.20	-2.17
Variance 2			-0.02	0.02	2.20			-0.07	-0.55

Notes

Weather: 64F Sunny. Purge Time: 1130/1145.

Grab Samples

HGWC-121A

Sample Time 1145

FB-1

Sample Time 1115

FERB-1

Sample Time 1200

Product Name: Low-Flow System

Date: 2017-05-25 11:15:15

Project Information:		Pump Information:	
Operator Name	W.Virgo	Pump Model/Type	Alexis Peristaltic
Company Name	ERM	Tubing Type	LDPE
Project Name	GPC - Plant Hammond	Tubing Diameter	0.17 in
Site Name	AP 3&4	Tubing Length	35 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	364456		
Turbidity Make/Model	LaMotte 2020We	Pump placement from TOC	30 ft

Well Information:		Pumping Information:	
Well ID	HGWC-124	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.4962198 L
Well Total Depth	35.26 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	4.68 in
Depth to Water	14.74 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			+/- 1	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 100
Last 5	10:52:13	599.85	19.49	7.12	561.89	11.60	15.13	0.53	91.68
Last 5	10:57:13	899.85	18.83	7.13	559.96	6.13	15.13	0.44	90.67
Last 5	11:02:13	1199.85	18.56	7.11	566.65	3.84	15.13	0.30	90.71
Last 5	11:07:13	1499.85	19.45	7.11	567.96	3.78	15.13	0.36	89.97
Last 5	11:12:13	1799.85	19.13	7.10	569.00	2.24	15.13	0.39	89.87
Variance 0			-0.27	-0.02	6.69			-0.14	0.04
Variance 1			0.89	-0.01	1.31			0.06	-0.74
Variance 2			-0.32	-0.01	1.04			0.03	-0.11

Notes

Weather; sunny ~75F. Started purging at 1042, purge rate: 200 mL/min
Well stable at 11:12 sampled at 11:15 sample rate: 200 mL/min

Grab Samples

HGWC-124

Sample Time: 11:15

Product Name: Low-Flow System

Date: 2017-08-11 10:39:19

Project Information:		Pump Information:	
Operator Name	Markevious Thomas	Pump Model/Type	GeoPump
Company Name	ERM	Tubing Type	LDPE
Project Name	GPC - Plant Hammond	Tubing Diameter	.17 in
Site Name	AP 3&4	Tubing Length	40 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	449622		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	32 ft

Well Information:		Pumping Information:	
Well ID	HGWC-121	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.2685369 L
Well Total Depth	37.58 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	12.41 ft	Total Volume Pumped	6.25 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 100
Last 5	09:45:48	300.15	23.03	6.75	502.96	0.60	12.44	0.42	106.75
Last 5	09:50:48	600.03	21.22	6.62	435.68	2.89	12.44	1.19	88.00
Last 5	09:55:48	900.03	20.84	6.58	427.14	2.30	12.44	1.27	78.95
Last 5	10:00:48	1200.03	20.65	6.57	423.56	2.13	12.44	1.30	75.28
Last 5	10:05:48	1500.03	20.97	6.56	440.54	2.00	12.44	1.17	73.71
Variance 0			-0.38	-0.05	-8.53			0.08	-9.05
Variance 1			-0.19	-0.01	-3.59			0.03	-3.66
Variance 2			0.33	-0.00	16.98			-0.13	-1.58

Notes

0940 start purge at 250mL/min; 1005 all parameters stable; 1010 sampled at 250mL/min. 75F Mostly Cloudy, light wind *HGWA-122

Grab Samples

HGWC-121

Sampled at 1010

HGMA-124

Sampled at 1010

HGMA-122

Sampled at 1010

HGWA-122
Sampled at 1010

Product Name: Low-Flow System

Date: 2017-10-02 12:32:16

Project Information:		Pump Information:	
Operator Name	W.Virgo	Pump Model/Type	QED Bladder
Company Name	ERM	Tubing Type	LDPE
Project Name	GPC - Plant Hammond	Tubing Diameter	0.17 in
Site Name	AP 3&4	Tubing Length	60 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	444575		
Turbidity Make/Model	Hanna HI98703	Pump placement from TOC	57 ft

Well Information:		Pumping Information:	
Well ID	HGWC-120	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6078054 L
Well Total Depth	62.48 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	41.59 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			+/- 2	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 100
Last 5	12:09:34	2400.02	19.91	7.57	963.90	9.33	41.59	0.24	-55.15
Last 5	12:14:34	2700.02	19.21	7.61	958.79	6.97	41.59	0.14	-49.63
Last 5	12:19:34	3000.03	19.28	7.61	957.93	4.88	41.59	0.13	-51.33
Last 5	12:24:34	3300.03	19.44	7.65	959.92	4.25	41.59	0.12	-49.89
Last 5	12:29:34	3599.93	19.59	7.66	958.26	3.93	41.59	0.12	-48.88
Variance 0			0.07	0.00	-0.87			-0.01	-1.70
Variance 1			0.16	0.04	2.00			-0.01	1.43
Variance 2			0.16	0.01	-1.67			-0.01	1.01

Notes

Started purging at 11:30. Purge rate: 200 ml/min.
Well parameters stable at 1230. Sample well HGWC-120 at 1235. Sample Rate: 200 ml/min.

Grab Samples

HGWC-120

12:35

Product Name: Low-Flow System

Date: 2017-10-02 15:04:47

Project Information:		Pump Information:	
Operator Name	W.Virgo	Pump Model/Type	Alexis Peristaltic
Company Name	ERM	Tubing Type	LDPE
Project Name	GPC - Plant Hammond	Tubing Diameter	0.17 in
Site Name	AP 3&4	Tubing Length	40 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	444575		
Turbidity Make/Model	Hanna HI98703	Pump placement from TOC	36 ft

Well Information:		Pumping Information:	
Well ID	HGWC-121A	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.5185369 L
Well Total Depth	41.50 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	2.28 in
Depth to Water	18.23 ft	Total Volume Pumped	22 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 2	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 100
Last 5	14:41:48	3299.93	20.93	7.69	1171.17	12.80	18.42	0.09	7.34
Last 5	14:46:48	3599.93	20.88	7.66	1183.53	7.30	18.42	0.07	7.77
Last 5	14:51:48	3899.93	21.13	7.65	1176.40	4.93	18.42	0.06	8.85
Last 5	14:56:48	4199.94	20.68	7.64	1184.38	4.81	18.42	0.06	9.97
Last 5	15:01:48	4499.93	20.64	7.65	1166.64	4.22	18.42	0.06	10.89
Variance 0			0.25	-0.01	-7.13			-0.00	1.08
Variance 1			-0.44	-0.00	7.99			-0.00	1.12
Variance 2			-0.05	0.00	-17.75			0.00	0.92

Notes

Started purging at 1347. Purge rate: 200 ml/min.

Purge rate increased to 400 ml/min at 14:27 to decrease turbidity. HGWC-121A stable at 15:02. Stared sampling at 250 ml/min at 15:05

Grab Samples

HGWC-121A

Sample Time: 15:05

Product Name: Low-Flow System

Date: 2017-08-11 10:12:36

Project Information:		Pump Information:	
Operator Name	W.Virgo	Pump Model/Type	Alexis Peristaltic
Company Name	ERM	Tubing Type	LDPE
Project Name	GPC - Plant Hammond	Tubing Diameter	0.17 in
Site Name	AP-3&4	Tubing Length	35 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	365491		
Turbidity Make/Model	LaMotte 2020 We	Pump placement from TOC	30 ft

Well Information:		Pumping Information:	
Well ID	HGWC-124	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.4962198 L
Well Total Depth	35.26 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	13.92 in
Depth to Water	15.70 ft	Total Volume Pumped	11 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 1	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 100
Last 5	09:49:53	900.03	20.11	7.01	628.89	10.53	16.12	0.43	-95.31
Last 5	09:54:53	1200.03	18.61	7.07	617.45	3.29	16.77	0.11	-96.49
Last 5	09:59:53	1500.00	18.65	7.05	625.23	2.78	16.83	0.10	-96.67
Last 5	10:04:53	1800.00	18.53	7.03	619.29	2.50	16.85	0.10	-97.27
Last 5	10:09:53	2100.00	18.57	7.02	622.82	1.39	16.86	0.10	-97.83
Variance 0			0.04	-0.02	7.78			-0.01	-0.18
Variance 1			-0.12	-0.02	-5.95			0.00	-0.61
Variance 2			0.04	-0.01	3.53			0.01	-0.56

Notes

Weather: overcast ~75F. Started purging at 0935. Purge rate: 200ml/min

To decrease turbidity, purge rate was increased at 9:50 to 400 ml/min. Parameters stable at 1010. Sampled at 10:15, sample rate: 250 ml/min.

Grab Samples

HGWC-124

Sample Time: 10:15

Product Name: Low-Flow System

Date: 2017-11-15 09:01:10

Project Information:		Pump Information:	
Operator Name	T. Payne	Pump Model/Type	Alexis Peristaltic
Company Name	ERM	Tubing Type	ldpe
Project Name	GPC - Plant Hammond	Tubing Diameter	0.17 in
Site Name	AP 3&4	Tubing Length	30 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	449622		
Turbidity Make/Model	LaMotte2020we	Pump placement from TOC	22 ft

Well Information:		Pumping Information:	
Well ID	HGWA-122	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.2239027 L
Well Total Depth	27.79 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	12.63 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			+/- 1	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 10
Last 5	08:43:52	300.13	16.79	6.66	438.41	2.98	12.63	1.21	72.76
Last 5	08:48:52	600.02	18.10	6.51	425.87	2.04	12.63	1.11	65.17
Last 5	08:53:52	900.02	18.17	6.47	422.79	1.87	12.63	1.02	58.28
Last 5	08:58:52	1200.02	18.22	6.47	429.03	2.19	12.63	0.93	54.77
Last 5									
Variance 0			1.32	-0.15	-12.54			-0.11	-7.58
Variance 1			0.06	-0.04	-3.08			-0.09	-6.89
Variance 2			0.05	-0.00	6.24			-0.08	-3.51

Notes

Began purging at 0838. Parameters stable a 0858. Stop pouring at 0858. Sample HGWA-122 at 0900.

Grab Samples

Product Name: Low-Flow System

Date: 2017-11-15 10:06:34

Project Information:		Pump Information:	
Operator Name	W.Virgo	Pump Model/Type	QED Bladder
Company Name	ERM	Tubing Type	LDPE
Project Name	GPC - Plant Hammond	Tubing Diameter	0.17 in
Site Name	AP 3&4	Tubing Length	65 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	497259		
Turbidity Make/Model	LaMotte 2020We	Pump placement from TOC	57 ft

Well Information:		Pumping Information:	
Well ID	HGWC-120	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6301225 L
Well Total Depth	62.48 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	12.12 in
Depth to Water	40.35 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			+/- 2	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 100
Last 5	09:43:51	2999.95	17.71	6.69	1109.31	3.87	41.36	0.38	30.97
Last 5	09:48:51	3299.89	17.60	6.70	1105.59	2.99	41.36	0.32	30.24
Last 5	09:53:51	3599.88	17.41	6.71	1112.38	2.57	41.36	0.72	29.08
Last 5	09:58:51	3899.88	17.44	6.71	1112.01	1.88	41.36	0.57	28.53
Last 5	10:03:51	4199.88	17.44	6.71	1111.15	1.96	41.36	0.70	27.87
Variance 0			-0.19	0.01	6.79			0.40	-1.16
Variance 1			0.03	-0.00	-0.37			-0.15	-0.55
Variance 2			0.00	-0.00	-0.86			0.13	-0.66

Notes

Started purging at 8:54. Purge rate: 200 ml/min.
Well parameters stable at 10:04. Sampled HGWC-120 at 10:07. Sample Rate: 200 ml/min.

Grab Samples

HGWC-120

Sample Time: 10:07

Product Name: Low-Flow System

Date: 2017-11-15 11:22:06

Project Information:		Pump Information:	
Operator Name	W.Virgo	Pump Model/Type	Alexis Peristaltic
Company Name	ERM	Tubing Type	LDPE
Project Name	GPC - Plant Hammond	Tubing Diameter	0.17 in
Site Name	AP 3&4	Tubing Length	40 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	497259		
Turbidity Make/Model	LaMotte 2020We	Pump placement from TOC	35 ft

Well Information:		Pumping Information:	
Well ID	HGWC-120-121A	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.2685369 L
Well Total Depth	39.91 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.2 in
Depth to Water	17.96 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			+/- 2	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 100
Last 5	10:59:46	300.03	19.09	6.72	1339.49	7.10	18.04	0.23	18.05
Last 5	11:04:46	600.02	18.87	6.70	1341.97	8.56	18.06	0.18	12.57
Last 5	11:09:46	900.02	19.04	6.69	1333.75	2.47	18.06	0.15	10.09
Last 5	11:14:46	1200.02	18.91	6.69	1337.30	2.51	18.06	0.13	8.79
Last 5	11:19:46	1500.02	19.14	6.69	1335.76	2.23	18.06	0.12	7.80
Variance 0			0.17	-0.01	-8.22			-0.03	-2.47
Variance 1			-0.13	0.00	3.55			-0.02	-1.31
Variance 2			0.23	0.00	-1.54			-0.01	-0.99

Notes

Started purging HGWC-121A at 10:55. Purge rate: 200 ml/min.
Well parameters stable at 11:20. Sampled HGWC-121A at 11:25. Sample Rate: 200 ml/min.

Grab Samples

HGWC-121A

Sample Time: 11:25

Product Name: Low-Flow System

Date: 2017-11-15 10:17:00

Project Information:		Pump Information:	
Operator Name	T. Payne	Pump Model/Type	Alexis Peristaltic
Company Name	ERM	Tubing Type	ldpe
Project Name	GPC - Plant Hammond	Tubing Diameter	0.17 in
Site Name	AP 3&4	Tubing Length	38 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	449622		
Turbidity Make/Model	LaMotte2020we	Pump placement from TOC	30 ft

Well Information:		Pumping Information:	
Well ID	HGWC-124	Final Pumping Rate	250 mL/min
Well diameter	2 in	Total System Volume	0.2596101 L
Well Total Depth	35.26 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	5.64 in
Depth to Water	15.92 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			+/- 1	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 10
Last 5	09:59:45	300.15	17.60	7.04	567.81	2.32	16.34	0.54	51.62
Last 5	10:04:45	600.02	17.90	7.06	561.84	0.85	16.39	0.27	47.59
Last 5	10:09:45	900.02	18.03	7.06	562.73	0.95	16.39	0.19	45.59
Last 5	10:14:45	1200.02	18.08	7.04	563.66	0.58	16.39	0.19	44.36
Last 5									
Variance 0			0.30	0.02	-5.98			-0.27	-4.03
Variance 1			0.13	0.00	0.90			-0.08	-2.00
Variance 2			0.05	-0.02	0.92			-0.00	-1.23

Notes

Began purging at 0954. Parameters stable at 1014. Stop purging at 1014. Sample HGWC-124 at 1020. DUP-1 taken.

