

Georgia Power Company

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2019 ANNUAL GROUNDWATER MONITORING & CORRECTIVE ACTION REPORT

GEORGIA POWER COMPANY PLANT HAMMOND ASH POND 2 (AP-2)

Prepared by



engineers | scientists | innovators

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Project Number GW6581B



CERTIFICATION STATEMENT

This 2019 Annual Groundwater Monitoring & Corrective Action Report, Georgia Power Company - Plant Hammond – Ash Pond 2 (AP-2) 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], specifically 40 CFR § 257.90(e), 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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TABLE OF CONTENTS

| 1.0 | INT | TRODUCTION | 1 |
|-----|-----|--|----|
| | 1.1 | Site Description and Background | 1 |
| | 1.2 | Regional Geology & Hydrogeologic Setting | 2 |
| | | 1.2.1 Regional and Site Geology | 2 |
| | | 1.2.2 Hydrogeologic Setting | 3 |
| | 1.3 | Groundwater Monitoring Well Network | 3 |
| 2.0 | GRO | OUNDWATER MONITORING ACTIVITIES | 5 |
| | 2.1 | Monitoring Well Installation and Maintenance | 5 |
| | 2.2 | Assessment Monitoring | 5 |
| | 2.3 | Alternate Source Demonstration | 6 |
| | 2.4 | Additional Groundwater Sampling | 6 |
| 3.0 | SAN | MPLING METHODOLOGY & ANALYSES | 8 |
| | 3.1 | Groundwater Level Measurement | 8 |
| | 3.2 | Groundwater Gradient and Flow Velocity | 8 |
| | 3.3 | Groundwater Sampling Procedures | 9 |
| | 3.4 | Laboratory Analyses | 10 |
| | 3.5 | Quality Assurance & Quality Control Summary | 10 |
| 4.0 | STA | ATISTICAL ANALYSIS | 12 |
| | 4.1 | Statistical Methods | 12 |
| | | 4.1.1 Appendix III Statistical Methods | 12 |
| | | 4.1.2 Appendix IV Statistical Methods | 13 |
| | 4.2 | Statistical Analyses Results | 14 |
| | 4.3 | Delineation Data | 15 |
| 5.0 | MO | NITORING PROGRAM STATUS | 16 |
| | 5.1 | Assessment Monitoring Status | 16 |
| | 5.2 | Assessment of Corrective Measures | 16 |
| 6.0 | COl | NCLUSIONS & FUTURE ACTIONS | 17 |
| 7.0 | REF | FERENCES | 18 |

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LIST OF TABLES

| Table 1 | Monitoring Well Network Summary |
|---------|---|
| Table 2 | Groundwater Sampling Event Summary for 2019 |
| Table 3 | Summary of Groundwater Elevations |
| Table 4 | Groundwater Gradient and Flow Velocity Calculations for 2019 |
| Table 5 | Summary of Groundwater Analytical Data |
| Table 6 | Summary of Background Concentrations and Groundwater Protection |
| | Standards |

LIST OF FIGURES

| Figure 1 | Site Location Map |
|----------|---|
| Figure 2 | Monitoring Well Network Map |
| Figure 3 | Potentiometric Surface Contour Map – March 2019 |
| Figure 4 | Potentiometric Surface Contour Map – April 2019 |
| Figure 5 | Potentiometric Surface Contour Map – September 2019 |

LIST OF APPENDICES

| Appendix A | Well Design, Installation, and Development Report – Addendum |
|------------|---|
| | No.3, Plant Hammond Ash Ponds 2 and 3 (AP-2 and AP-3) |
| Appendix B | Well Inspection Forms |
| Appendix C | Alternate Source Demonstration - Cobalt |
| Appendix D | Supplemental Semi-Annual Remedy Selection and Design Progress |
| | Report |
| Appendix E | Laboratory Analytical and Field Sampling Reports |
| Appendix F | Statistical Analyses |
| | |



LIST OF ACRONYMS

ACM Assessment of Corrective Measures

AP ash pond

ASD Alternate Source Demonstration

CCR coal combustion residuals
CFR Code of Federal Regulations

DO dissolved oxygen

ft MSL 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
Kh horizontal hydraulic conductivity
MCL Maximum Contaminant Level

mg/L milligram per liter

NELAP National Environmental Laboratory Accreditation Program

NTU Nephelometric turbidity units ORP oxidation-reduction potential Pace Analytical Pace Analytical Services, LLC.

PE professional engineer
PL prediction limit

QA/QC Quality Assurance/Quality Control SSI statistically significant increase SSL statistically significant level

s.u. standard unit

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 2 (AP-2). GA EPD Rules for Solid Waste Management 391-3-4-.10(6)(a) adopt the Federal CCR rule by reference. For ease of reference, the USEPA CCR rules are cited within this report. This report documents groundwater monitoring activities completed for AP-2 during the 2019 calendar year. A semiannual groundwater report documenting activities from January through July 2019 was prepared and submitted to GA EPD in July 2019 (Geosyntec, 2019c). This report includes the results of the annual monitoring for Appendix IV of 40 CFR § 257 conducted in March 2019 and the first and second semiannual monitoring events conducted in April and September 2019 for AP-2.

Due to statistically significant levels (SSL) of cobalt identified in compliance wells HGWC-15 and HGWC-18, as noted in the 2018 Annual Groundwater Monitoring and Corrective Action Report (Geosyntec, 2019a), GPC initiated an assessment of corrective measures (ACM) program for AP-2 on February 12, 2019. Pursuant to 40 CFR § 257.96(b), GPC continues to monitor groundwater associated with AP-2 in accordance with the assessment monitoring program established for the unit in 2018, including annual and semiannual monitoring and reporting pursuant to 40 CFR § 257.90 through 40 CFR § 257.95 of the Federal CCR rule, and GA EPD Rules for Solid Waste Management 391-3-4-.10(6)(a). Statistical analysis of the data set from the most recent second 2019 semiannual assessment monitoring event does not result in a reportable SSL of cobalt in well HGWC-15. Additionally, an Alternate Source Demonstration (ASD) was prepared and submitted to GA EPD that attributes the source of elevated cobalt concentrations in well HGWC-18 to the dissolution of naturally occurring material under acidic groundwater conditions and unrelated to a release from AP-2 (Geosyntec, 2020a).

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,

1

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rural and industrial land on the west (Figure 1). The physical address of the plant is 5963 Alabama Highway, Rome, Georgia, 30165.

Plant Hammond is a four-unit, coal-fired electric generating facility. All four units at Plant Hammond were retired on July 29, 2019 and no longer produce electricity.

AP-2 is a 21-acre surface impoundment located at Plant Hammond. AP-2 was used as a dewatering facility for fly ash and bottom ash. To support operations, dewatered ash is excavated and transported to the nearby Huffaker Road facility, a permitted solid waste disposal location owned and operated by GPC. GPC will close AP-2 through removal of the CCR material from the CCR unit; closure activities will be conducted in accordance with 40 CFR § 257.102 and corresponding Rule 391-3-4-.10(7)(b). The proposed closure by removal approach provides a source control measure that reduces the potential for migration of CCR constituents to groundwater. Details of the closure approach are provided in the Initial Written Closure Plan, published in 2016 to GPC's CCR Rule Compliance website.