Grab Samples

HGWC-124

1020

DUP-1

1020

Product Name: Low-Flow System

Date: 2018-06-05 11:50:06

Project Information:		Pump Information:	
Operator Name	Nardos Tilahun	Pump Model/Type	Alexis Peristaltic
Company Name	Geosyntec	Tubing Type	polyethylene
Project Name	GP-Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	541714		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	HGWA-122	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3 in
Depth to Water	11.71 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%	+/- 10		+/- 10%	+/- 10
Last 5	10:56:04	2701.37	17.65	6.64	413.97	0.22	11.73	1.47	55.56
Last 5	11:01:04	3001.37	17.74	6.65	419.59	0.19	11.73	1.89	54.89
Last 5	11:06:04	3301.37	17.80	6.65	418.53	0.32	11.73	1.38	54.26
Last 5	11:11:04	3601.37	17.73	6.66	422.92	0.19	11.73	1.39	53.65
Last 5	11:16:04	3901.37	17.99	6.66	419.68	0.18	11.73	1.34	53.46
Variance 0			0.06	0.00	-1.05			-0.51	-0.63
Variance 1			-0.08	0.01	4.39			0.01	-0.61
Variance 2			0.26	-0.00	-3.24			-0.05	-0.19

Notes

Five bottles: Two 1-L plastic bottles with HNO3 for Radium (EPA 9315/9320); one 120-mL plastic bottle for Fluoride (EPA 300.0); one 250-mL plastic bottle with HNO3 for App. III and App. IV metals (EPA 6020B/7470A); and one 500-mL plastic bottle for TDS (EPA 2540C). Total depth: 27.85 ft

Grab Samples

HGWA-122

Grab

Product Name: Low-Flow System

Date: 2018-06-05 16:49:08

Project Information:		Pump Information:	
Operator Name	Nardos Tilahun	Pump Model/Type	QED MP50 Bladder
Company Name	Geosyntec	Tubing Type	polyethylene
Project Name	GP-Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	541714		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	HGWC-120	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3 in
Depth to Water	38.09 ft	Total Volume Pumped	16 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	15:46:25	3300.57	19.83	6.83	1022.49	6.52	38.13	0.24	-29.12
Last 5	15:51:25	3600.57	19.92	6.83	1027.76	6.01	38.13	0.26	-29.68
Last 5	15:56:25	3900.57	19.88	6.83	1024.50	5.46	38.13	0.35	-29.72
Last 5	16:01:25	4200.57	19.75	6.83	1024.29	5.28	38.13	0.23	-29.19
Last 5	16:06:25	4500.57	19.87	6.83	1021.75	4.72	38.13	0.20	-30.21
Variance 0			-0.05	0.00	-3.26			0.09	-0.03
Variance 1			-0.13	-0.00	-0.20			-0.12	0.53
Variance 2			0.13	-0.00	-2.54			-0.03	-1.02

Notes

Five bottles: Two 1-L plastic bottles with HNO3 for Radium (EPA 9315/9320); one 120-mL plastic bottle for Fluoride (EPA 300.0); one 250-mL plastic bottle with HNO3 for App. III and App. IV metals (EPA 6020B/7470A); and one 500-mL plastic bottle for TDS (EPA 2540C). Total depth: 62.5 ft

Grab Samples

HGWC-120

Grab

Product Name: Low-Flow System

Date: 2018-06-05 13:05:35

Project Information:		Pump Information:	
Operator Name	Dan Gibbs	Pump Model/Type	Alexis peristaltic
Company Name	Geosyntec	Tubing Type	polyethylene
Project Name	GP-Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	37 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	553835		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	34.91 ft

Well Information:		Pumping Information:	
Well ID	HGWC-121A	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.2551467 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3 in
Depth to Water	15.98 ft	Total Volume Pumped	7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:25:45	300.03	21.24	6.72	1161.82	1.98	16.04	0.00	66.60
Last 5	12:30:45	600.02	20.77	6.79	1178.07	2.64	16.09	0.00	57.69
Last 5	12:35:45	900.02	20.66	6.80	1183.84	1.36	16.04	0.11	53.17
Last 5	12:40:45	1200.02	20.65	6.79	1191.75	0.72	16.08	0.00	50.57
Last 5									
Variance 0			-0.47	0.06	16.25			0.00	-8.91
Variance 1			-0.11	0.01	5.77			0.11	-4.52
Variance 2			-0.01	-0.01	7.91			-0.11	-2.60

Notes

Five bottles: Two 1-L plastic bottles with HNO3 for Radium (EPA 9315/9320); one 120-mL plastic bottle for Fluoride (EPA 300.0); one 250-mL plastic bottle with HNO3 for App. III and App. IV metals (EPA 6020B/7470A); and one 500-mL plastic bottle for TDS (EPA 2540C). Total depth: 41.39 ft

Grab Samples

HGWC-121A

Grab

Product Name: Low-Flow System

Date: 2018-06-05 13:49:18

Project Information:		Pump Information:	
Operator Name	Nardos Tilahun	Pump Model/Type	Alexis Peristaltic
Company Name	Geosyntec	Tubing Type	polyethylene
Project Name	GP-Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	541714		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	HGWC-124	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3 in
Depth to Water	13.76 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	12:54:19	300.03	18.80	7.20	568.46	1.25	14.20	0.49	39.52
Last 5	12:59:19	600.02	18.80	7.18	558.37	0.46	14.20	0.49	39.22
Last 5	13:04:19	900.02	18.92	7.19	562.06	2.43	14.20	0.45	38.87
Last 5	13:09:20	1201.02	18.85	7.17	559.31	3.70	14.20	0.44	39.12
Last 5									
Variance 0			-0.00	-0.02	-10.09			0.01	-0.30
Variance 1			0.13	0.01	3.69			-0.04	-0.35
Variance 2			-0.07	-0.02	-2.75			-0.01	0.25

Notes

Five bottles: Two 1-L plastic bottles with HNO3 for Radium (EPA 9315/9320); one 120-mL plastic bottle for Fluoride (EPA 300.0); one 250-mL plastic bottle with HNO3 for App. III and App. IV metals (EPA 6020B/7470A); and one 500-mL plastic bottle for TDS (EPA 2540C). Total depth: 35.3 ft

Grab Samples

HGWC-124

Grab

Product Name: Low-Flow System

Date: 2018-10-02 11:07:55

Project Information:		Pump Information:	
Operator Name	Nardos Tilahun	Pump Model/Type	Alexis Peristaltic
Company Name	Geosyntec	Tubing Type	polyethylene
Project Name	GP-Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	463068		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	HGWA-122	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3 in
Depth to Water	10.49 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	10:13:49	300.12	20.61	6.44	398.54	8.21	10.50	1.53	72.38
Last 5	10:18:49	600.03	20.62	6.40	381.87	4.97	10.50	1.71	67.20
Last 5	10:23:49	900.02	20.64	6.41	388.16	2.97	10.50	1.63	64.96
Last 5	10:28:49	1200.02	20.68	6.44	395.56	2.58	10.50	1.56	62.89
Last 5									
Variance 0			0.01	-0.04	-16.67			0.19	-5.18
Variance 1			0.03	0.00	6.29			-0.08	-2.25
Variance 2			0.04	0.03	7.40			-0.07	-2.06

Notes

4 plastic bottles: two 1-L bottles with HNO3 for Ra (EPA 9315/9320); one 250-mL bottle with HNO3 for App. III and App. IV metals (EPA 6020B and 7470A); and one 500-mL bottle for TDS and anions (EPA 2540C/300.0). Total depth = 27.61 ft.

Grab Samples

HGWA-122

Grab

Product Name: Low-Flow System

Date: 2018-10-02 15:58:02

Project Information:		Pump Information:	
Operator Name	Nardos Tilahun	Pump Model/Type	QED MP50
Company Name	Geosyntec	Tubing Type	polyethylene
Project Name	GP-Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	463068		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	HGWC-120	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3 in
Depth to Water	40.11 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		+/- 10%	+/- 10
Last 5	15:03:00	2701.00	21.15	6.81	1011.89	8.31	39.80	0.00	238.22
Last 5	15:08:00	3000.99	20.57	6.81	1007.63	6.29	39.80	4.18	319.99
Last 5	15:13:00	3300.99	20.93	6.82	1010.69	6.08	39.80	0.00	376.79
Last 5	15:18:00	3600.99	20.97	6.83	1008.73	5.36	39.80	0.00	396.79
Last 5	15:23:00	3900.99	21.20	6.83	1004.45	4.36	39.80	0.00	419.05
Variance 0			0.36	0.01	3.06			-4.18	56.80
Variance 1			0.04	0.01	-1.96			0.00	20.00
Variance 2			0.23	-0.00	-4.28			0.00	22.26

Notes

4 plastic bottles: two 1-L bottles with HNO3 for Ra (EPA 9315/9320); one 250-mL bottle with HNO3 for App. III and App. IV metals (EPA 6020B and 7470A); and one 500-mL bottle for TDS and anions (EPA 2540C/300.0). Total depth = 61.4ft.

Grab Samples

HGWC-120

Grab

Product Name: Low-Flow System

Date: 2018-10-05 13:15:56

Project Information:		Pump Information:	
Operator Name	Rich Murray	Pump Model/Type	Alexis Peristaltic
Company Name	Geosyntec	Tubing Type	polyethylene
Project Name	GP-Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	463068		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	36 ft

Well Information:		Pumping Information:	
Well ID	HGWC-121A	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	41.25 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3 in
Depth to Water	17.91 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	12:55:22	900.02	22.47	6.86	938.32	6.40	18.00	1.59	31.04
Last 5	13:00:22	1200.01	22.44	6.72	1163.36	4.41	18.00	0.54	26.92
Last 5	13:05:22	1500.01	22.12	6.71	1187.20	1.66	18.00	0.12	23.36
Last 5	13:10:22	1799.99	22.01	6.71	1190.23	1.47	18.00	0.10	21.39
Last 5	13:15:22	2100.02	21.64	6.71	1188.85	1.50	18.02	0.00	20.32
Variance 0			-0.32	-0.01	23.84			-0.41	-3.56
Variance 1			-0.11	-0.00	3.02			-0.03	-1.98
Variance 2			-0.37	0.00	-1.38			-0.10	-1.06

Notes

4 plastic bottles: two 1-L bottles with HNO3 for Ra (EPA 9315/9320); one 250-mL bottle with HNO3 for App. III and App. IV metals (EPA 6020B and 7470A); and one 500-mL bottle for TDS and anions (EPA 2540C/300.0). Total depth = 41.25 ft.

Grab Samples

HGWC-121A

Grab

Product Name: Low-Flow System

Date: 2018-10-02 12:47:08

Project Information:		Pump Information:	
Operator Name	Nardos Tilahun	Pump Model/Type	Alexis Peristaltic
Company Name	Geosyntec	Tubing Type	polyethylene
Project Name	GP-Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	463068		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	HGWC-124	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3 in
Depth to Water	14.91 ft	Total Volume Pumped	7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:02:45	600.03	19.68	7.12	569.48	2.40	15.11	0.30	62.40
Last 5	12:07:45	900.03	19.66	7.12	566.62	2.37	15.11	0.27	69.12
Last 5	12:12:45	1200.02	19.68	7.12	564.67	1.69	15.11	0.24	82.79
Last 5	12:17:45	1500.01	19.77	7.10	564.42	1.75	15.11	0.22	110.27
Last 5	12:22:45	1800.01	19.83	7.08	562.65	1.35	15.11	0.21	147.28
Variance 0			0.02	-0.00	-1.95			-0.03	13.66
Variance 1			0.09	-0.02	-0.25			-0.02	27.48
Variance 2			0.06	-0.02	-1.77			-0.01	37.01

Notes

4 plastic bottles: two 1-L bottles with HNO3 for Ra (EPA 9315/9320); one 250-mL bottle with HNO3 for App. III and App. IV metals (EPA 6020B and 7470A); and one 500-mL bottle for TDS and anions (EPA 2540C/300.0). Total depth = 35.1 ft.

Grab Samples

HGWC-124

Grab

Product Name: Low-Flow System

Date: 2019-04-02 09:55:21

Project Information:		Pump Information:	
Operator Name	Aaron Reeder	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	30.0 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	513028		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	23.0 ft

Well Information:		Pumping Information:	
Well ID	HGWA-122	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.2239027 L
Well Total Depth	28.0 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	8.11 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	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:37:55	300.08	15.52	6.53	386.99	4.51	8.15	2.40	74.02
Last 5	09:42:55	600.01	15.76	6.57	392.16	8.15	8.15	2.29	73.88
Last 5	09:47:55	900.01	15.93	6.55	399.54	2.44	8.16	2.22	74.85
Last 5	09:52:55	1200.00	16.03	6.57	391.67	2.76	8.16	2.38	73.90
Last 5									
Variance 0			0.24	0.03	5.17			-0.11	-0.14
Variance 1			0.16	-0.01	7.38			-0.07	0.97
Variance 2			0.10	0.02	-7.87			0.16	-0.95

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 28.16

Grab Samples

HGWC-122

Grab

Product Name: Low-Flow System

Date: 2019-04-02 13:24:58

Project Information:		Pump Information:	
Operator Name	Noelia Muskus	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	364452		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	HGWC-120	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.22 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	39.31 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	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:22:02	300.08	18.43	6.89	972.19	7.44	39.37	0.48	-52.45
Last 5	12:27:02	600.02	18.47	6.88	973.12	6.17	39.40	0.35	-53.85
Last 5	12:32:02	900.06	18.43	6.88	974.71	5.07	39.40	0.34	-55.11
Last 5	12:37:02	1200.06	18.30	6.87	978.07	3.77	39.40	0.33	-55.16
Last 5									
Variance 0			0.04	-0.01	0.94			-0.12	-1.40
Variance 1			-0.04	-0.00	1.59			-0.02	-1.26
Variance 2			-0.12	-0.01	3.36			-0.01	-0.05

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 61.5 ft.

Grab Samples

HGWC-120

Grab

Product Name: Low-Flow System

Date: 2019-04-03 09:51:09

Project Information:		Pump Information:	
Operator Name	Aaron Reeder	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	38.0 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	513028		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	36.0 ft

Well Information:		Pumping Information:	
Well ID	HGWC-121A	Final Pumping Rate	220 mL/min
Well diameter	2 in	Total System Volume	0.2596101 L
Well Total Depth	41.0 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	17.09 ft	Total Volume Pumped	7.7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:26:57	900.01	17.85	6.75	1160.83	6.91	17.13	3.06	84.85
Last 5	09:31:57	1200.00	18.07	6.75	1142.87	5.52	17.12	2.37	84.32
Last 5	09:36:57	1499.99	18.06	6.74	1169.04	4.32	17.13	0.72	84.32
Last 5	09:41:57	1799.99	18.12	6.75	1168.71	3.80	17.13	0.90	84.76
Last 5	09:46:57	2099.98	18.17	6.73	1174.41	3.68	17.14	1.12	87.12
Variance 0			-0.02	-0.01	26.17			-1.64	0.00
Variance 1			0.06	0.01	-0.33			0.17	0.44
Variance 2			0.05	-0.03	5.70			0.23	2.36

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth =41.40

Grab Samples

HGWC-121A

Grab

Product Name: Low-Flow System

Date: 2019-04-03 11:26:44

Project Information:		Pump Information:	
Operator Name	Aaron Reeder	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	32.0 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	513028		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	30.0 ft

Well Information:		Pumping Information:	
Well ID	HGWC-124	Final Pumping Rate	210 mL/min
Well diameter	2 in	Total System Volume	0.2328295 L
Well Total Depth	35.0 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	13.92 ft	Total Volume Pumped	4.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	11:07:09	300.06	17.01	7.12	587.42	8.90	14.42	1.40	68.08
Last 5	11:12:09	600.02	17.01	7.12	587.40	6.38	14.42	1.22	68.49
Last 5	11:17:09	900.01	17.09	7.12	582.98	5.75	14.42	1.23	68.20
Last 5	11:22:09	1200.00	17.12	7.14	584.26	4.34	14.42	1.34	67.78
Last 5									
Variance 0			0.01	0.00	-0.02			-0.18	0.41
Variance 1			0.08	-0.00	-4.42			0.01	-0.30
Variance 2			0.03	0.02	1.27			0.10	-0.42

Notes

For AP wells:

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth =38.09

Grab Samples

HGWC-124

Grab

Product Name: Low-Flow System

Date: 2019-06-18 11:45:43

Project Information:		Pump Information:	
Operator Name	Dalton Anderson	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	642533		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	HGWA-122	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	11.57 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	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	11:17:05	300.03	19.46	6.43	387.02	0.87	11.61	1.02	104.08
Last 5	11:22:05	600.01	19.29	6.44	390.70	0.31	11.62	0.97	96.90
Last 5	11:27:05	900.01	19.34	6.47	395.64	0.29	11.63	0.93	92.04
Last 5	11:32:05	1199.99	19.41	6.46	396.82	0.12	11.64	0.89	88.66
Last 5									
Variance 0			-0.17	0.01	3.67			-0.05	-7.18
Variance 1			0.05	0.03	4.94			-0.04	-4.86
Variance 2			0.07	-0.00	1.18			-0.03	-3.38

Notes

Parameters to be analyzed Boron, Calcium, Chloride, Fluoride, Sulfate, and TDS. Total depth = 28.1 ft

Grab Samples

HGWA-122

Grab

Product Name: Low-Flow System

Date: 2019-06-17 13:21:59

Project Information:		Pump Information:	
Operator Name	Dalton Anderson	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	642533		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	HGWC-120	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	40.47 ft	Total Volume Pumped	5.5 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	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:50:41	299.99	20.55	6.77	955.30	5.27	40.62	0.12	75.87
Last 5	12:55:41	599.93	20.43	6.78	962.32	1.53	40.46	0.12	69.75
Last 5	13:00:41	899.92	20.22	6.79	961.78	1.19	40.56	0.11	66.05
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.12	0.01	7.02			-0.01	-6.12
Variance 2			-0.21	0.01	-0.54			-0.00	-3.70

Notes

Parameters to be analyzed Boron, Calcium, Fluoride, and Sulfate. Total Depth = 62.71

Grab Samples

HGWC-120

Grab

Product Name: Low-Flow System

Date: 2019-06-17 14:58:19

Project Information:		Pump Information:	
Operator Name	Dalton Anderson	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	642533		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	HGWC-121A	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	28.01 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	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	14:13:11	300.03	21.02	6.75	1138.55	13.80	28.04	0.22	70.35
Last 5	14:18:11	600.01	21.22	6.75	1137.85	3.64	28.05	0.16	67.88
Last 5	14:23:11	900.00	21.11	6.75	1135.36	4.03	28.09	0.16	65.98
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			0.20	-0.00	-0.69			-0.06	-2.46
Variance 2			-0.11	0.01	-2.49			-0.00	-1.90

Notes

Parameters to be analyzed Boron, Calcium, Chloride, Sulfate, and TDS. Total depth = 39.47 ft

Grab Samples

HGWC-121A

Grab

Product Name: Low-Flow System

Date: 2019-06-18 09:41:03

Project Information:		Pump Information:	
Operator Name	Dalton Anderson	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	642533		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	HGWC-124	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	14.37 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	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:11:12	300.08	18.94	7.11	574.86	3.04	14.79	0.41	83.89
Last 5	09:16:12	600.01	18.84	7.12	576.22	1.63	14.81	0.24	79.37
Last 5	09:21:12	900.01	18.79	7.11	576.07	1.13	14.82	0.19	76.69
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.10	0.01	1.36			-0.17	-4.52
Variance 2			-0.05	-0.00	-0.16			-0.05	-2.68

Notes

Parameters to be analyzed Boron, Calcium, Chloride, Sulfate, and TDS. Total depth =35.29 ft

Grab Samples

HGWC-124

Grab

APPENDIX B
Statistical Analyses

Table B-1
Detection Monitoring Prediction Limit Comparison
Plant Hammond AP-3, Floyd County, Georgia

Parameter	Well ID	Upper PL	Lower PL	Apr 1-3, 2019	Jun 17-18, 2019
			Purpose of Sampling Event:	Detection	Verification
Boron (mg/L)	HGWC-120	0.36	-	1.1	1.1
Boron (mg/L)	HGWC-121A	0.36	-	3.0	2.4
Boron (mg/L)	HGWC-124	0.36	-	0.45	0.45
Calcium (mg/L)	HGWC-120	92.9	-	150	164
Calcium (mg/L)	HGWC-121A	92.9	-	184	173
Calcium (mg/L)	HGWC-124	92.9	-	96.7	97.1
Chloride (mg/L)	HGWC-120	3.3	-	3.1	--
Chloride (mg/L)	HGWC-121A	3.3	-	35.9	32.9
Chloride (mg/L)	HGWC-124	3.3	-	3.4	2.3 J
Fluoride (mg/L)	HGWC-120	0.29	-	0.47	1.2
Fluoride (mg/L)	HGWC-121A	0.29	-	0.14 J	--
Fluoride (mg/L)	HGWC-124	0.29	-	0.089 J	--
pH (s.u.)	HGWC-120	7.7	6.7	6.9	--
pH (s.u.)	HGWC-121A	7.7	6.6	6.7	--
pH (s.u.)	HGWC-124	7.2	6.9	7.1	--
Sulfate (mg/L)	HGWC-120	50.2	-	256	243
Sulfate (mg/L)	HGWC-121A	50.2	-	230	219
Sulfate (mg/L)	HGWC-124	50.2	-	75.2	75.3
TDS (mg/L)	HGWC-120	376	-	540	--
TDS (mg/L)	HGWC-121A	376	-	785	751
TDS (mg/L)	HGWC-124	376	-	369	--

Notes:
- = Not applicable
-- = Indicates the parameter was not analyzed as part of the verification event.
J = Indicates that analyte was estimated and detected between the laboratory Method Detection Limit (MDL) and Reporting Limit (RL).
mg/L = milligrams per liter
ND = Indicates the parameter was not detected above the laboratory MDL.
PL = Prediction Limit
s.u. = standard unit
TDS = Total Dissolved Solids
(1) Shaded values indicate an exceedance of the statistically derived PL.
(2) The pH value presented was recorded at the time of sample collection in the field. This is the only parameter in which the field result is compared to both the upper and lower PL.
(3) Value consistent with elevated historical TDS concentrations. Well was not resampled based on review of data and professional judgement.

Intrawell Prediction Limit - Significant Results (1)

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3 Printed 7/12/2019, 12:27 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method

Note:
(1) No significant results were determined with statistical analyses.

Intrawell Prediction Limit - All Results

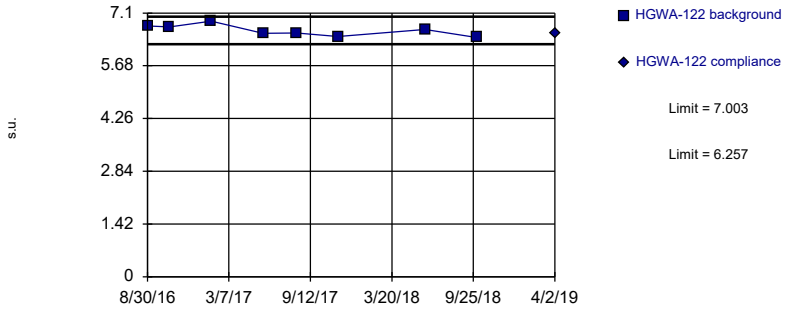
Plant Hammond Client: Georgia Power Company Data: Hammond AP-3 Printed 7/12/2019, 12:27 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
pH (s.u.)	HGWA-122	7.003	6.257	4/2/2019	6.57	No	8	0	No	0.001253	Param Intra 1 of 2
pH (s.u.)	HGWC-120	7.66	6.71	4/2/2019	6.87	No	8	0	n/a	0.04288	NP Intra (normality) 1 of 2
pH (s.u.)	HGWC-121A	7.65	6.57	4/3/2019	6.73	No	8	0	n/a	0.04288	NP Intra (normality) 1 of 2
pH (s.u.)	HGWC-124	7.219	6.929	4/3/2019	7.14	No	8	0	No	0.001253	Param Intra 1 of 2

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.63, Std. Dev.=0.1516, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.955, critical = 0.749. Kappa = 2.458 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

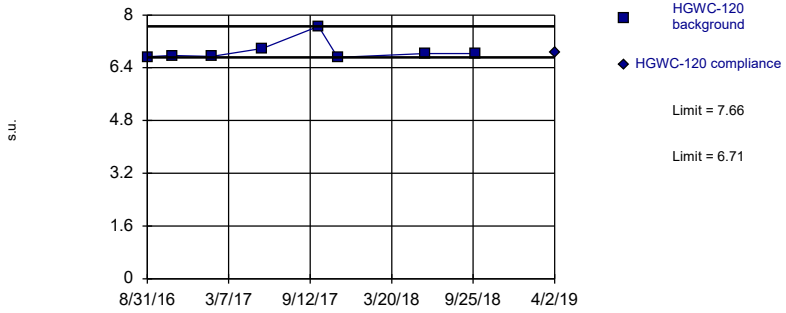
Constituent: pH Analysis Run 7/12/2019 12:26 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

Within Limits

Prediction Limit

Intrawell 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. Limits are highest and lowest of 8 background values. Well-constituent pair annual alpha = 0.08484. Individual comparison alpha = 0.04288 (1 of 2).

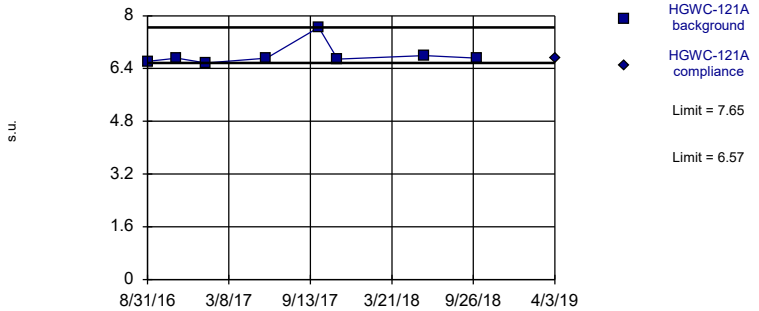
Constituent: pH Analysis Run 7/12/2019 12:26 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

Within Limits

Prediction Limit

Intrawell 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. Limits are highest and lowest of 8 background values. Well-constituent pair annual alpha = 0.08484. Individual comparison alpha = 0.04288 (1 of 2).

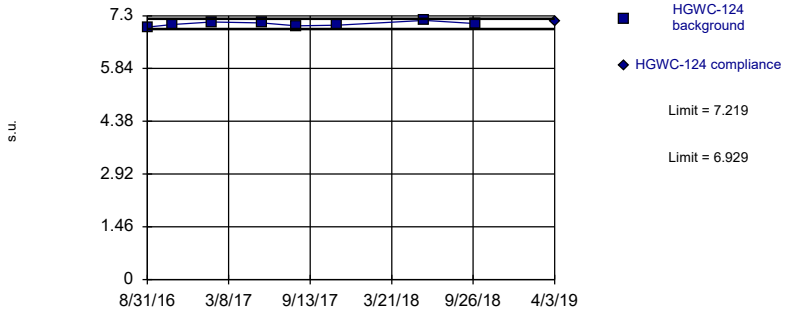
Constituent: pH Analysis Run 7/12/2019 12:26 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.074, Std. Dev.=0.05902, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9892, critical = 0.749. Kappa = 2.458 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505.

Constituent: pH Analysis Run 7/12/2019 12:26 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

Interwell Prediction Limit - Significant Results

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3 Printed 7/12/2019, 1:41 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	**HGWC-120**	**0.3612**	**n/a**	**6/17/2019**	**1.1**	**Yes**	**8**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-121A**	**0.3612**	**n/a**	**6/17/2019**	**2.4**	**Yes**	**8**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-124**	**0.3612**	**n/a**	**6/18/2019**	**0.45**	**Yes**	**8**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Calcium (mg/L)	**HGWC-120**	**92.87**	**n/a**	**6/17/2019**	**164**	**Yes**	**8**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Calcium (mg/L)	**HGWC-121A**	**92.87**	**n/a**	**6/17/2019**	**173**	**Yes**	**8**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Calcium (mg/L)	**HGWC-124**	**92.87**	**n/a**	**6/18/2019**	**97.1**	**Yes**	**8**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Chloride (mg/L)	**HGWC-121A**	**3.252**	**n/a**	**6/17/2019**	**32.9**	**Yes**	**8**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Fluoride (mg/L)	**HGWC-120**	**0.2903**	**n/a**	**6/17/2019**	**1.2**	**Yes**	**8**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Sulfate (mg/L)	**HGWC-120**	**50.18**	**n/a**	**6/17/2019**	**243**	**Yes**	**8**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Sulfate (mg/L)	**HGWC-121A**	**50.18**	**n/a**	**6/17/2019**	**219**	**Yes**	**8**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Sulfate (mg/L)	**HGWC-124**	**50.18**	**n/a**	**6/18/2019**	**75.3**	**Yes**	**8**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	**HGWC-120**	**375.7**	**n/a**	**4/2/2019**	**540**	**Yes**	**8**	**0**	**sqrt(x)**	**0.002505**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	**HGWC-121A**	**375.7**	**n/a**	**6/17/2019**	**751**	**Yes**	**8**	**0**	**sqrt(x)**	**0.002505**	**Param Inter 1 of 2**

Interwell Prediction Limit - All Results

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3 Printed 7/12/2019, 1:40 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	**HGWC-120**	**0.3612**	**n/a**	**6/17/2019**	**1.1**	**Yes**	**8**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-121A**	**0.3612**	**n/a**	**6/17/2019**	**2.4**	**Yes**	**8**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-124**	**0.3612**	**n/a**	**6/18/2019**	**0.45**	**Yes**	**8**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Calcium (mg/L)	**HGWC-120**	**92.87**	**n/a**	**6/17/2019**	**164**	**Yes**	**8**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Calcium (mg/L)	**HGWC-121A**	**92.87**	**n/a**	**6/17/2019**	**173**	**Yes**	**8**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Calcium (mg/L)	**HGWC-124**	**92.87**	**n/a**	**6/18/2019**	**97.1**	**Yes**	**8**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Chloride (mg/L)	HGWC-120	3.252	n/a	4/2/2019	3.1	No	8	0	No	0.002505	Param Inter 1 of 2
Chloride (mg/L)	**HGWC-121A**	**3.252**	**n/a**	**6/17/2019**	**32.9**	**Yes**	**8**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Chloride (mg/L)	HGWC-124	3.252	n/a	6/18/2019	2.3	No	8	0	No	0.002505	Param Inter 1 of 2
Fluoride (mg/L)	**HGWC-120**	**0.2903**	**n/a**	**6/17/2019**	**1.2**	**Yes**	**8**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Fluoride (mg/L)	HGWC-121A	0.2903	n/a	4/3/2019	0.14	No	8	0	No	0.002505	Param Inter 1 of 2
Fluoride (mg/L)	HGWC-124	0.2903	n/a	4/3/2019	0.089	No	8	0	No	0.002505	Param Inter 1 of 2
Sulfate (mg/L)	**HGWC-120**	**50.18**	**n/a**	**6/17/2019**	**243**	**Yes**	**8**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Sulfate (mg/L)	**HGWC-121A**	**50.18**	**n/a**	**6/17/2019**	**219**	**Yes**	**8**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Sulfate (mg/L)	**HGWC-124**	**50.18**	**n/a**	**6/18/2019**	**75.3**	**Yes**	**8**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	**HGWC-120**	**375.7**	**n/a**	**4/2/2019**	**540**	**Yes**	**8**	**0**	**sqrt(x)**	**0.002505**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	**HGWC-121A**	**375.7**	**n/a**	**6/17/2019**	**751**	**Yes**	**8**	**0**	**sqrt(x)**	**0.002505**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	HGWC-124	375.7	n/a	4/3/2019	369	No	8	0	sqrt(x)	0.002505	Param Inter 1 of 2

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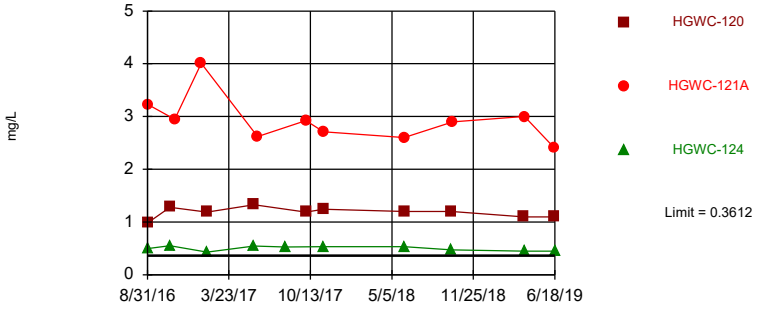
Exceeds Limit: HGWC-120, HGWC-121A, HGWC-124

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=0.289, Std. Dev.=0.02987, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9549, critical = 0.749. Kappa = 2.416 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.002505. Comparing 3 points to limit.

Constituent: Boron Analysis Run 7/12/2019 12:31 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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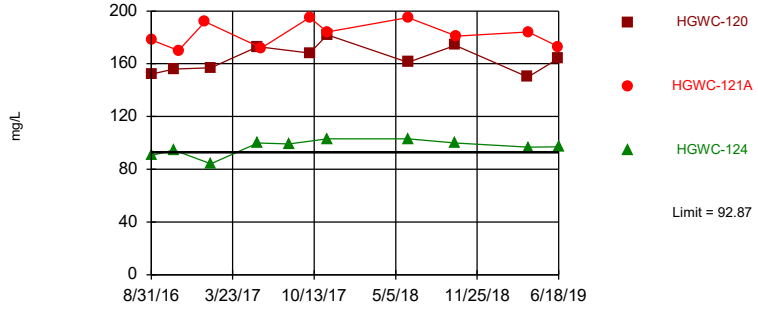
Exceeds Limit: HGWC-120, HGWC-121A, HGWC-124

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=74.89, Std. Dev.=7.441, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8835, critical = 0.749. Kappa = 2.416 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.002505. Comparing 3 points to limit.

Constituent: Calcium Analysis Run 7/12/2019 1:36 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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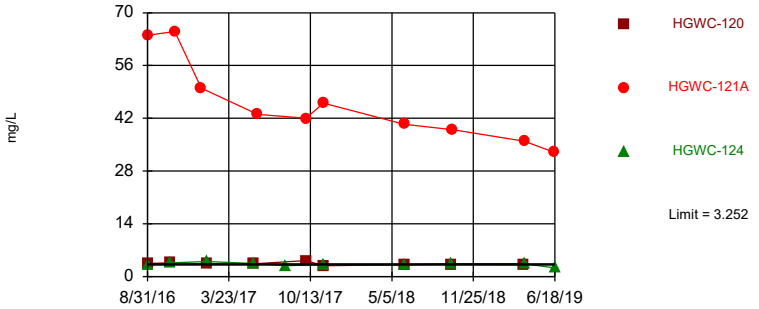
Exceeds Limit: HGWC-121A

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=2.938, Std. Dev.=0.1302, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.846, critical = 0.749. Kappa = 2.416 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.002505. Comparing 3 points to limit.

Constituent: Chloride Analysis Run 7/12/2019 1:37 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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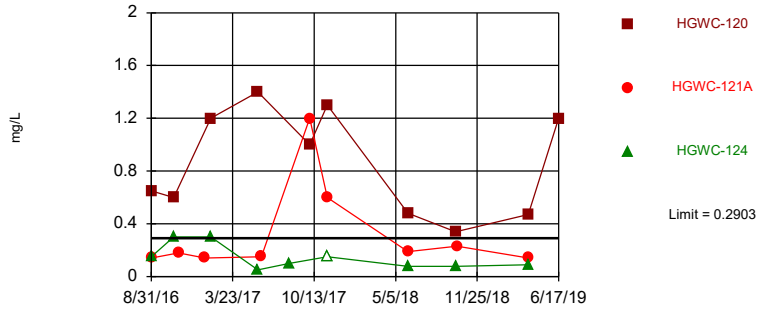
Hollow symbols indicate censored values.