1.2 Regional Geology & Hydrogeologic Setting

The following section summarizes the geologic and hydrogeologic conditions at AP-2 as described in the Hydrogeologic Assessment Report Revision 01 – AP-2 (HAR Rev 01) submitted to GA EPD in December 2019 under separate cover in support of the AP-2 solid waste handling permit (Geosyntec, 2019d).

1.2.1 **Regional and Site Geology**

The Site is located within the Great Valley District of the Valley and Ridge Physiographic Province (Valley and Ridge) in 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-2 is underlain primarily by the lower units of the Cambrian age Conasauga Formation, consisting of mostly calcareous shale. However, borings advanced in the northern portions of AP-2 during the Petrologic mapping investigation contained shale not consistent with the Conasauga Formation. The black color and fissile nature of the encountered shale was more consistent with shales found in the younger undifferentiated Devonian and Mississippian Floyd units (Golder, 2018). Based on field borings and knowledge of the regional geology, Petrologic's investigation proposed that the Rome Fault, located immediately north of the Site and containing the Floyd shale, is a thrust fault that dips at

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a shallow angle beneath the north-central portions of the Site, uplifting the lower units of the Conasauga Formation in this portion of AP-2. The faulting and displacement along the faults in this region occurred during the Paleozoic Era (approximately 250 million years ago) and are not considered to be active.

AP-2 is underlain primarily by five lithologic units; (i) terrace alluvium, (ii) colluvium, (iii) residuum, (iv) partially weathered shale bedrock, and (v) unweathered shale bedrock. Based on subsurface investigations, the alluvial deposits generally grade from a silt and silty clay to a clayey sand and silty sand to a sand and gravelly sand at depth. The colluvium consists of silty sand, silty clay with angular and sub-rounded chert fragments, and dolomite, sandstone, and shale fragments. Residual or native soils have been derived from the in-place weathering of the shale bedrock. The residuum is generally described as brown to yellow brown firm clayey silt with weathered shale fragments. The partially weathered shale zone occurs as an intermediate weathering stage between the residuum and the unweathered shale bedrock. The weathered material is described as black to dark gray to dark red hard, fissile shale and claystone. The unweathered shale bedrock was not encountered or directly observed in the historical borings advanced at the Site. However, based on geologic conditions in the region, weathering, fracturing and jointing decreases with depth and the weathered rock material grades into competent bedrock.

1.2.2 Hydrogeologic Setting

The uppermost aquifer at AP-2 is a regional groundwater aquifer that occurs primarily in the residuum and within the weathered and fractured bedrock. Based on observations of residuum soil types and horizontal conductivity values, the movement of groundwater in the soil can be characterized as low-to moderate permeability, porous media flow. The groundwater flow in the shallow underlying bedrock is characterized as fracture flow, and due to the preponderance of shale beneath AP-2, is expected to be very low permeability. The regional groundwater flow direction is expected to be from north to south; however, the local flow direction beneath AP-2 is predominantly east to west with an additional southwesterly component.

1.3 Groundwater Monitoring Well Network

In accordance with 40 CFR § 257.91, a groundwater monitoring system was installed at AP-2 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

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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 certified compliance monitoring well network for AP-2 consists of 11 monitoring wells. The well network was certified by a professional engineer (PE) on October 17, 2017; the certification is maintained in the AP-2 Operating Record.

As part of the assessment monitoring program, three groundwater monitoring wells were installed in 2018 to provide additional data to characterize flow conditions downgradient of AP-2 and to horizontally and vertically delineate groundwater quality conditions at AP-2. Well MW-22 was installed for horizontal delineation and wells MW-21D and MW-23D were installed for vertical delineation. Pursuant to 40 CFR § 257.195(g)(1)(iv), these three delineation wells will continue to be sampled concurrently with the compliance monitoring well network.

A network of piezometers has been installed at the Site that are used to gauge water levels to define groundwater flow direction and gradients. There are seven piezometers used to gauge groundwater levels in vicinity of AP-2 (MW-8, MW-9, MW-12, MW-16, MW-17, MW-18, MW-33).

The locations of the compliance monitoring wells, delineation wells, and secondary groundwater level monitoring piezometers 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 monitoring-related activities performed during January through December 2019 and discusses any change in status of the monitoring program. All groundwater sampling was performed in accordance with 40 CFR § 257.93.

2.1 <u>Monitoring Well Installation and Maintenance</u>

One additional groundwater level monitoring piezometer (MW-33) was installed on November 21, 2019 to provide additional data to characterize flow conditions downgradient of AP-2. A well installation report that includes detailed boring and well construction logs for MW-33 is provided in **Appendix A**. The location of piezometer MW-33 is shown on **Figure 2** and piezometer construction details are also provided 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. The well inspection forms for 2019 are provided in **Appendix B**.

Several AP-2 wells and piezometers located south and southwest of AP-2 along the Coosa River were redeveloped after the river crested the banks in late February 2019. These wells were redeveloped as a precautionary measure prior to the March 2019 sampling event. The field parameters recorded at each well during the well redevelopment activities were consistent with historical measurements recorded during normal conditions. This indicates the groundwater within these monitoring wells was not impacted by the river.

In addition to completing routine maintenance of the well network in 2019, a dedicated bladder pump was installed by SCS Civil Field Services (CFS) at well MW-22 the week of September 16, 2019.

2.2 Assessment Monitoring

GPC initiated an assessment monitoring program for groundwater at AP-2 in January 2018. Statistical analyses of the 2018 assessment monitoring groundwater data identified SSLs of cobalt in AP-2 compliance wells HGWC-15 and HGWC-18.

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Pursuant to 40 CFR § 257.96, an ACM was initiated for AP-2 on February 12, 2019. An *Assessment of Corrective Measures Report* was subsequently prepared for AP-2 (Geosyntec, 2019b) and submitted to GA EPD. In accordance with 40 CFR § 257.96(b), groundwater continues to be monitored at AP-2 under the assessment monitoring program as the ACM phase is implemented.

The initial annual Appendix IV sampling event was conducted in March 2019; the semiannual assessment monitoring events were conducted in April and September 2019. The number of groundwater samples collected for analysis and the dates the samples were collected at AP-2 during the 2019 reporting period is summarized in **Table 2**. Details of these events and analytical results are discussed in Section 3, while the statistical results are discussed in Section 4.

2.3 Alternate Source Demonstration

Based on review of available AP-2-related groundwater and aquifer solids data, the cobalt SSL reported for well HGWC-18 is not associated with a release from AP-2. Cobalt at HGWC-18 is instead associated with natural variation in the groundwater quality due to mobilization of naturally occurring cobalt present in the Floyd shale of the undifferentiated Mississippian/Devonian geologic unit underlying the northern portion of AP-2 as a consequence of naturally lower groundwater pH at this well. An ASD was prepared pursuant to regulations in 40 CFR § 257.95(g)(3)(ii), which allows the owner or operator to "demonstrate that a source other than the CCR unit caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality." The ASD also serves as an ASD under the GA EPD CCR Rule 391-3-4-.10(6), which incorporates 40 CFR § 257.95(g)(3)(ii) by reference. The ASD was submitted to GA EPD on January 15, 2020, and a copy is also provided in **Appendix C** of this report for reference.