Exceeds Limit: HGWC-120

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=0.15, Std. Dev.=0.05806, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9262, critical = 0.749. Kappa = 2.416 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.002505. Comparing 3 points to limit.

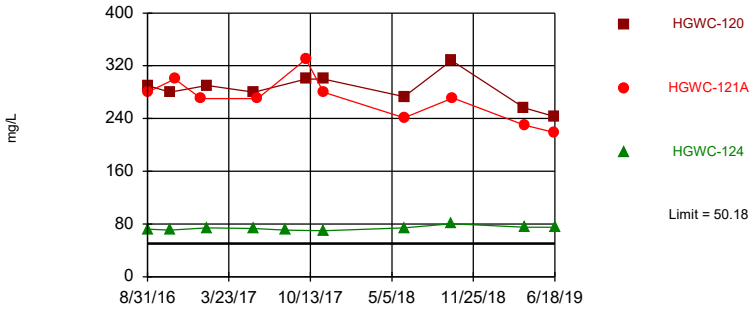
Constituent: Fluoride Analysis Run 7/12/2019 1:37 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

Exceeds Limit: HGWC-120, HGWC-121A, HGWC-124

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=48.44, Std. Dev.=0.721, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8111, critical = 0.749. Kappa = 2.416 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.002505. Comparing 3 points to limit.

Constituent: Sulfate Analysis Run 7/12/2019 1:38 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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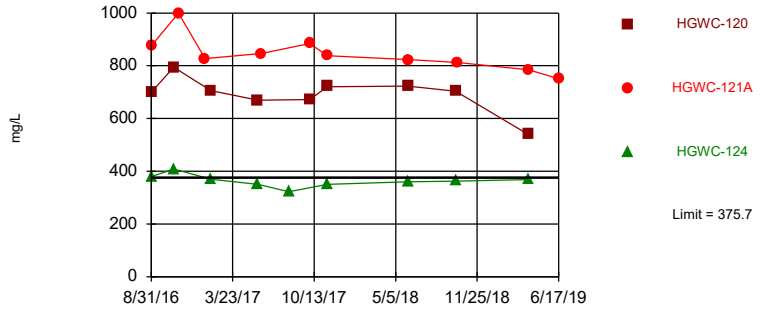
Exceeds Limit: HGWC-120, HGWC-121A

Prediction Limit

Interwell Parametric



Background Data Summary (based on square root transformation): Mean=16.54, Std. Dev.=1.175, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7626, critical = 0.749. Kappa = 2.416 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.002505. Comparing 3 points to limit.

Constituent: Total Dissolved Solids Analysis Run 7/12/2019 1:39 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

Trend Test - Significant Results

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3 Printed 7/12/2019, 1:55 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Chloride (mg/L)	**HGWA-122 (bg)**	**0.167**	**36**	**23**	**Yes**	**10**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Chloride (mg/L)	**HGWC-121A**	**-7.886**	**-39**	**-23**	**Yes**	**10**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Total Dissolved Solids (mg/L)	**HGWC-121A**	**-39.67**	**-33**	**-23**	**Yes**	**10**	**0**	**n/a**	**n/a**	**0.05**	**NP**

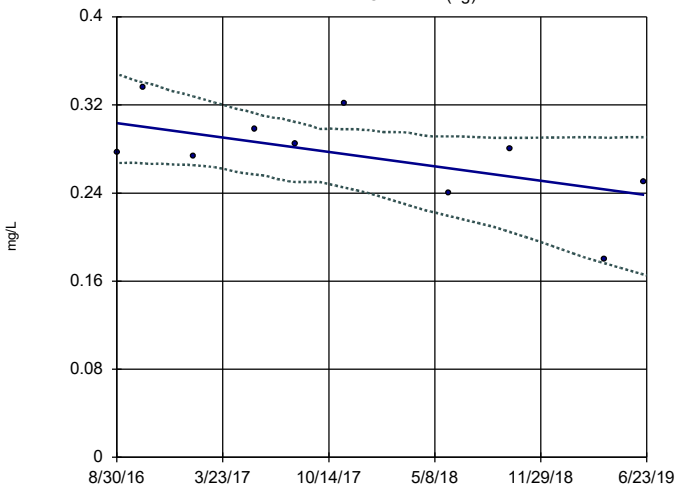
Trend Test - All Results

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3 Printed 7/12/2019, 1:56 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	HGWA-122 (bg)	-0.02324	-17	-23	No	10	0	n/a	n/a	0.05	NP
Boron (mg/L)	HGWC-120	-0.04132	-8	-23	No	10	0	n/a	n/a	0.05	NP
Boron (mg/L)	HGWC-121A	-0.1988	-19	-23	No	10	0	n/a	n/a	0.05	NP
Boron (mg/L)	HGWC-124	-0.01801	-16	-23	No	10	0	n/a	n/a	0.05	NP
Calcium (mg/L)	HGWA-122 (bg)	-4.342	-15	-23	No	10	0	n/a	n/a	0.05	NP
Calcium (mg/L)	HGWC-120	3.109	11	23	No	10	0	n/a	n/a	0.05	NP
Calcium (mg/L)	HGWC-121A	1.15	5	23	No	10	0	n/a	n/a	0.05	NP
Calcium (mg/L)	HGWC-124	2.433	13	23	No	10	0	n/a	n/a	0.05	NP
Chloride (mg/L)	**HGWA-122 (bg)**	**0.167**	**36**	**23**	**Yes**	**10**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Chloride (mg/L)	**HGWC-121A**	**-7.886**	**-39**	**-23**	**Yes**	**10**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Fluoride (mg/L)	HGWA-122 (bg)	0	1	23	No	10	0	n/a	n/a	0.05	NP
Fluoride (mg/L)	HGWC-120	-0.0696	-8	-23	No	10	0	n/a	n/a	0.05	NP
Sulfate (mg/L)	HGWA-122 (bg)	-1.362	-21	-23	No	10	0	n/a	n/a	0.05	NP
Sulfate (mg/L)	HGWC-120	-9.865	-10	-23	No	10	0	n/a	n/a	0.05	NP
Sulfate (mg/L)	HGWC-121A	-21.3	-23	-23	No	10	0	n/a	n/a	0.05	NP
Sulfate (mg/L)	HGWC-124	1.236	19	23	No	10	0	n/a	n/a	0.05	NP
Total Dissolved Solids (mg/L)	HGWA-122 (bg)	-11.75	-14	-20	No	9	0	n/a	n/a	0.05	NP
Total Dissolved Solids (mg/L)	HGWC-120	-34.06	-6	-20	No	9	0	n/a	n/a	0.05	NP
Total Dissolved Solids (mg/L)	**HGWC-121A**	**-39.67**	**-33**	**-23**	**Yes**	**10**	**0**	**n/a**	**n/a**	**0.05**	**NP**

Sen's Slope and 95% Confidence Band

HGWA-122 (bg)



n = 10

Slope = -0.02324 units per year.

Mann-Kendall statistic = -17
critical = -23

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Boron Analysis Run 7/12/2019 1:51 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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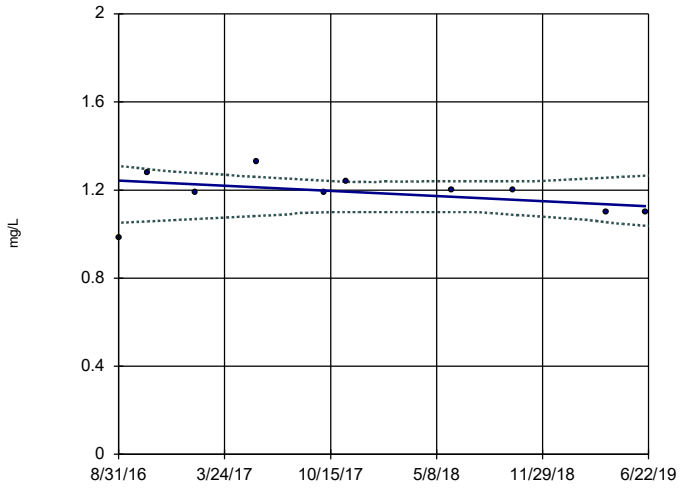
Sen's Slope and 95% Confidence Band

HGWC-120



n = 10

Slope = -0.04132 units per year.

Mann-Kendall statistic = -8
critical = -23

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Boron Analysis Run 7/12/2019 1:51 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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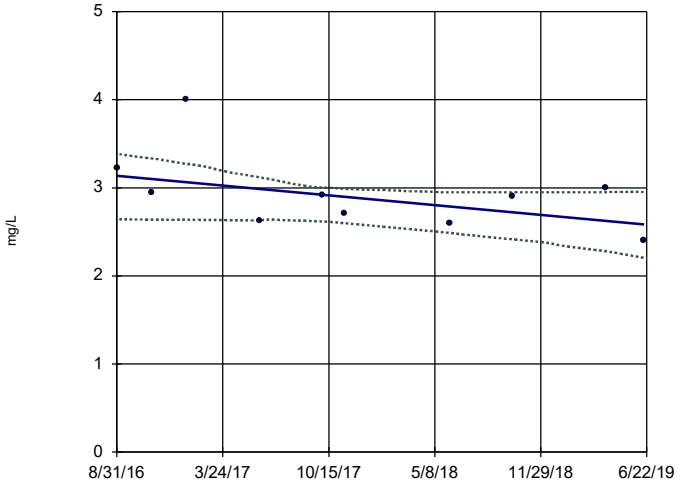
Sen's Slope and 95% Confidence Band

HGWC-121A



n = 10

Slope = -0.1988 units per year.

Mann-Kendall statistic = -19
critical = -23

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Boron Analysis Run 7/12/2019 1:51 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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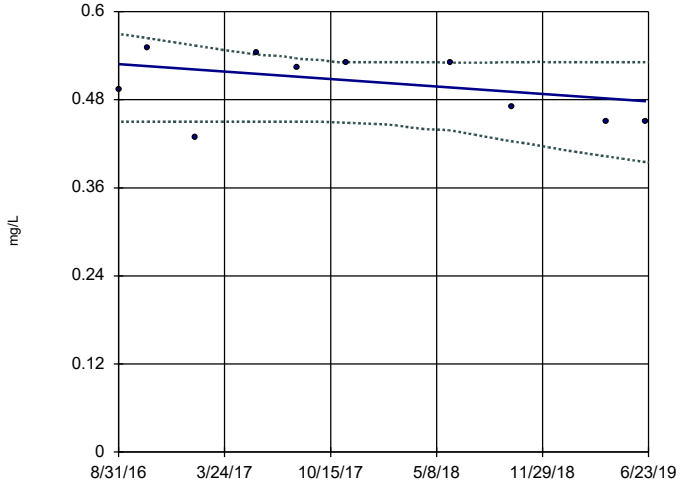
Sen's Slope and 95% Confidence Band

HGWC-124



n = 10

Slope = -0.01801 units per year.

Mann-Kendall statistic = -16
critical = -23

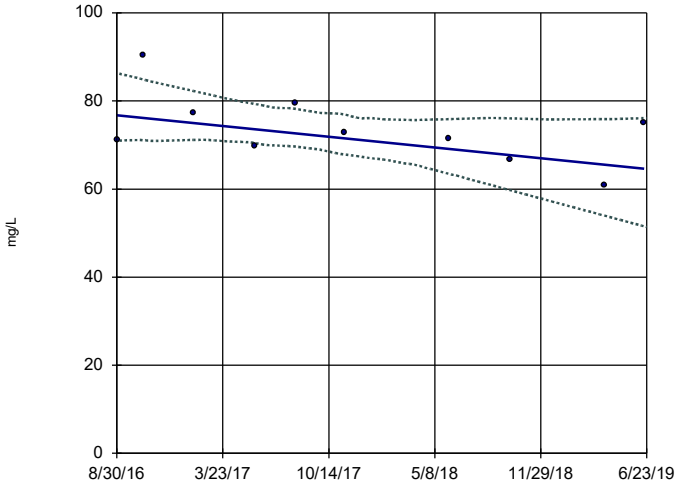
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Boron Analysis Run 7/12/2019 1:51 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

Sen's Slope and 95% Confidence Band

HGWA-122 (bg)



n = 10

Slope = -4.342 units per year.

Mann-Kendall statistic = -15 critical = -23

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Calcium Analysis Run 7/12/2019 1:51 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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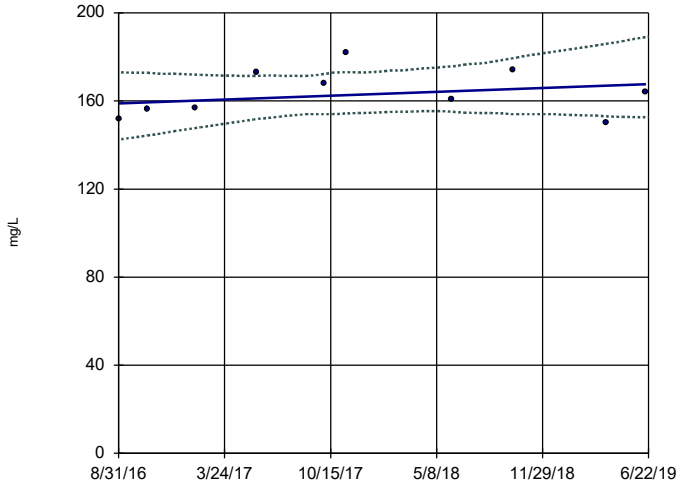
Sen's Slope and 95% Confidence Band

HGWC-120



n = 10

Slope = 3.109 units per year.

Mann-Kendall statistic = 11 critical = 23

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Calcium Analysis Run 7/12/2019 1:52 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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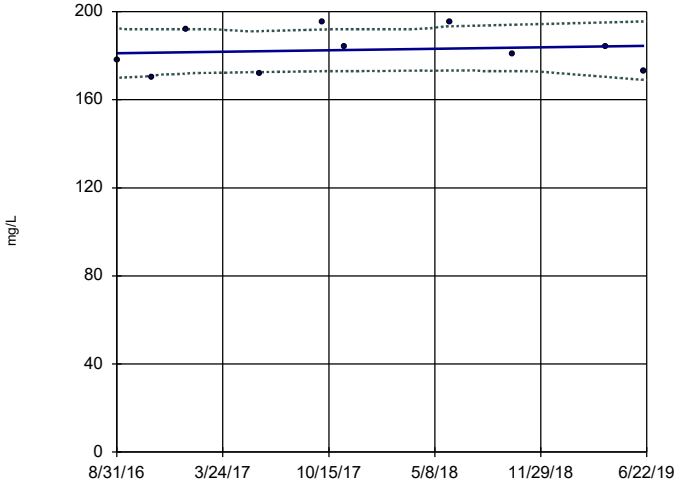
Sen's Slope and 95% Confidence Band

HGWC-121A



n = 10

Slope = 1.15 units per year.

Mann-Kendall statistic = 5 critical = 23

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Calcium Analysis Run 7/12/2019 1:52 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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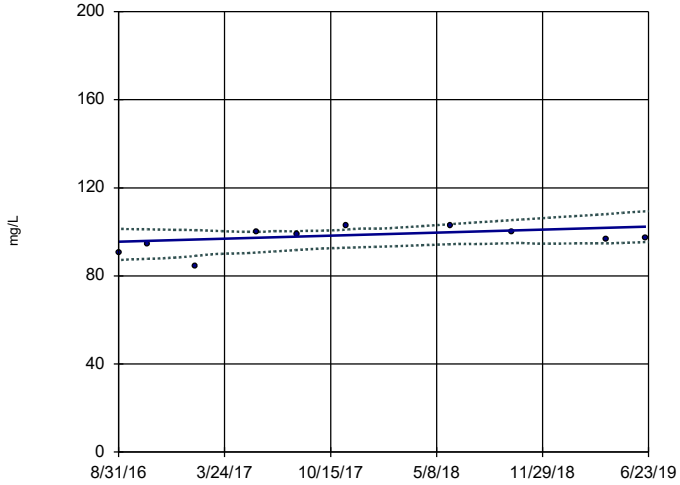
Sen's Slope and 95% Confidence Band

HGWC-124



n = 10

Slope = 2.433 units per year.

Mann-Kendall statistic = 13 critical = 23

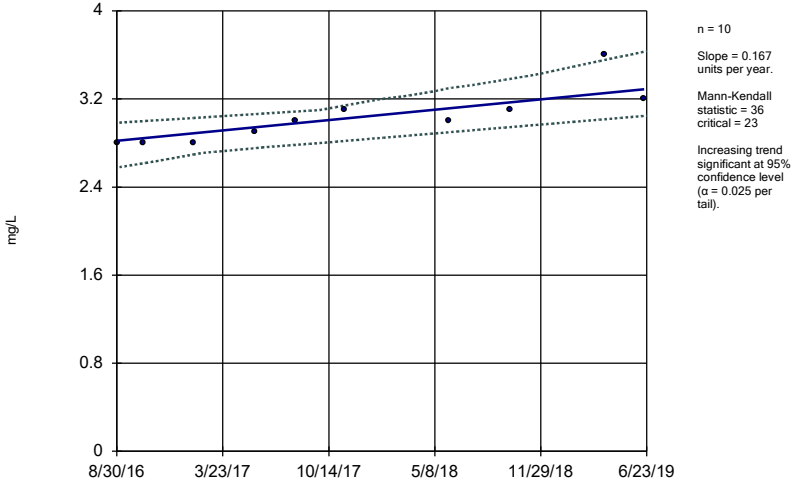
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Calcium Analysis Run 7/12/2019 1:52 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

Sen's Slope and 95% Confidence Band

HGWA-122 (bg)



n = 10

Slope = 0.167 units per year.