2.4 Additional Groundwater Sampling

Additional groundwater samples were collected from the compliance and delineation wells during the September 2019 semiannual assessment monitoring event and analyzed for supplemental parameters for the on-going ACM efforts presented in the ACM Report. The supplementary data will be used to evaluate (i) attenuation mechanisms and rates and aquifer capacity for attenuation; (ii) amount and distribution of select metal hydroxides or electron donors that may affect geochemical mechanisms parameters; and (iii) groundwater parameters specific to the existing National Pollutant Discharge Elimination

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System permitted discharge limits and capabilities of on-site low volume wastewater treatment plant. The scope of these additional efforts and associated results are presented in the *Supplemental Semi-Annual Remedy Selection and Design Progress Report* submitted to GA EPD December 12, 2019 (Geosyntec, 2019e). Additionally, a copy of this report is also provided in **Appendix D** for reference.

3.0 SAMPLING METHODOLOGY & ANALYSES

The following section presents a summary of the field sampling procedures that were implemented and the groundwater sampling results that were obtained in connection with the assessment monitoring program conducted at AP-2 during 2019.

3.1 Groundwater Level Measurement

Prior to each sampling event, a synoptic round of depth to groundwater level measurements were recorded from the AP-2 wells and piezometers and used to calculate the corresponding groundwater elevations. The calculated groundwater elevations for the March, April, and September 2019 events are presented in **Table 3**. The groundwater elevations observed for the March 2019 event ranged from 588.76 feet mean sea level (ft MSL) (referenced to the North American Vertical Datum of 1988) in well HGWA-1 to 568.93 ft MSL in well MW-22. For the April 2019 event, the groundwater elevations ranged from 585.20 ft MSL in well HGWA-1 to 566.09 ft MSL in well MW-22. For the September 2019 event, the groundwater elevations ranged from 576.98 ft MSL in well MW-18 to 563.52 ft MSL in well MW-22.

The groundwater elevation data were used to prepare potentiometric surface maps for the March, April, and September 2019 events, which are presented on **Figures 3**, **4**, and **5**, respectively. Groundwater in the AP-2 area flows under the influence of topography from higher elevations on the northern and eastern side of the Site in a westerly direction with a southwesterly flow component.

3.2 Groundwater Gradient and Flow Velocity

The groundwater hydraulic gradient within the uppermost aquifer beneath AP-2 was calculated using the groundwater elevation data from the March, April, and September 2019 events. Hydraulic gradients were calculated across the central portion of AP-2, typically between, or in close proximity to, wells MW-18 and HGWC-17. The general trajectory of the flow paths used in the calculations are shown on **Figures 3**, **4**, and **5**. The average hydraulic gradient along the westerly flow path lines is 0.009 feet per foot (ft/ft). The calculations are presented on **Table 4**.

The approximate horizontal flow velocities associated with AP-2 were calculated using the following derivative of Darcy's Law:

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

where:

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

 $K = \text{Hydraulic Conductivity } \left(\frac{\text{feet}}{\text{day}}\right)$

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

 n_e = Effective porosity

The horizontal hydraulic conductivity (K_h) measurements were derived from slug test data collected in a subset of AP-2 wells and piezometers. Results were broadly grouped based on the lithology in which the wells or piezometers were screened (Geosyntec, 2019d). The geometric mean of the K_h values of the alluvium, residuum, and PWR were used to represent the overall hydraulic conductivity at AP-2, equating to 1.47 ft/day. An effective porosity value of 0.15 was used to represent average lithologic conditions at AP-2, derived based on review of literature, observed site lithology, and professional judgement. Applying these values and the average hydraulic gradient of 0.009 ft/ft, the average 2019 groundwater flow velocity underneath AP-2 was calculated as 0.088 ft/day. The flow velocity calculations are provided in **Table 4**.

3.3 **Groundwater Sampling Procedures**

Groundwater samples were collected from the compliance monitoring and delineation well networks using low-flow sampling procedures in accordance with 40 CFR § 257.93(a). Twelve of the 14 wells were purged and sampled using the installed bladder pump with dedicated tubing; the remaining two delineation wells (i.e., MW-21D, MW-23D) were sampled using a peristaltic pump equipped with new disposable polyethylene tubing. 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 [i.e., pH, conductivity, oxidation-reduction potential (ORP), temperature, and dissolved oxygen (DO)] 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 \pm 0.1 Standard Units (s.u.).
- Conductivity \pm 5%.
- ± 0.2 milligrams per liter (mg/L) or $\pm 10\%$, whichever is greater for 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).

Following purging, 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 monitoring events conducted in March, April, and September 2019 are provided in **Appendix E**.

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 E**.

The groundwater analytical results from the 2019 annual and semiannual assessment monitoring events are summarized in **Table 5**. The Pace Analytical laboratory reports associated with the results presented in Table 5 are provided in **Appendix E**.

3.5 Quality Assurance & Quality Control Summary

Quality assurance/quality control (QA/QC) samples were collected during the groundwater monitoring events at the rate of one QA/QC sample per 10 groundwater samples 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.

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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, 2011; USEPA, 2017). Where necessary, the data were qualified with supporting documentation and justifications. The associated data validation report is provided in **Appendix E** with the laboratory reports.

4.0 STATISTICAL ANALYSIS

The following section presents a summary of the statistical approach applied to assess the 2019 groundwater analytical data in downgradient compliance wells relative to the available historical dataset. Groundwater monitoring data collected during the semiannual assessment monitoring events in April and September 2019 were statically analyzed pursuant to 40 CFR § 257.95 following the PE-certified statistical method. Appendix III detection monitoring parameters were statistically analyzed to determine if constituents have returned to background levels. Appendix IV assessment monitoring parameters were analyzed to determine if concentrations statistically exceeded the established GWPS. The following subsections provide an overview of the statistical methods used to evaluate Appendix III and IV parameters and statistical analyses results.

4.1 Statistical Methods

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 and Appendix IV parameters are formally tested using Tukey's box plot method and not used to establish statistical limits. Background well data were updated following the Unified Guidance recommendation, evaluating recent background data using Tukey's box plot method for outliers and Sen's Slope/Mann-Kendall methods for potential trends.

4.1.1 Appendix III Statistical Methods

Statistical tests used to evaluate the groundwater monitoring data consist of interwell prediction limits combined with a 1-of-2 verification resample plan for each of the Appendix III parameters. Interwell prediction limits pool upgradient well data to establish a background limit for an individual constituent, and the most recent sample from each downgradient well is compared to the same limit for each parameter. If the most recent sample exceeds its respective background statistical limit, an initial statistically significant increase (SSI) is identified. The results are discussed in Section 4.2 and tabulated in **Table F-1**, **Appendix F**.