Mann-Kendall statistic = 36 critical = 23

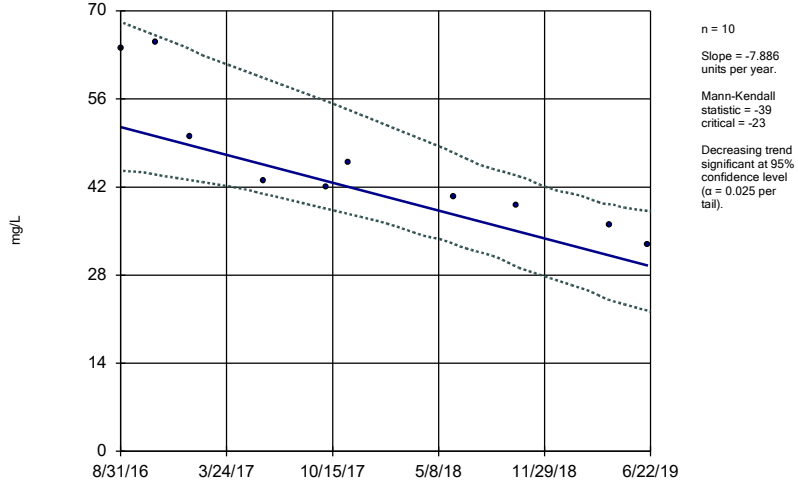
Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Chloride Analysis Run 7/12/2019 1:52 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

Sen's Slope and 95% Confidence Band

HGWC-121A



n = 10

Slope = -7.886 units per year.

Mann-Kendall statistic = -39 critical = -23

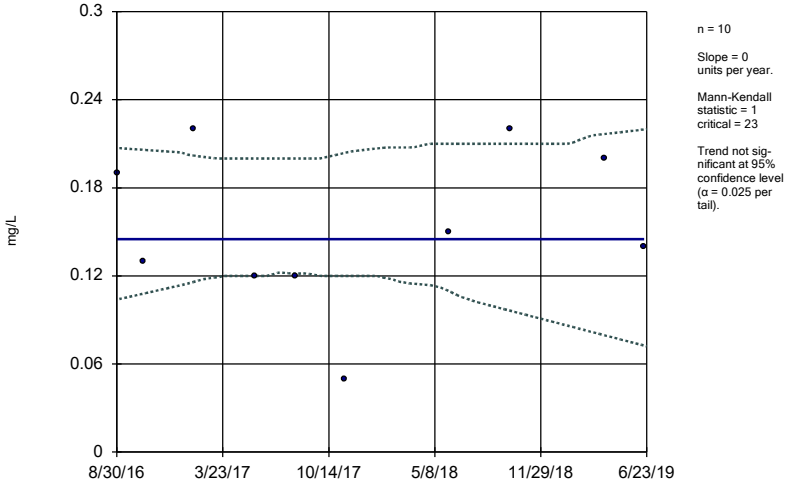
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Chloride Analysis Run 7/12/2019 1:52 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

Sen's Slope and 95% Confidence Band

HGWA-122 (bg)



n = 10

Slope = 0 units per year.

Mann-Kendall statistic = 1 critical = 23

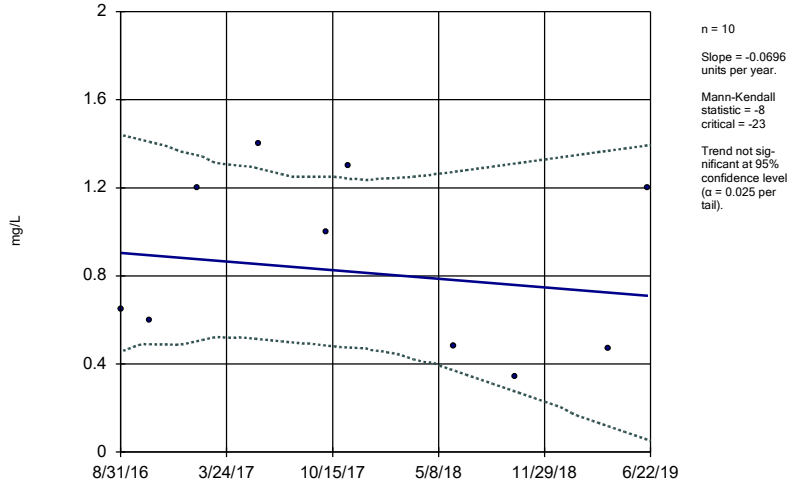
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Fluoride Analysis Run 7/12/2019 1:52 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

Sen's Slope and 95% Confidence Band

HGWC-120



n = 10

Slope = -0.0696 units per year.

Mann-Kendall statistic = -8 critical = -23

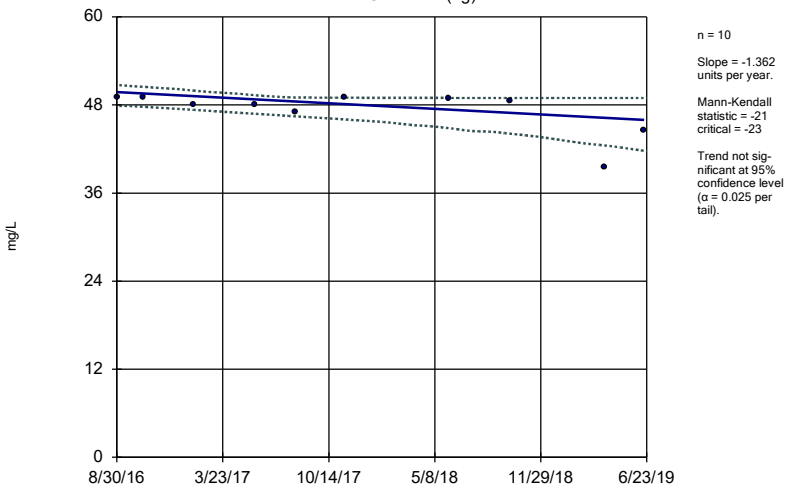
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Fluoride Analysis Run 7/12/2019 1:53 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

Sen's Slope and 95% Confidence Band

HGWA-122 (bg)



n = 10

Slope = -1.362 units per year.

Mann-Kendall statistic = -21
critical = -23

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Sulfate Analysis Run 7/12/2019 1:54 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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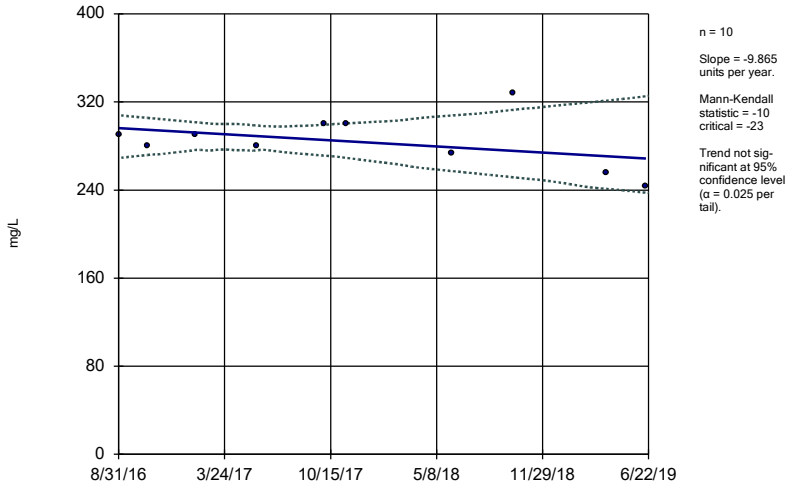
Sen's Slope and 95% Confidence Band

HGWC-120



n = 10

Slope = -9.865 units per year.

Mann-Kendall statistic = -10
critical = -23

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Sulfate Analysis Run 7/12/2019 1:54 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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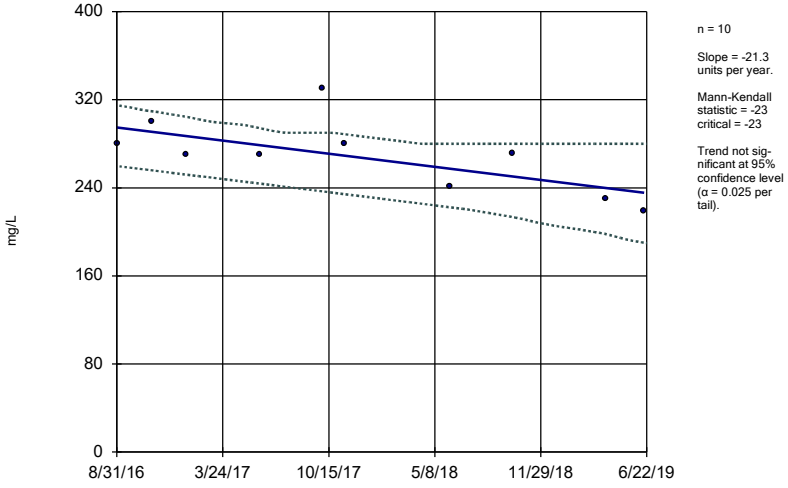
Sen's Slope and 95% Confidence Band

HGWC-121A



n = 10

Slope = -21.3 units per year.

Mann-Kendall statistic = -23
critical = -23

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Sulfate Analysis Run 7/12/2019 1:54 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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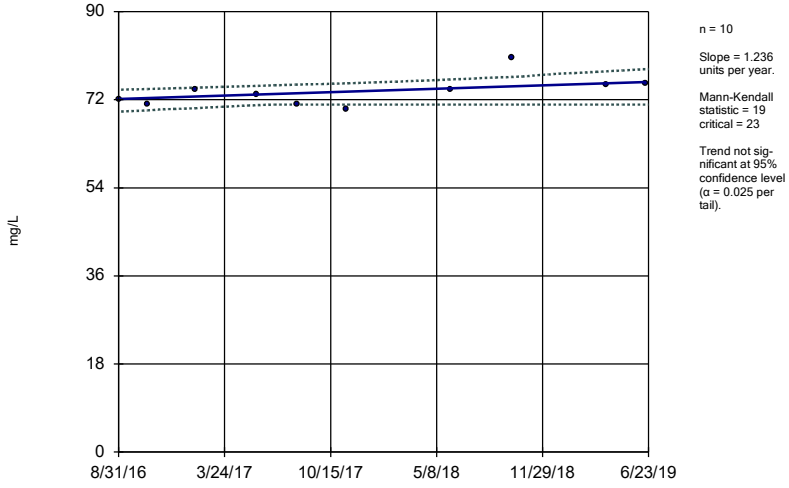
Sen's Slope and 95% Confidence Band

HGWC-124



n = 10

Slope = 1.236 units per year.

Mann-Kendall statistic = 19
critical = 23

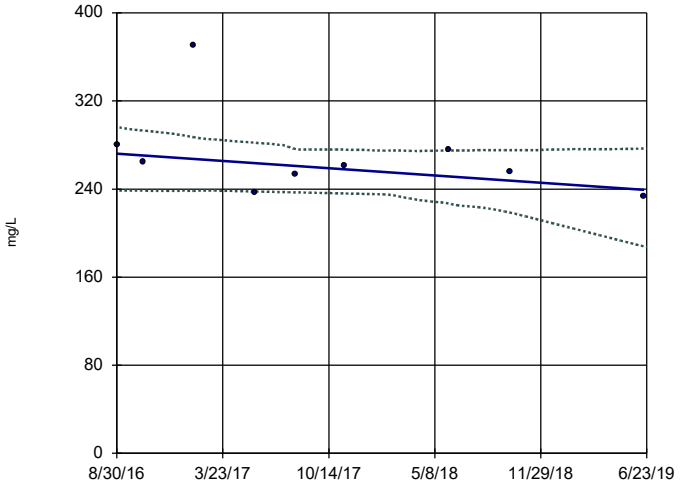
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Sulfate Analysis Run 7/12/2019 1:54 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

Sen's Slope and 95% Confidence Band

HGWA-122 (bg)



n = 9

Slope = -11.75 units per year.

Mann-Kendall statistic = -14
critical = -20

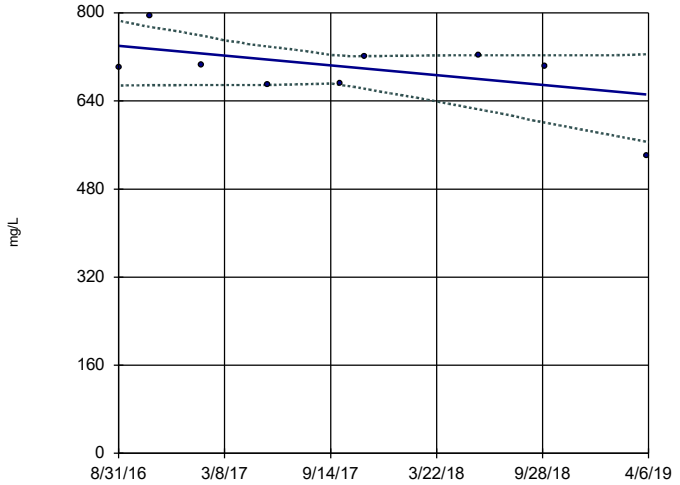
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Total Dissolved Solids Analysis Run 7/12/2019 1:54 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

Sen's Slope and 95% Confidence Band

HGWC-120



n = 9

Slope = -34.06 units per year.

Mann-Kendall statistic = -6
critical = -20

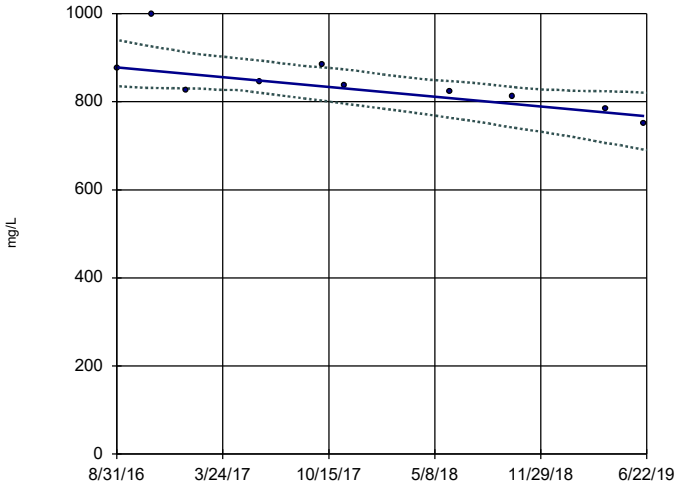
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Total Dissolved Solids Analysis Run 7/12/2019 1:55 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

Sen's Slope and 95% Confidence Band

HGWC-121A



n = 10

Slope = -39.67 units per year.