4.1.2 Appendix IV Statistical Methods

Constituents detected during the initial annual Appendix IV sampling event (March 2019) were sampled during the April and September 2019 semiannual sampling events. To statistically compare groundwater data to GWPS, confidence intervals are constructed for each of the detected Appendix IV parameters in each downgradient well. Those confidence intervals are compared to both the state and federal GWPS. Only when the entire confidence interval is above a GWPS is the well/constituent pair considered to exceed its GWPS. If there is an exceedance of the established standard, an SSL exceedance is identified.

Background limits were used when determining the GWPS under USEPA rule 40 CFR § 257.95(h) and GA EPD CCR Rule 391-3-4-.10(6)(a). Parametric tolerance limits were used to calculate background limits from pooled upgradient well data for Appendix IV parameters with a target of 95% confidence and 95% coverage. The confidence and coverage levels for nonparametric tolerance limits are dependent upon the number of background samples.

USEPA revised the federal CCR Rule on July 30, 2018, updating GWPS for cobalt, lead, lithium, and molybdenum. As described in 40 CFR § 257.95(h)(1-3), the GWPS is:

- (1) The maximum contaminant level (MCL) established under 40 CFR § 141.62 and 141.66.
- (2) Where an MCL has not been established:
 - (i) Cobalt 0.006 mg/L;
 - (ii) Lead 0.015 mg/L;
 - (iii) Lithium 0.040 mg/L; and
 - (iv) Molybdenum 0.100 mg/L.
- (3) Background levels for constituents where the background level is higher than the MCL or rule-specified GWPS.

USEPA's updated GWPS have not yet been incorporated under GA EPD's CCR Rule. The GA EPD CCR Rule GWPS is:

- (1) The federally established MCL.
- (2) Where an MCL has not been established, the background concentration.
- (3) Background levels for constituents where the background level is higher than the MCL.

Following the above federal and state rule requirements, GWPS have been established for statistical comparison of Appendix IV constituents and are presented in **Table 6**. Additional details are presented in the statistical analysis packages provided in **Appendix F**.

4.2 Statistical Analyses Results

Analytical data from the April and September 2019 semiannual monitoring events were statistically analyzed in accordance with the Statistical Analysis Method Certification (October 2017, revised January 2020). Appendix III statistical analysis was performed to determine if constituents have returned to background levels. Appendix IV assessment monitoring parameters were evaluated to determine if concentrations statistically exceeded the established GWPS.

Based on review of the Appendix III statistical analysis presented in **Table D-1**, Appendix III constituents previously identified to exceed respective PLs have not returned to background levels and assessment monitoring should continue pursuant to 40 CFR § 257.95(f).

A summary of the Sanitas outputs for the April and September 2019 semiannual assessment events is provided in **Appendix F**. Based on the statistical analysis, cobalt was determined to exceed both federal and state-based GWPS in wells HGWC-15 and HGWC-18 for the April assessment event, which is consistent with the 2018 reporting year statistical results. However, the background cobalt concentrations reported for the second semiannual event increased which resulted in a recalculation of the GWPS; the site-specific cobalt GWPS increased from 0.0029 mg/L to 0.038 mg/L for the September 2019 data set. Also, the cobalt concentration in well HGWC-15 decreased relative to prior data sets. When these two factors are accounted for statistically, a SSL of cobalt in HGWC-15 is not reported for the September 2019 data set.

The September 2019 data indicates a continued SSL of cobalt in well HGWC-18. However, as discussed in Section 2.3, an ASD has been prepared and submitted to GA

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EPD presenting multiple lines of evidence that attribute the cobalt concentration in well HGWC-18 to the dissolution of naturally occurring material under slightly acidic groundwater conditions.

4.3 Delineation Data

Limited groundwater analytical data are available for delineation wells installed at the Site in 2018; therefore, groundwater quality is simply compared to the applicable GWPS. A review of the 2019 analytical data derived from delineation wells identified the following Appendix IV GWPS exceedance:

AP-1 (Federal CCR Rule):

• (none identified)

AP-1 (GA EPD CCR Rule):

• Molybdenum: MW-21D

GPC is evaluating preparing a demonstration document that outlines evidence illustrating groundwater molybdenum detections in well MW-21D are naturally occurring within the localized rock formation. The lack of historical molybdenum detections in the near vicinity wells relative to MW-21D suggest an isolated molybdenum source other than AP-1. Aquifer solid material from the well screen zone of MW-21D will be submitted for analysis of total molybdenum in February 2020 to support preparing the demonstration.

5.0 MONITORING PROGRAM STATUS

5.1 Assessment Monitoring Status

Pursuant to 40 CFR § 257.96(b), GPC will continue to monitor the groundwater at AP-2 in accordance with the assessment monitoring program regulations of 40 CFR § 257.95 while ACM efforts are continued to be evaluated in response to a potential reemergence of a SSL of cobalt in well HGWC-15. Pursuant to 40 CFR § 257.195(g) (1)(iv), the delineation wells will continue to be sampled as part of the ongoing semiannual assessment groundwater monitoring program.

5.2 Assessment of Corrective Measures

The ACM efforts completed during the reporting period covered by this groundwater monitoring and corrective action report are presented in the *Supplemental Semi-Annual Remedy Selection and Design Progress Report* provided in **Appendix D**. The Semi-Annual Progress Report summarizes:

- (i) the current conceptual site model applicable to evaluating groundwater corrective measures proposed in the ACM Report (Geosyntec, 2019c);
- (ii) the analytical data obtained during supplemental ACM-specific field investigations;
- (iii) the status of evaluating applicable corrective measures; and
- (iv) the planned activities and anticipated schedule for the following semiannual reporting period.

GPC will include future Semi-Annual Progress Reports with each groundwater monitoring and corrective action report.

6.0 CONCLUSIONS & FUTURE ACTIONS

This 2019 Annual Groundwater Monitoring & Corrective Action Report for Plant Hammond AP-2 was prepared to fulfill the requirements of USEPA's CCR Rule and GA EPD Rules for Solid Waste Management 391-3-4-.10. Statistical evaluation of the groundwater concentration data from the first semiannual assessment monitoring event (April 2019 data) identified SSLs of cobalt in both compliance wells HGWC-15 and HGWC-18. However, similar statistical evaluation of the data from the second semiannual event (September 2019 data) did not identify a SSL in well HGWC-15, but only HGWC-18.

Based on review of available aquifer solid and groundwater data associated with AP-2, the elevated cobalt groundwater concentrations reported for HGWC-18 are attributed to the dissolution of naturally occurring material under acidic groundwater conditions and is not associated with a release from AP-2. An ASD was prepared and submitted to GA EPD on January 15, 2020 that presents evidence of the naturally occurring cobalt source impacting groundwater concentrations in well HGWC-18. With the exception of HGWC-18, no AP-2 compliance or delineation well sampled during the September 2019 monitoring event reported a cobalt groundwater concentration in excess of the site-specific GWPS.

GPC will continue to monitor AP-2 groundwater under the assessment monitoring program and proceed with the evaluation of remedies presented in the ACM Report (Geosyntec, 2019b). The initial annual Appendix IV sampling event is scheduled to occur in February 2020, with the first semiannual assessment monitoring event tentatively planned for March 2020.

7.0 REFERENCES

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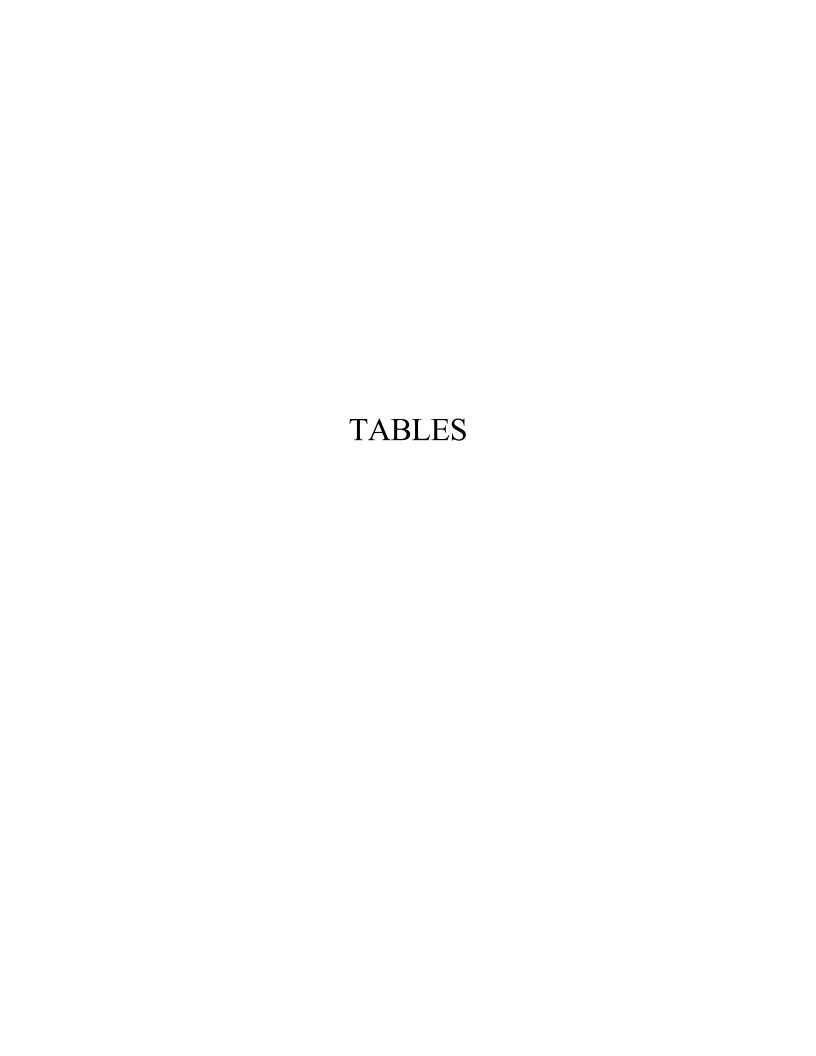


Table 1
Monitoring Well Network Summary
Plant Hammond AP-2, Floyd County, Georgia

| Well ID | Hydraulic Location | Installation Date | Northing (1) | Easting ⁽¹⁾ | Top of Casing Elevation ⁽²⁾ (ft MSL) | Top of Screen Elevation ⁽²⁾ (ft MSL) | Bottom of Screen Elevation ⁽²⁾ (ft MSL) | Well Depth (ft BTOC) (3) | Screen Interval Length |
|---------------------------|-----------------------|----------------------|--------------|------------------------|---|---|--|-----------------------------|------------------------------|
| Compliance Monitoring We | ll | | | | | | | | |
| HGWA-1 | Upgradient | 12/3/2014 | 1550423.69 | 1940773.31 | 595.50 | 573.40 | 563.40 | 32.50 | 10 |
| HGWA-2 | Upgradient | 12/2/2015 | 1549796.40 | 1939845.20 | 588.18 | 570.23 | 560.23 | 27.95 | 10 |
| HGWA-3 | Upgradient | 12/2/2015 | 1549793.93 | 1939833.46 | 588.06 | 553.19 | 543.19 | 44.87 | 10 |
| HGWA-4 | Upgradient | 12/3/2014 | 1549932.76 | 1939386.17 | 588.30 | 572.90 | 562.90 | 25.80 | 10 |
| HGWA-5 | Upgradient | 12/10/2015 | 1548632.65 | 1937183.80 | 583.52 | 565.57 | 555.57 | 27.95 | 10 |
| HGWA-6 | Upgradient | 12/11/2015 | 1548635.66 | 1937177.39 | 583.72 | 543.20 | 533.20 | 50.52 | 10 |
| HGWC-14 | Downgradient | 10/16/2014 | 1548005.66 | 1938402.95 | 598.10 | 565.50 | 555.50 | 43.00 | 10 |
| HGWC-15 | Downgradient | 10/20/2014 | 1547882.88 | 1937851.74 | 582.50 | 554.90 | 544.90 | 38.00 | 10 |
| HGWC-16 | Downgradient | 10/21/2014 | 1548217.01 | 1937539.49 | 581.10 | 558.40 | 548.40 | 33.10 | 10 |
| HGWC-17 | Downgradient | 10/22/2014 | 1548457.24 | 1937538.67 | 585.40 | 568.00 | 558.00 | 27.80 | 10 |
| HGWC-18 | Downgradient | 10/22/2014 | 1548827.89 | 1937559.01 | 585.30 | 568.00 | 558.00 | 27.80 | 10 |
| Groundwater Level Monitor | ing Piezometer | | | | | | | | |
| MW-8 | Downgradient | 10/29/2014 | 1548174.39 | 1940014.36 | 587.37 | 565.50 | 555.50 | 32.27 | 10 |
| MW-9 | Downgradient | 10/29/2014 | 1548136.52 | 1938918.59 | 591.67 | 569.90 | 559.90 | 32.17 | 10 |
| MW-12 | Downgradient | 10/21/2014 | 1547862.70 | 1937521.75 | 584.33 | 556.90 | 546.90 | 37.83 | 10 |
| MW-16 | Downgradient | 10/27/2014 | 1549110.61 | 1937941.31 | 575.22 | 563.20 | 553.20 | 22.42 | 10 |
| MW-17 | Downgradient | 10/28/2014 | 1549168.15 | 1938344.56 | 587.67 | 569.90 | 559.90 | 28.17 | 10 |
| MW-18 | Downgradient | 10/29/2014 | 1548988.42 | 1938713.61 | 593.07 | 571.90 | 561.90 | 31.57 | 10 |
| MW-33 | Downgradient | 11/21/2019 | 1547975.23 | 1938411.67 | 593.99 | 566.06 | 556.06 | 37.93 | 10 |
| Delineation Monitoring We | u | | | | | | | | |
| MW-21D | Downgradient | 11/19/2018 | 1548814.63 | 1937556.86 | 581.49 | 539.89 | 529.89 | 51.80 | 10 |
| MW-22 | Downgradient | 11/15/2018 | 1547856.03 | 1937832.07 | 578.67 | 551.09 | 541.09 | 37.58 | 10 |
| MW-23D | Downgradient | 11/15/2018 | 1547877.73 | 1937844.17 | 584.00 | 531.21 | 521.21 | 62.79 | 10 |

Notes:

ft MSL = feet mean sea level

ft BTOC = feet below top of casing

- (1) Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet.
- (2) Elevations referenced to the North American Vertical Datum of 1988 (NAVD88).
- (3) Total well depth accounts for sump if data provided on well construction logs.