Mann-Kendall statistic = -33
critical = -23

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Total Dissolved Solids Analysis Run 7/12/2019 1:55 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

Outlier Summary - AP-3

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3 Printed 7/30/2019, 11:14 AM

	HGWA-122 Total Dissolved Solids (mg/L)
4/2/2019	814 (o)

Outlier Analysis - Significant Results

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3 Printed 7/30/2019, 11:12 AM

Constituent Name	Well	Outlier Found	Outlier Value(s)	Date(s)	Method	Alpha	N	Mean	Standard Deviation	Distribution	Normality Test
pH (s.u.)	**HGWC-120**	**Yes**	**7.66**	**10/2/2017**	**NP**	**NaN**	**9**	**6.903**	**0.2966**	**ln(x)**	**ShapiroWilk**
pH (s.u.)	**HGWC-121A**	**Yes**	**7.65**	**10/2/2017**	**NP**	**NaN**	**9**	**6.798**	**0.3258**	**ln(x)**	**ShapiroWilk**
Total Dissolved Solids (mg/L)	**HGWA-122 (bg)**	**Yes**	**814**	**4/2/2019**	**NP**	**NaN**	**10**	**324.6**	**176.2**	**ln(x)**	**ShapiroWilk**

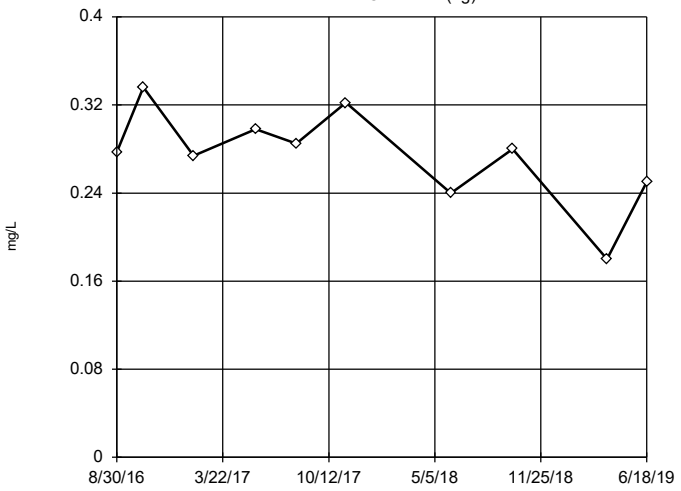
Outlier Analysis - All Results

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3 Printed 7/30/2019, 11:12 AM

Constituent Name	Well	Outlier Found	Outlier Value(s)	Date(s)	Method	Alpha	N	Mean	Standard Deviation	Distribution	Normality Test
Boron (mg/L)	HGWA-122 (bg)	No	n/a	n/a	NP	NaN	10	0.2742	0.04404	x^3	ShapiroWilk
Boron (mg/L)	HGWC-120	No	n/a	n/a	NP	NaN	10	1.181	0.09972	x^4	ShapiroWilk
Boron (mg/L)	HGWC-121A	No	n/a	n/a	NP	NaN	10	2.934	0.4468	ln(x)	ShapiroWilk
Boron (mg/L)	HGWC-124	No	n/a	n/a	NP	NaN	10	0.4971	0.04461	x^5	ShapiroWilk
Calcium (mg/L)	HGWA-122 (bg)	No	n/a	n/a	NP	NaN	10	73.5	7.916	ln(x)	ShapiroWilk
Calcium (mg/L)	HGWC-120	No	n/a	n/a	NP	NaN	10	163.7	10.45	ln(x)	ShapiroWilk
Calcium (mg/L)	HGWC-121A	No	n/a	n/a	NP	NaN	10	182.4	9.348	ln(x)	ShapiroWilk
Calcium (mg/L)	HGWC-124	No	n/a	n/a	NP	NaN	10	96.8	5.848	x^6	ShapiroWilk
Chloride (mg/L)	HGWA-122 (bg)	No	n/a	n/a	NP	NaN	10	3.03	0.2452	ln(x)	ShapiroWilk
Chloride (mg/L)	HGWC-120	No	n/a	n/a	NP	NaN	9	3.367	0.3808	ln(x)	ShapiroWilk
Chloride (mg/L)	HGWC-121A	No	n/a	n/a	NP	NaN	10	45.82	10.95	ln(x)	ShapiroWilk
Chloride (mg/L)	HGWC-124	No	n/a	n/a	NP	NaN	10	3.23	0.462	x^2	ShapiroWilk
Fluoride (mg/L)	HGWA-122 (bg)	No	n/a	n/a	NP	NaN	10	0.154	0.05379	normal	ShapiroWilk
Fluoride (mg/L)	HGWC-120	No	n/a	n/a	NP	NaN	10	0.864	0.3964	ln(x)	ShapiroWilk
Fluoride (mg/L)	HGWC-121A	No	n/a	n/a	NP	NaN	9	0.33	0.3575	ln(x)	ShapiroWilk
Fluoride (mg/L)	HGWC-124	No	n/a	n/a	NP	NaN	9	0.1439	0.09437	ln(x)	ShapiroWilk
pH (s.u.)	HGWA-122 (bg)	No	n/a	n/a	NP	NaN	9	6.623	0.1432	ln(x)	ShapiroWilk
pH (s.u.)	**HGWC-120**	**Yes**	**7.66**	**10/2/2017**	**NP**	**NaN**	**9**	**6.903**	**0.2966**	**ln(x)**	**ShapiroWilk**
pH (s.u.)	**HGWC-121A**	**Yes**	**7.65**	**10/2/2017**	**NP**	**NaN**	**9**	**6.798**	**0.3258**	**ln(x)**	**ShapiroWilk**
pH (s.u.)	HGWC-124	No	n/a	n/a	NP	NaN	9	7.081	0.05947	normal	ShapiroWilk
Sulfate (mg/L)	HGWA-122 (bg)	No	n/a	n/a	NP (nrm)	NaN	10	47.16	2.999	unknown	ShapiroWilk
Sulfate (mg/L)	HGWC-120	No	n/a	n/a	NP	NaN	10	284	23.89	normal	ShapiroWilk
Sulfate (mg/L)	HGWC-121A	No	n/a	n/a	NP	NaN	10	269.1	32.89	sqrt(x)	ShapiroWilk
Sulfate (mg/L)	HGWC-124	No	n/a	n/a	NP	NaN	10	73.62	3.084	ln(x)	ShapiroWilk
Total Dissolved Solids (mg/L)	**HGWA-122 (bg)**	**Yes**	**814**	**4/2/2019**	**NP**	**NaN**	**10**	**324.6**	**176.2**	**ln(x)**	**ShapiroWilk**
Total Dissolved Solids (mg/L)	HGWC-120	No	n/a	n/a	NP	NaN	9	692.1	67.85	x^4	ShapiroWilk
Total Dissolved Solids (mg/L)	HGWC-121A	No	n/a	n/a	NP	NaN	10	844.3	67.35	ln(x)	ShapiroWilk
Total Dissolved Solids (mg/L)	HGWC-124	No	n/a	n/a	NP	NaN	9	363.7	23.6	ln(x)	ShapiroWilk

Tukey's Outlier Screening

HGWA-122 (bg)



n = 10

No outliers found. Tukey's method selected by user.

Data were cube transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.4227, low cutoff = -0.3137, based on IQR multiplier of 3.

Constituent: Boron Analysis Run 7/30/2019 11:11 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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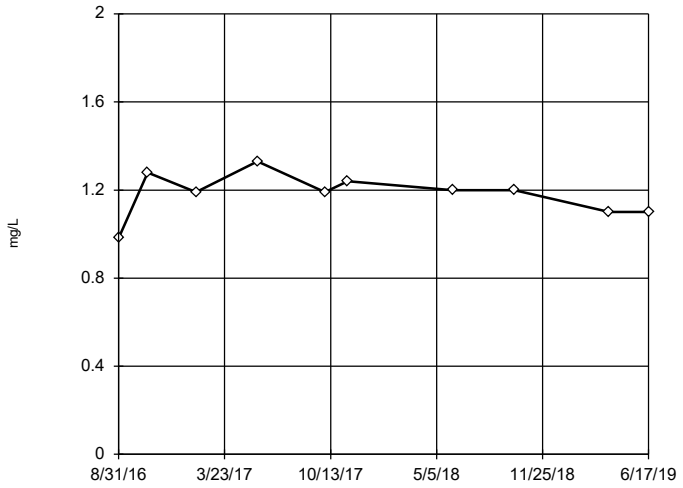
Tukey's Outlier Screening

HGWC-120



n = 10

No outliers found. Tukey's method selected by user.

Data were x^4 transformed to achieve best W statistic (graph shown in original units).

High cutoff = 1.545, low cutoff = -1.145, based on IQR multiplier of 3.

Constituent: Boron Analysis Run 7/30/2019 11:11 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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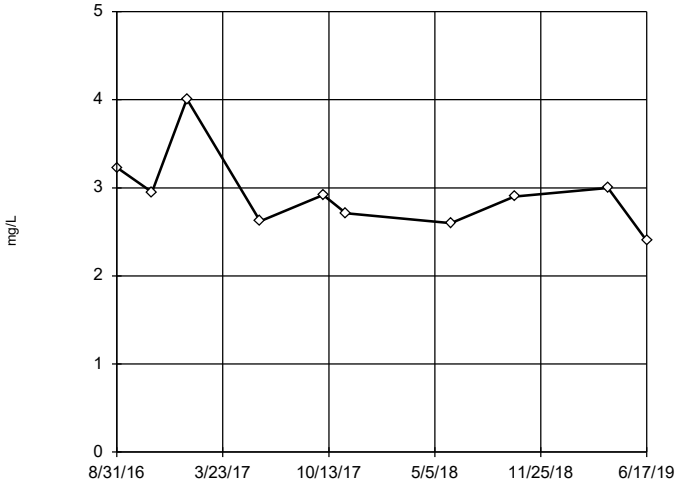
Tukey's Outlier Screening

HGWC-121A



n = 10

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 5.281, low cutoff = 1.538, based on IQR multiplier of 3.

Constituent: Boron Analysis Run 7/30/2019 11:11 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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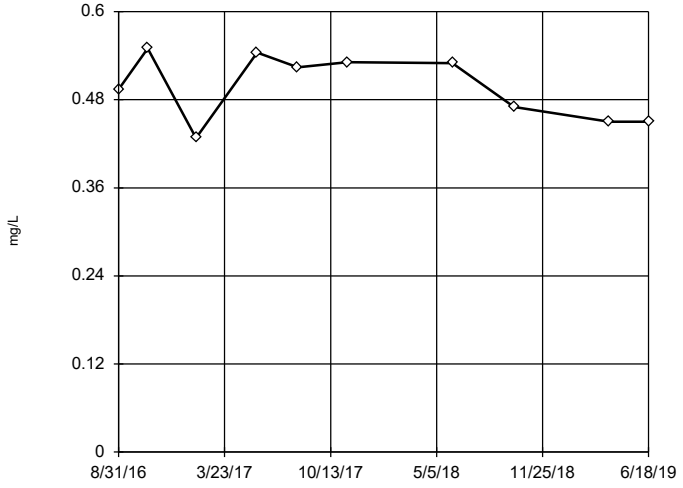
Tukey's Outlier Screening

HGWC-124



n = 10

No outliers found. Tukey's method selected by user.

Data were x^5 transformed to achieve best W statistic (graph shown in original units).

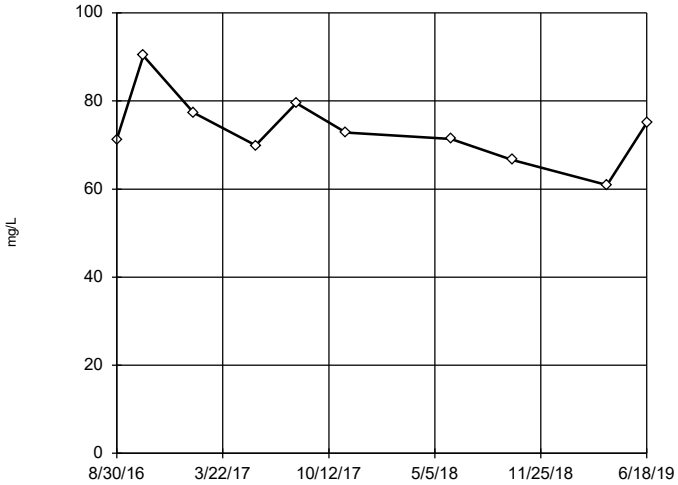
High cutoff = 0.6591, low cutoff = -0.5715, based on IQR multiplier of 3.

Constituent: Boron Analysis Run 7/30/2019 11:11 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

Tukey's Outlier Screening

HGWA-122 (bg)



n = 10

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 118.9, low cutoff = 44.99, based on IQR multiplier of 3.

Constituent: Calcium Analysis Run 7/30/2019 11:11 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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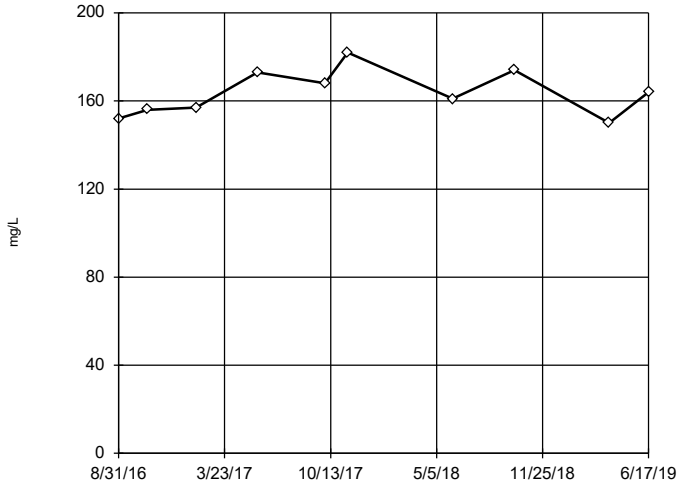
Tukey's Outlier Screening

HGWC-120



n = 10

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 248.2, low cutoff = 107.7, based on IQR multiplier of 3.

Constituent: Calcium Analysis Run 7/30/2019 11:11 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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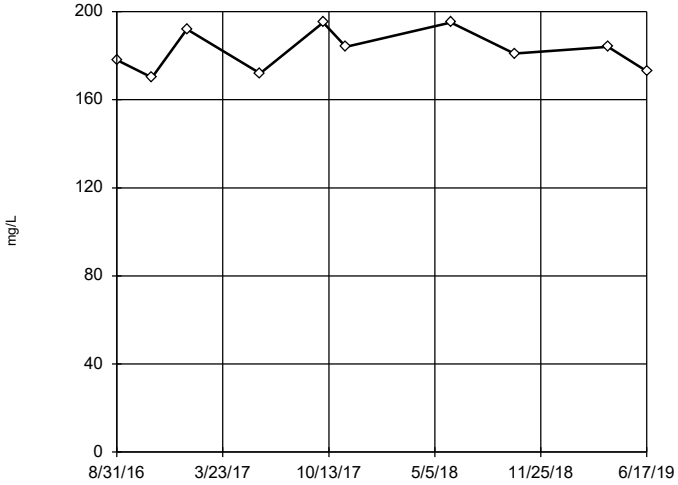
Tukey's Outlier Screening

HGWC-121A



n = 10

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 273.1, low cutoff = 122.2, based on IQR multiplier of 3.

Constituent: Calcium Analysis Run 7/30/2019 11:11 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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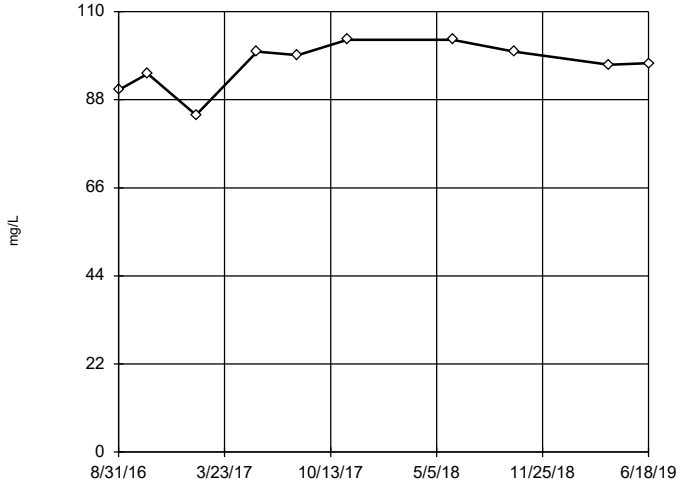
Tukey's Outlier Screening

HGWC-124



n = 10

No outliers found. Tukey's method selected by user.

Data were x^6 transformed to achieve best W statistic (graph shown in original units).

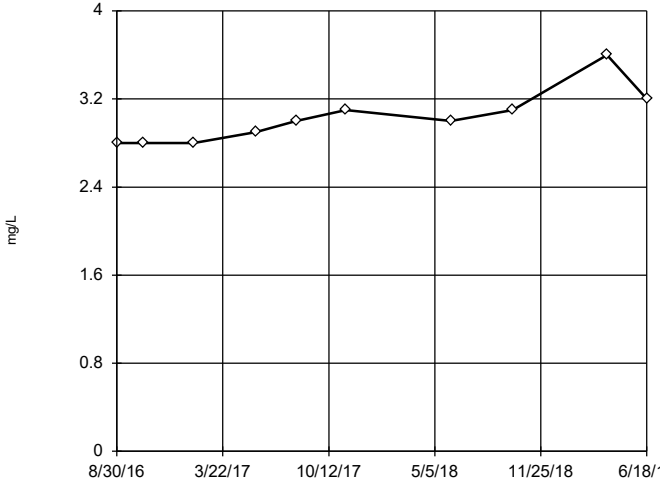
High cutoff = 116.5, low cutoff = -95.84, based on IQR multiplier of 3.

Constituent: Calcium Analysis Run 7/30/2019 11:11 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

Tukey's Outlier Screening

HGWA-122 (bg)



n = 10

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 4.483, low cutoff = 1.967, based on IQR multiplier of 3.

Constituent: Chloride Analysis Run 7/30/2019 11:11 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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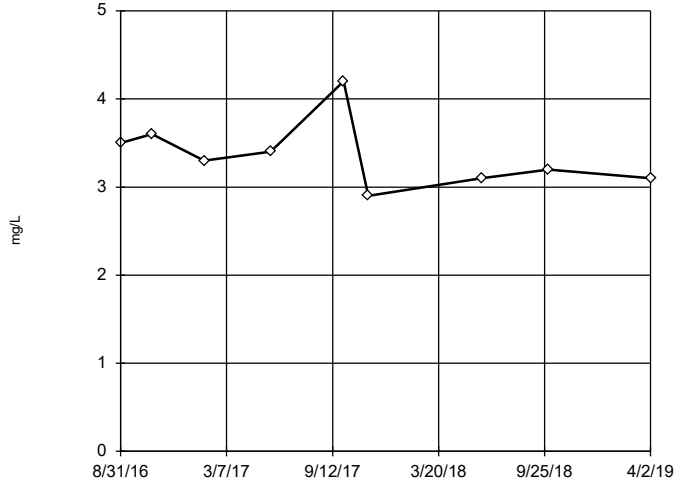
Tukey's Outlier Screening

HGWC-120



n = 9

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 5.329, low cutoff = 2.065, based on IQR multiplier of 3.