1 of 1 January 2020

Table 2Groundwater Sampling Event Summary for 2019
Plant Hammond AP-2, Floyd County, Georgia

| Well ID | Hydraulic Location | Mar 11-15, 2019 | Apr 1-8, 2019 | Sep 23-30, 2019 | Status of Monitoring Well |
|-----------------------------|-----------------------|-----------------|---------------|--------------------|---------------------------------|
| Purpose of S | Sampling Event: | App. IV Annual | Assessment | Assessment | |
| Compliance Monitoring Well | | | | | |
| HGWA-1 | Upgradient | S02 | A01 | A02 | Assessment |
| HGWA-2 | Upgradient | S02 | A01 | A02 | Assessment |
| HGWA-3 | Upgradient | S02 | A01 | A02 | Assessment |
| HGWA-4 | Upgradient | S02 | A01 | A02 | Assessment |
| HGWA-5 | Upgradient | S02 | A01 | A02 | Assessment |
| HGWA-6 | Upgradient | S02 | A01 | A02 | Assessment |
| HGWC-14 | Downgradient | S02 | A01 | A02 | Assessment |
| HGWC-15 | Downgradient | S02 | A01 | A02 | Assessment |
| HGWC-16 | Downgradient | S02 | A01 | A02 | Assessment |
| HGWC-17 | Downgradient | S02 | A01 | A02 | Assessment |
| HGWC-18 | Downgradient | S02 | A01 | A02 | Assessment |
| Delineation Monitoring Well | | | | | |
| MW-21D | Downgradient | S02 | A01 | A02 | Assessment |
| MW-22 | Downgradient | S02 | A01 | A02 | Assessment |
| MW-23D | Downgradient | S02 | A01 | A02 | Assessment |

1 of 1

Notes:

S## = Initial annual Appendix IV sampling event number since program initiation in January 2018.

A## = Semiannual assessment monitoring event number for given reporting year.

Table 3
Summary of Groundwater Elevations
Plant Hammond AP-2, Floyd County, Georgia

| Well ID | Top of Casing Elevation (1) | Mar 1 | 11, 2019 | Apr | 1, 2019 | Sept 23, 2019 | | |
|---------------------------|-----------------------------|--------------------------------|---------------------------------------|--------------------------------|---------------------------------------|--------------------------------|---------------------------------------|--|
| Well 12 | (ft MSL) | Depth to Water (ft BTOC) | Groundwater Elevations (ft MSL) | Depth to Water (ft BTOC) | Groundwater Elevations (ft MSL) | Depth to Water (ft BTOC) | Groundwater Elevations (ft MSL) | |
| Compliance Monitoring We | ell Network | | | | | | | |
| HGWA-1 | 595.50 | 6.74 | 588.76 | 10.3 | 585.20 | 22.17 | 573.33 | |
| HGWA-2 | 588.18 | 3.87 | 584.31 | 5.51 | 582.67 | 12.54 | 575.64 | |
| HGWA-3 | 588.06 | 3.46 | 584.60 | 5.19 | 582.87 | 12.39 | 575.67 | |
| HGWA-4 | 588.30 | 3.97 | 584.33 | 5.61 | 582.69 | 12.24 | 576.06 | |
| HGWA-5 | 583.52 | 3.23 | 580.29 | 4.64 | 578.88 | 6.94 | 576.58 | |
| HGWA-6 | 583.72 | 2.43 | 581.29 | 3.95 | 579.77 | 6.92 | 576.80 | |
| HGWC-14 | 598.10 | 23.23 | 574.87 | 24.35 | 573.75 | 28.70 | 569.40 | |
| HGWC-15 | 582.50 | 12.65 | 569.85 | 15.24 | 567.26 | 18.05 | 564.45 | |
| HGWC-16 | 581.10 | 7.70 | 573.40 | 10.46 | 570.64 | 12.36 | 568.74 | |
| HGWC-17 | 585.40 | 14.15 | 571.25 | 16.93 | 568.47 | 17.75 | 567.65 | |
| HGWC-18 | 585.30 | 14.65 | 570.65 | 16.66 | 568.64 | 17.36 | 567.94 | |
| Groundwater Level Monito | ring Piezometer | | | | | | | |
| MW-8 | 587.37 | 15.92 | 571.45 | 17.84 | 569.53 | 20.46 | 566.91 | |
| MW-9 | 591.67 | 11.27 | 580.40 | 11.97 | 579.70 | 18.41 | 573.26 | |
| MW-12 | 584.33 | 13.93 | 570.40 | 17.13 | 567.20 | 19.82 | 564.51 | |
| MW-16 | 575.22 | 4.50 | 570.72 | 6.4 | 568.82 | 7.11 | 568.11 | |
| MW-17 | 587.67 | 7.40 | 580.27 | 9.28 | 578.39 | 11.80 | 575.87 | |
| MW-18 | 593.07 | 8.93 | 584.14 | 9.71 | 583.36 | 16.09 | 576.98 | |
| Delineation Monitoring We | | • | | | • | | • | |
| MW-21D | 581.49 | 13.77 | 567.72 | 15.68 | 565.81 | 16.63 | 564.86 | |
| MW-22 | 578.67 | 9.74 | 568.93 | 12.58 | 566.09 | 15.15 | 563.52 | |
| MW-23D | 584.00 | 12.00 | 572.00 | 15.33 | 568.67 | 17.93 | 566.07 | |
| Surface Water Gauge (ft M | (SL) | • | | | • | | • | |
| Coosa River | | | 571.00 | | 565.00 | | 562.50 | |

1 of 1

Notes:

^{-- =} not measured or not applicable

ft MSL = feet mean sea level

ft BTOC = feet below top of casing

⁽¹⁾ Elevations referenced to the North American Vertical Datum of 1988 (NAVD88).

Table 4
Groundwater Gradient and Flow Velocity Calculations for 2019
Plant Hammond AP-2, Floyd County, Georgia

| | | Mar 11, 2019 | | | | | Apr 1, 2019 | | | | Sep 23, 2019 | | | | |
|-------------------------|---------------------|---------------------|---------|---------------|---------------------|---------------------|-------------|---------------|---------------------|---------------------|--------------|---------------|--------------------------|--|--|
| Flow Path Direction (1) | h ₁ (ft) | h ₂ (ft) | Δl (ft) | Δh/Δl (ft/ft) | h ₁ (ft) | h ₂ (ft) | Δl (ft) | Δh/Δl (ft/ft) | h ₁ (ft) | h ₂ (ft) | Δl (ft) | Δh/Δl (ft/ft) | Average Δh/Δl (ft/ft) | | |
| Westerly Flow Path | 582 | 571.25 | 1,250 | 0.009 | 580 | 568.47 | 1,085 | 0.011 | 576.98 | 567.65 | 1,320 | 0.007 | 0.009 | | |

| Flow Path Direction (1) | K (ft/d) | n | Δh/Δl (ft/ft) | V (ft/d) ⁽²⁾ | | | | | | | |
|-------------------------|----------|------|---------------|-------------------------|--|--|--|--|--|--|--|
| Westerly Flow Path | 1.47 | 0.15 | 0.009 | 0.088 | | | | | | | |

Notes:

ft = feet

ft/d = feet per day

ft/ft = feet per foot

ft/yr = feet per year

 $h_1, h_2 = point of interpreted groundwater elevation$

 $\Delta h/\Delta l = hydraulic gradient$

K = hydraulic conductivity

 Δl = distance between location 1 and 2

n = effective porosity

V = groundwater flow velocity

- (1) Flow path direction relative to the orientation of AP-2 and illustrated on Figures 3, 4, and 5 of associated report.
- (2) Groundwater flow velocity equation: $V = [K * (\Delta h/\Delta l)] / n$

1 of 1 January 2020

Table 5Summary of Groundwater Analytical Data Plant Hammond AP-2, Floyd County, Georgia

| Ī | W H ID | YYOYY A | WGW! 4 | YY CYYY A | YY CYYY I A | YY CYYY L A | YYGYYLL A | YY CYYY LA | YY CYYY L A | YYCYYL A | YY CYYY A | YY CYYY A | ******* | YY CYYY A | YY CYYY A | YYOYYA # |
|--------------|----------------------|---------------|---------------|-----------------|----------------|----------------|-----------------|----------------|---------------|---------------|-----------------|----------------|--------------|----------------|---------------|----------------|
| | Well ID: | HGWA-1 | HGWA-1 | HGWA-1 | HGWA-2 | HGWA-2 | HGWA-2 | HGWA-3 | HGWA-3 | HGWA-3 | HGWA-4 | HGWA-4 | HGWA-4 | HGWA-5 | HGWA-5 | HGWA-5 |
| | Sample Date: | 3/12/2019 | 4/2/2019 | 9/23/2019 | 3/12/2019 | 4/2/2019 | 9/23/2019 | 3/12/2019 | 4/1/2019 | 9/23/2019 | 3/11/2019 | 4/2/2019 | 9/24/2019 | 3/12/2019 | 4/2/2019 | 9/24/2019 |
| | Parameter (1,2,3) | | ND (0.016 D | ND (0.001 P | | NTD (0.024 P | ND (0.040.D | | ND (0.0066 P | ND (0.0001 P | | ND (0.010.D | ND (0.012.5) | | ND (0.0052 P) | ND (0.0000 D |
| APPENDIX III | Boron* | | ND (0.016 J) | ND (0.021 J) | | ND (0.034 J) | ND (0.040 J) | | ND (0.0066 J) | ND (0.0081 J) | | ND (0.010 J) | ND (0.013 J) | | ND (0.0052 J) | ND (0.0088 J) |
| | Calcium* | | 132 | 118 | | ND (22.5 J) | 19.5 | | 80.5 | 71.0 | | 76.0 | 36.6 | | 26.3 | 29.3 |
| | Chloride* | | 20.3 | 17.7 | | 5.8 | 5.1 | | 6.5 | 5.9 | | 4.4 | 3.6 | | 1.7 | 1.7 |
| Z | Fluoride* | ND (0.29 J) | ND (0.10 J) | ND (0.078 J) | ND (0.038 J) | ND (0.071 J) | ND | ND (0.072 J) | ND (0.029 J) | ND | ND (0.035 J) | ND | ND | ND (0.079 J) | ND (0.12 J) | ND (0.058 J) |
| l I | pH* | 7.03 | 6.86 | 7.02 | 5.42 | 5.41 | 5.33 | 7.29 | 7.16 | 7.30 | 6.27 | 6.66 | 6.16 | 6.42 | 6.38 | 6.40 |
| ₹ | Sulfate* | | 84.3 | 70.2 | | 48.7 | 47.2 | | 50.4 | 43.9 | | 4.9 | ND | | 23.8 | 20.7 |
| | TDS* | | 452 | 442 | | 133 | 129 | | 284 | 268 | | 230 | 131 | | 144 | 133 |
| | Antimony | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | | | ND | | |
| | Arsenic | ND | ND | ND (0.00046 J) | ND (0.00069 J) | ND | ND (0.00067 J) | ND (0.00063 J) | ND | ND (0.0011 J) | ND | ND | ND | ND | ND | ND (0.00055 J) |
| | Barium | 0.042 | 0.040 | 0.042 | 0.12 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.029 | 0.030 | 0.030 | 0.050 | 0.044 | 0.053 |
| | Beryllium | ND | ND | ND | ND (0.00017 J) | ND (0.00015 J) | ND (0.00011 J) | ND | ND | ND | ND (0.000050 J) | ND | ND | ND | ND | ND |
| | Cadmium | ND | ND | ND | ND (0.00013 J) | ND (0.00015 J) | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 2 | Chromium | ND | ND | ND | ND | ND (0.0079 J) | ND (0.00058 J) | ND | ND | ND | ND | 0.019 | ND | ND | ND | ND |
| × | Cobalt ⁺ | ND | ND | ND | 0.017 | 0.019 | 0.038 | ND | ND | ND | ND | ND | ND | ND (0.00099 J) | ND (0.0012 J) | ND (0.00063 J) |
| ENDIX | Fluoride | ND (0.29 J) | ND (0.10 J) | ND (0.078 J) | ND (0.038 J) | ND (0.071 J) | ND | ND (0.072 J) | ND (0.029 J) | ND | ND (0.035 J) | ND | ND | ND (0.079 J) | ND (0.12 J) | ND (0.058 J) |
| PPE | Lead | ND | ND | ND (0.000078 J) | ND | ND | ND (0.000092 J) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| AP | Lithium | ND (0.0010 J) | ND (0.0010 J) | ND (0.0011 J) | ND (0.0018 J) | ND (0.0018 J) | ND (0.0016 J) | ND (0.0032 J) | ND (0.0032 J) | ND (0.0029 J) | ND | ND (0.00098 J) | ND | ND (0.0032 J) | ND (0.0028 J) | ND (0.0035 J) |
| | Mercury | ND | | | ND | | | ND | | | ND | | | ND | | |
| | Molybdenum | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| | Comb. Radium 226/228 | 0.327 U | 0.739 U | 0.306 U | 0.454 U | 0.651 U | 1.04 U | 1.01 U | 0.760 U | 0.384 U | 0.781 U | 0.494 U | 0.455 U | 0.833 U | 1.07 U | 0.201 U |
| | Selenium | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| | Thallium | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |

Notes:

- = Parameter was not analyze
- $J = Indicates \ the \ parameter \ was \ estimated \ and \ detected \ between \ the \ method \ detection \ limit \ (MDL) \ and \ the \ reporting \ limit \ (RL)$
- ND = Indicates the parameter was not detected above the analytical MDL
- TDS = total dissolved solids
- U = Indicates the parameter was not detected above the analytical MDL (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. The pH value presented was recorded at the time of sample collection in the field.
- (3) Appendix III parameters with a "*" exhibited statistically significant increases (SSIs) over background concentrations during the October 2017 detection monitoring event. Similarly, the
- Appendix IV parameter with a "+" exhibited statistically significant levels (SSLs) over established Groundwater Protection Standards (GWPS) during the April and September 2019 assessment monitoring event.