Constituent: Chloride Analysis Run 7/30/2019 11:11 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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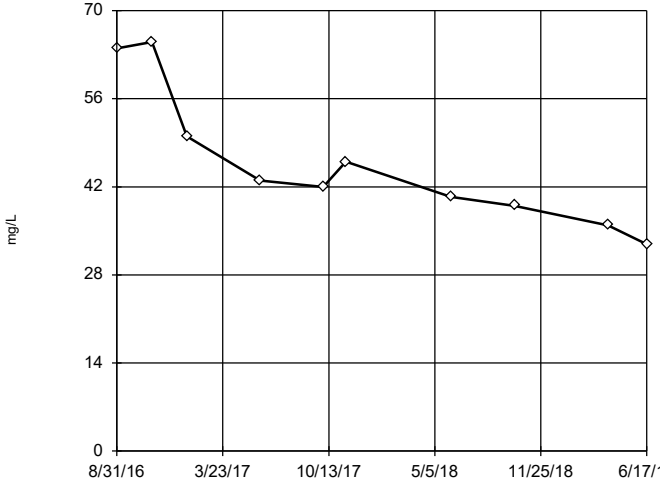
Tukey's Outlier Screening

HGWC-121A



n = 10

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 195.5, low cutoff = 10.83, based on IQR multiplier of 3.

Constituent: Chloride Analysis Run 7/30/2019 11:11 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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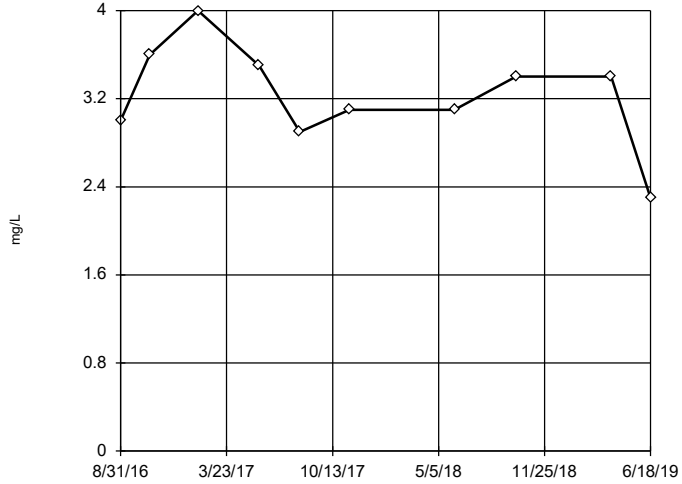
Tukey's Outlier Screening

HGWC-124



n = 10

No outliers found. Tukey's method selected by user.

Data were square transformed to achieve best W statistic (graph shown in original units).

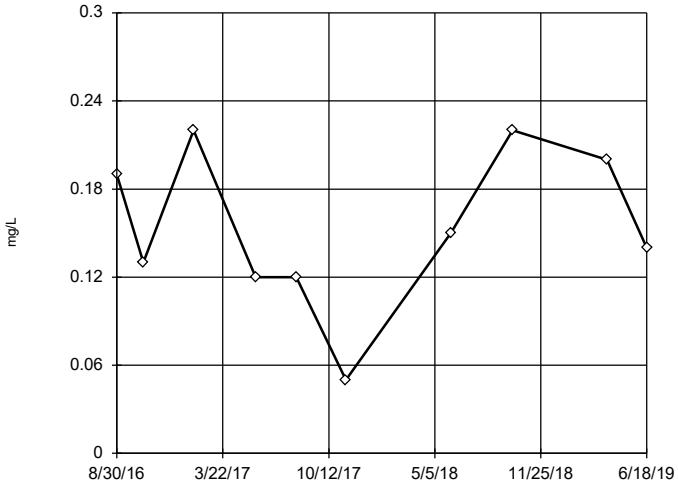
High cutoff = 4.93, low cutoff = -1.731, based on IQR multiplier of 3.

Constituent: Chloride Analysis Run 7/30/2019 11:11 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

Tukey's Outlier Screening

HGWA-122 (bg)



n = 10

No outliers found. Tukey's method selected by user.

Ladder of Powers transformations did not improve normality; analysis run on raw data.

High cutoff = 0.48, low cutoff = -0.15, based on IQR multiplier of 3.

Constituent: Fluoride Analysis Run 7/30/2019 11:11 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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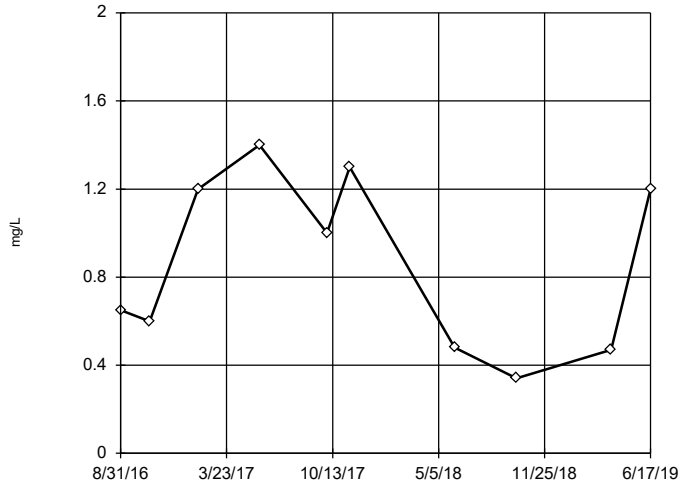
Tukey's Outlier Screening

HGWC-120



n = 10

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 22.71, low cutoff = 0.02612, based on IQR multiplier of 3.

Constituent: Fluoride Analysis Run 7/30/2019 11:11 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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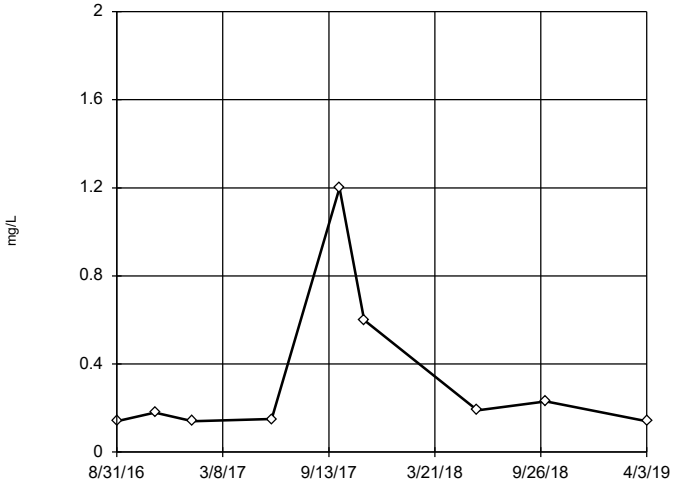
Tukey's Outlier Screening

HGWC-121A



n = 9

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 6.94, low cutoff = 0.007494, based on IQR multiplier of 3.

Constituent: Fluoride Analysis Run 7/30/2019 11:11 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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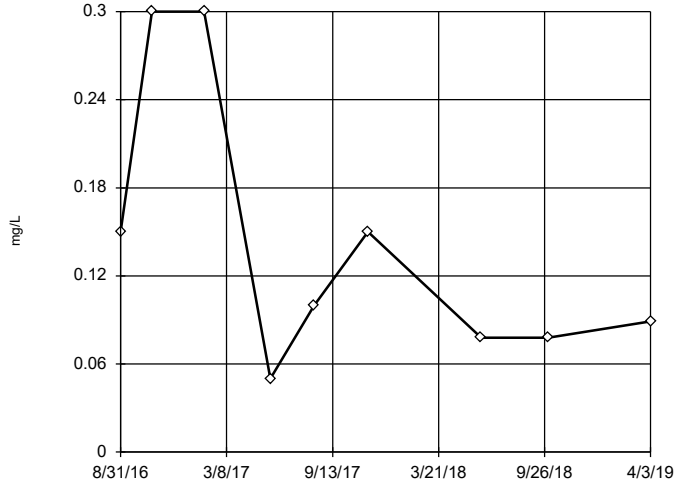
Tukey's Outlier Screening

HGWC-124



n = 9

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

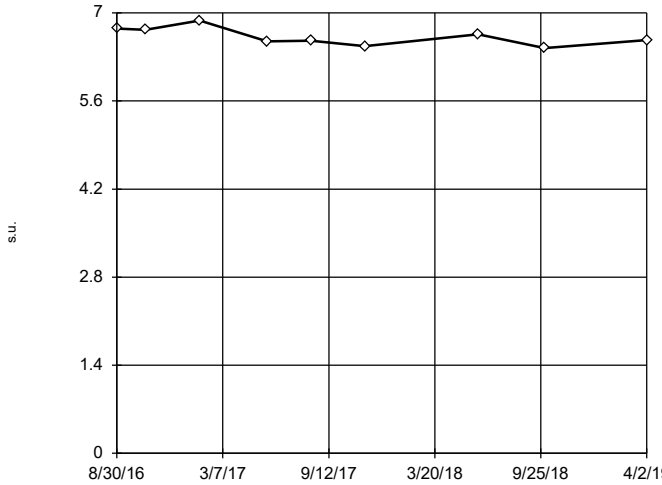
High cutoff = 4.267, low cutoff = 0.003878, based on IQR multiplier of 3.

Constituent: Fluoride Analysis Run 7/30/2019 11:11 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

Tukey's Outlier Screening

HGWA-122 (bg)



n = 9

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 7.48, low cutoff = 5.866, based on IQR multiplier of 3.

Constituent: pH Analysis Run 7/30/2019 11:11 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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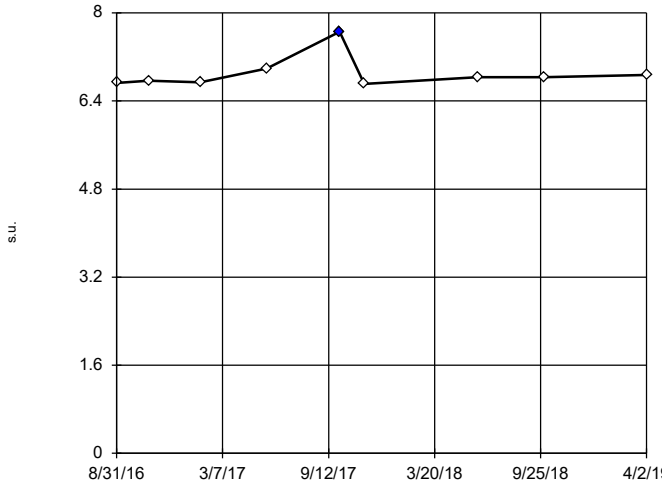
Tukey's Outlier Screening

HGWC-120



n = 9

Outlier is drawn as solid. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 7.548, low cutoff = 6.183, based on IQR multiplier of 3.

Constituent: pH Analysis Run 7/30/2019 11:11 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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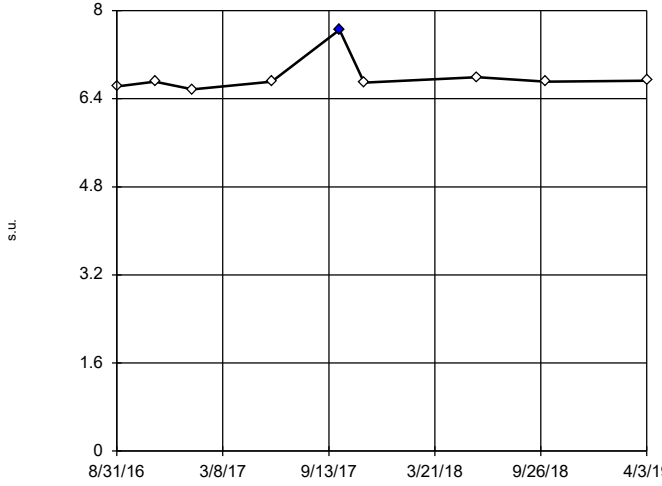
Tukey's Outlier Screening

HGWC-121A



n = 9

Outlier is drawn as solid. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 7.085, low cutoff = 6.35, based on IQR multiplier of 3.

Constituent: pH Analysis Run 7/30/2019 11:11 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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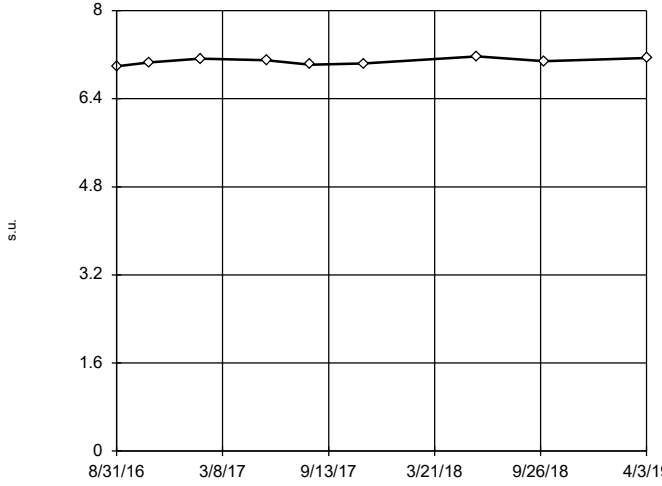
Tukey's Outlier Screening

HGWC-124



n = 9

No outliers found. Tukey's method selected by user.

Ladder of Powers transformations did not improve normality; analysis run on raw data.

High cutoff = 7.45, low cutoff = 6.715, based on IQR multiplier of 3.

Constituent: pH Analysis Run 7/30/2019 11:11 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

Tukey's Outlier Screening

HGWA-122 (bg)

n = 10

No outliers found. Tukey's method used in lieu of parametric test because the Shapiro Wilk normality test failed at the 0.05 alpha level.

Data were x^6 transformed to achieve best W statistic (graph shown in original units).

High cutoff = 54.96, low cutoff = -40.53, based on IQR multiplier of 3.

Constituent: Sulfate Analysis Run 7/30/2019 11:11 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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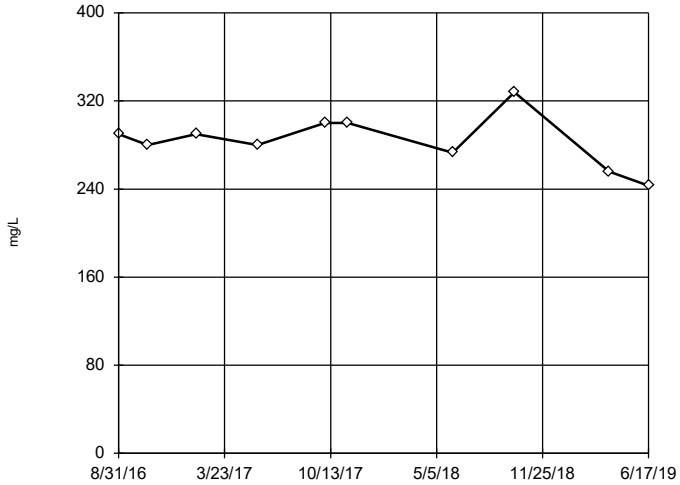
Tukey's Outlier Screening

HGWC-120



n = 10

No outliers found. Tukey's method selected by user.

Ladder of Powers transformations did not improve normality; analysis run on raw data.

High cutoff = 406.5, low cutoff = 158, based on IQR multiplier of 3.

Constituent: Sulfate Analysis Run 7/30/2019 11:11 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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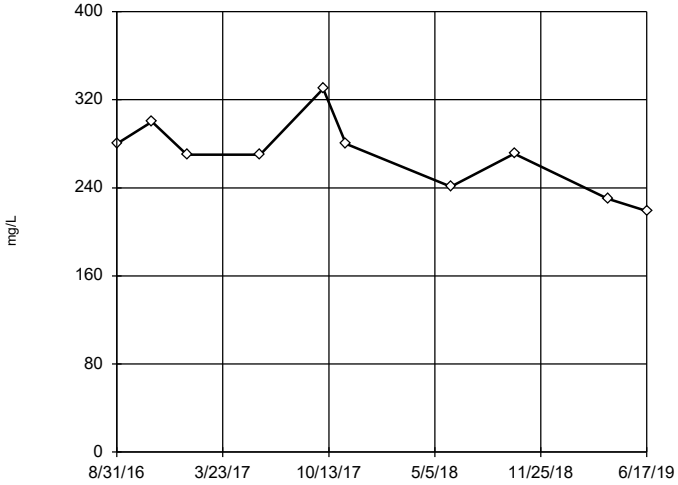
Tukey's Outlier Screening

HGWC-121A



n = 10

No outliers found. Tukey's method selected by user.

Data were square root transformed to achieve best W statistic (graph shown in original units).

High cutoff = 487.2, low cutoff = 106.1, based on IQR multiplier of 3.

Constituent: Sulfate Analysis Run 7/30/2019 11:11 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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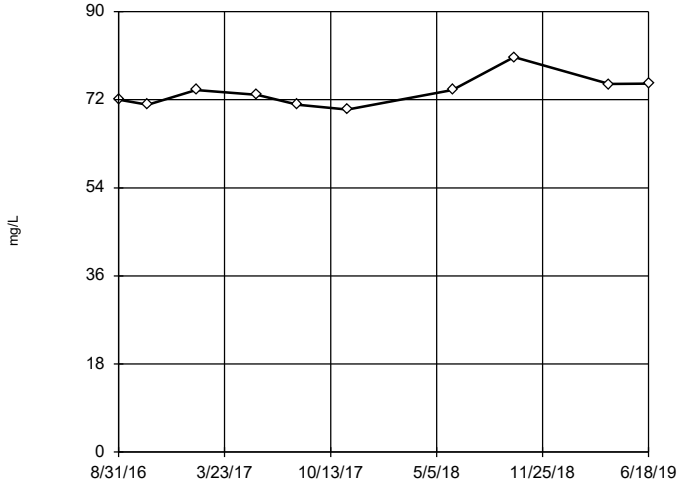
Tukey's Outlier Screening

HGWC-124



n = 10

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

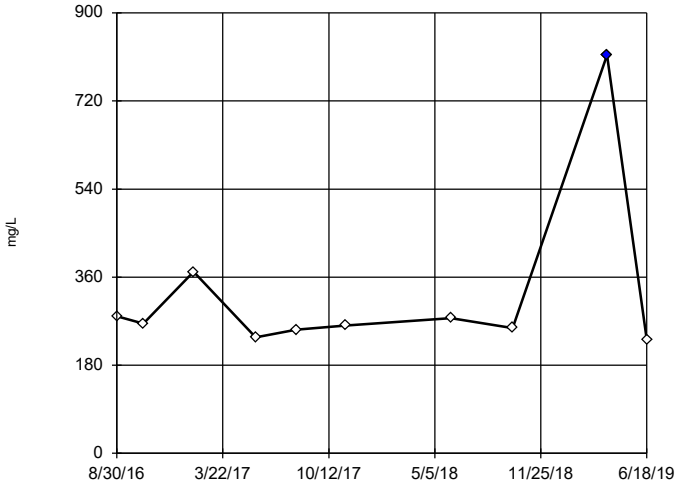
High cutoff = 89.59, low cutoff = 59.64, based on IQR multiplier of 3.

Constituent: Sulfate Analysis Run 7/30/2019 11:11 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

Tukey's Outlier Screening

HGWA-122 (bg)



n = 10

Outlier is drawn as solid. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 735, low cutoff = 107.4, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids Analysis Run 7/30/2019 11:12 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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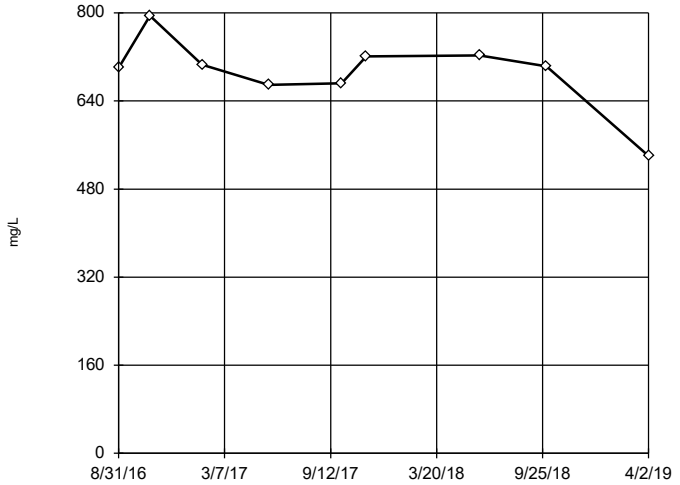
Tukey's Outlier Screening

HGWC-120



n = 9

No outliers found. Tukey's method selected by user.

Data were x^4 transformed to achieve best W statistic (graph shown in original units).

High cutoff = 832.6, low cutoff = -286.6, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids Analysis Run 7/30/2019 11:12 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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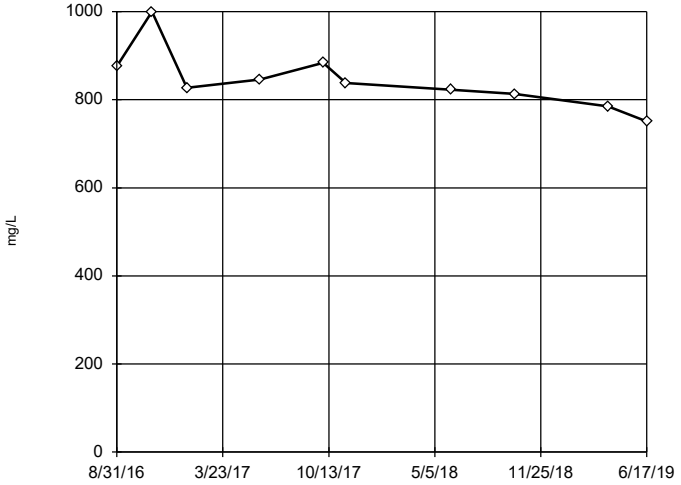
Tukey's Outlier Screening

HGWC-121A



n = 10

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 1176, low cutoff = 597.7, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids Analysis Run 7/30/2019 11:12 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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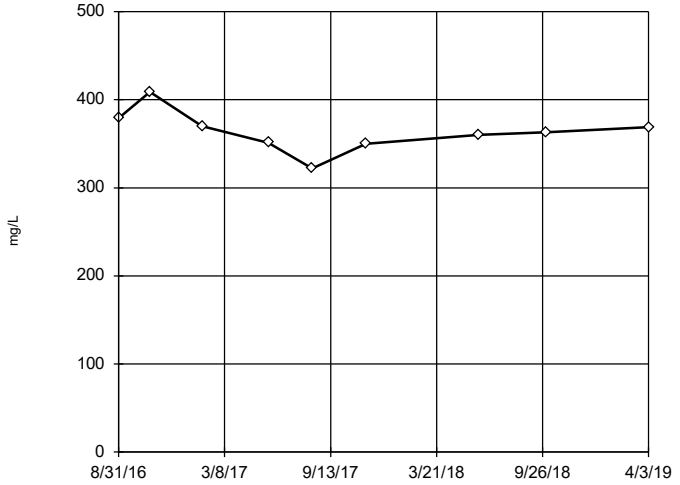
Tukey's Outlier Screening

HGWC-124



n = 9

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 456.7, low cutoff = 287.4, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids Analysis Run 7/30/2019 11:12 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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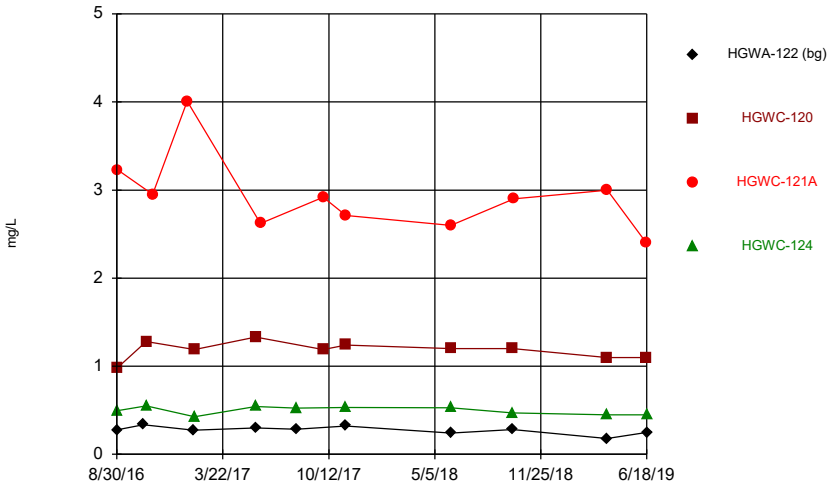
Time Series



Constituent: Boron Analysis Run 7/12/2019 1:56 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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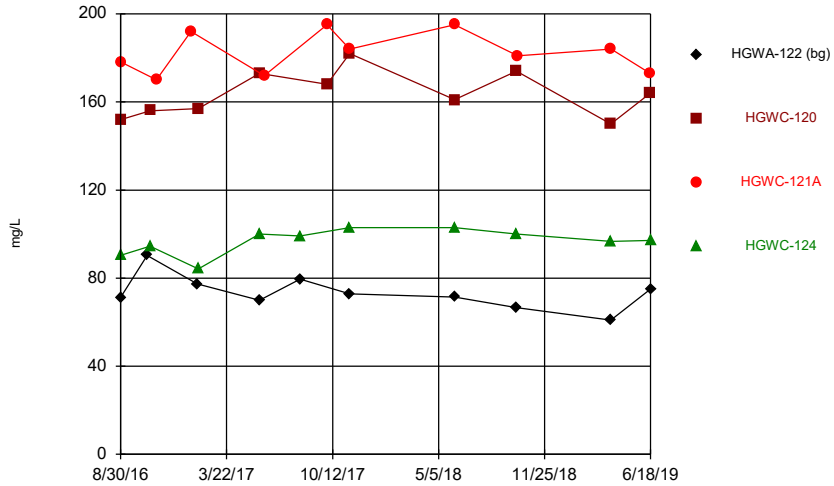
Time Series



Constituent: Calcium Analysis Run 7/12/2019 1:56 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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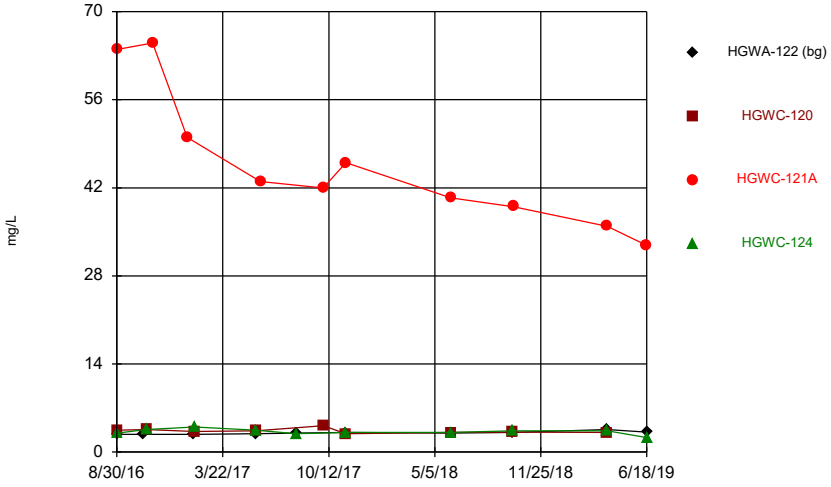
Time Series



Constituent: Chloride Analysis Run 7/12/2019 1:56 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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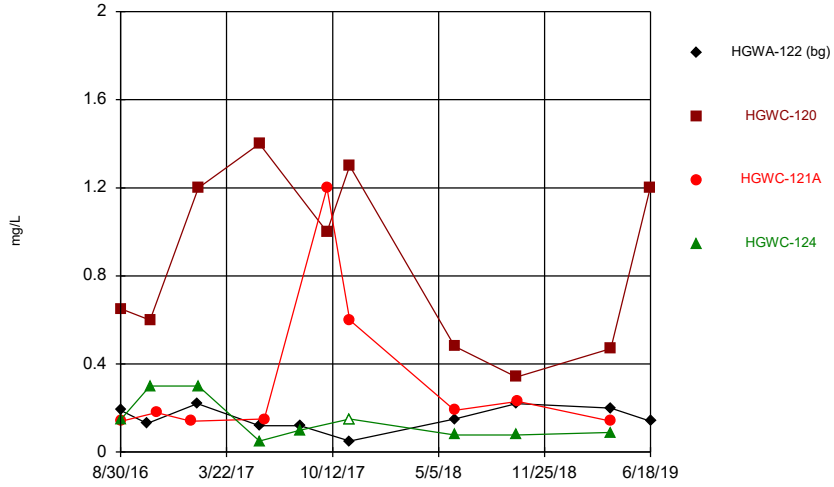
Hollow symbols indicate censored values.

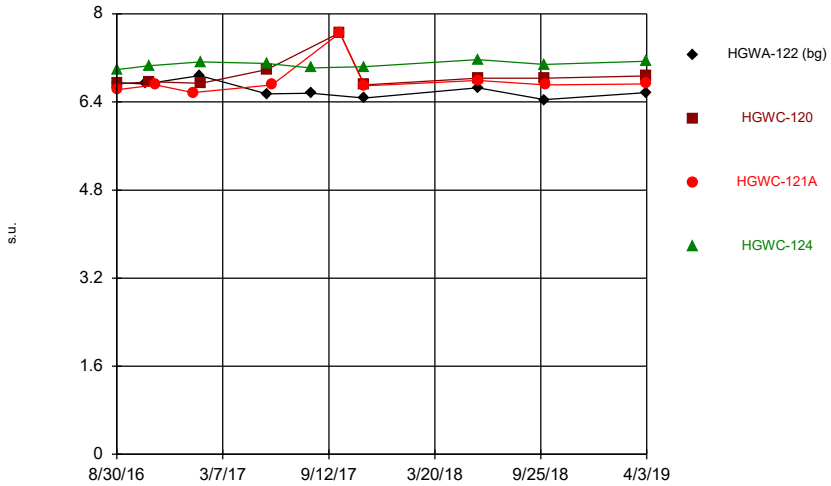
Time Series



Constituent: Fluoride Analysis Run 7/12/2019 1:56 PM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

Time Series



Constituent: pH Analysis Run 7/12/2019 1:57 PM
Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

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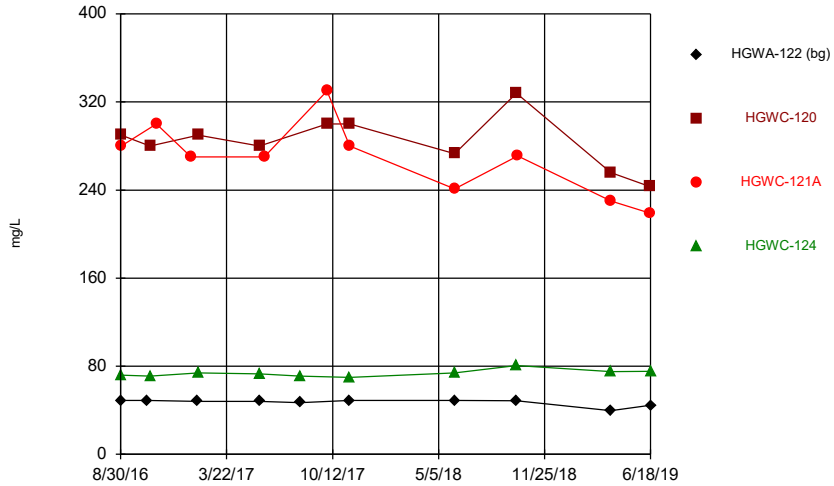
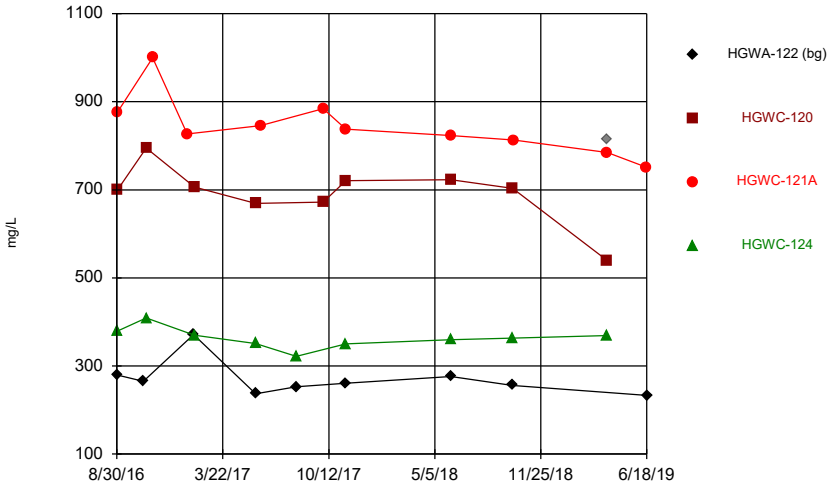
Time Series



Constituent: Sulfate Analysis Run 7/12/2019 1:57 PM
Plant Hammond Client: Georgia Power Company Data: Hammond AP-3

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

Time Series



Constituent: Total Dissolved Solids Analysis Run 7/12/2019 1:57 PM
Plant Hammond Client: Georgia Power Company Data: Hammond AP-3