1 of 3

(4) Well is designated a delineation monitoring well.

Table 5 Summary of Groundwater Analytical Data Plant Hammond AP-2, Floyd County, Georgia

| | Well ID: | HGWA-6 | HGWA-6 | HGWA-6 | HGWC-14 | HGWC-14 | HGWC-14 | HGWC-15 | HGWC-15 | HGWC-15 | HGWC-16 | HGWC-16 | HGWC-16 | HGWC-17 | HGWC-17 | HGWC-17 |
|----------|----------------------|--------------|---------------|-----------------|----------------|-----------------|----------------|-----------|-----------------|----------------|---------------|-----------------|---------------|---------------|-----------------|-----------------|
| | Sample Date: | | | 9/24/2019 | | 4/3/2019 | 9/24/2019 | 3/14/2019 | | | | 4/4/2019 | | | 4/5/2019 | |
| | Parameter (1,2,3) | 3/12/2019 | 4/2/2019 | 9/24/2019 | 3/14/2019 | 4/3/2019 | 9/24/2019 | 3/14/2019 | 4/4/2019 | 9/24/2019 | 3/15/2019 | 4/4/2019 | 9/25/2019 | 3/15/2019 | 4/5/2019 | 9/25/2019 |
| | Boron* | | ND (0.013 J) | ND (0.016 J) | | 12.5 | 14.7 | | 2.3 | 2.9 | | 2.1 | 2.7 | | 5.9 | 8.1 |
| н | Calcium* | | 49.7 | 52.5 | | 606 | 507 | | 214 | 202 | | 196 | 185 | | 340 | 305 |
| II XI | Chloride* | | 1.6 | 1.3 | | 227 | 188 | | 138 | 120 | | 76.8 | 84.4 | | 195 | 139 |
| ENDIX | Fluoride* | ND (0.061 J) | ND | ND | ND (0.24 J) | 0.66 | ND (0.053 J) | ND | ND (0.066 J) | ND (0.12 J) | ND | ND | ND | ND | ND (0.16 J) | ND (0.081 J) |
| EN | | 7.50 | 7.46 | 7.41 | 4.66 | 4.67 | 4.77 | 5.71 | 5.66 | 6.33 | 7.09 | 6.95 | 6.92 | 6.32 | 6.26 | 6.28 |
| APP | pH* | | | · · | | | | | | | | | | | | 434 |
| ⋖ | Sulfate* | | 35.5 | 35.4 | | 1520 | 1110 | | 528 | 382 | | 251 | 223 | | 642 | |
| | TDS* | | 238 | 222 | | 2310 | 2470 | | 926 | 1140 | | 704 | 813 | | 1260 | 1280 |
| | Antimony | ND | | | ND | | | ND | | | ND | | | ND | | |
| | Arsenic | ND | ND | ND | ND (0.0029 J) | ND | ND (0.0039 J) | ND | ND (0.00017 J) | ND (0.00037 J) | ND | ND (0.00010 J) | ND | ND | ND | ND |
| | Barium | 0.20 | 0.19 | 0.22 | 0.019 | 0.016 | 0.021 | 0.021 | 0.018 | 0.019 | 0.13 | 0.11 | 0.11 | 0.029 | 0.022 | 0.025 |
| | Beryllium | ND | ND | ND | ND (0.00043 J) | ND (0.00027 J) | ND (0.00044 J) | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| | Cadmium | ND | ND | ND | ND | ND (0.000079 J) | ND | 0.0024 | 0.0018 | ND (0.0014 J) | ND | ND | ND | ND | ND | ND |
| 1 | Chromium | ND | ND | ND | ND | ND | ND | ND | ND | ND (0.00041 J) | ND | ND | ND | ND | ND | ND |
| APPENDIX | Cobalt ⁺ | ND | ND | ND | 0.025 | 0.021 | 0.026 | 0.038 | 0.035 | 0.022 | ND | ND (0.00028 J) | ND | 0.017 | 0.016 | 0.015 |
| | Fluoride | ND (0.061 J) | ND | ND | ND (0.24 J) | 0.66 | ND (0.053 J) | ND | ND (0.066 J) | ND (0.12 J) | ND | ND | ND | ND | ND (0.16 J) | ND (0.081 J) |
| PE | Lead | ND | ND | ND (0.000071 J) | ND (0.0014 J) | ND (0.0012 J) | ND (0.0013 J) | ND | ND (0.000072 J) | ND (0.00020 J) | ND | ND (0.00016 J) | ND | ND | ND (0.000076 J) | ND (0.000089 J) |
| A | Lithium | ND (0.011 J) | ND (0.0095 J) | ND (0.011 J) | ND | ND | ND | ND | ND (0.00090 J) | ND (0.0012 J) | ND (0.0041 J) | ND (0.0032 J) | ND (0.0038 J) | ND (0.0011 J) | ND (0.00074 J) | ND (0.0011 J) |
| | Mercury | ND | | | ND | | | ND | | | ND | | | ND | | |
| | Molybdenum | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| | Comb. Radium 226/228 | 0.982 U | 0.621 U | 0.874 U | 1.50 | 1.43 U | 1.17 | 0.462 U | 0.512 U | 0.582 U | 0.591 U | 0.960 U | 0.643 U | 0.917 U | 1.07 U | 1.54 |
| | Selenium | ND | ND | ND | ND (0.0048 J) | ND (0.00091 J) | ND (0.0064 J) | ND | ND (0.00021 J) | ND | ND | ND (0.000089 J) | ND | ND | ND (0.000093 J) | ND |
| | Thallium | ND | ND | ND | ND (0.00028 J) | ND (0.00028 J) | ND (0.00030 J) | ND | ND | ND | ND | ND | ND | ND | ND (0.00013 J) | ND (0.00012 J) |

Notes:

- -- = Parameter was not analyzed
- J = Indicates the parameter was estimated and detected between the method detection limit (MDL) and the reporting limit (RL)
- ND = Indicates the parameter was not detected above the analytical MDL
- TDS = total dissolved solids
- U = Indicates the parameter was not detected above the analytical MDL (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. The pH value presented was recorded at the time of sample collection in the field.
- (3) Appendix III parameters with a "*" exhibited statistically significant increases (SSIs) over background concentrations during the October 2017 detection monitoring event. Similarly, the
- Appendix IV parameter with a "+" exhibited statistically significant levels (SSLs) over established Groundwater Protection Standards (GWPS) during the April and September 2019 assessment monitoring event.

2 of 3

(4) Well is designated a delineation monitoring well.

Table 5 Summary of Groundwater Analytical Data Plant Hammond AP-2, Floyd County, Georgia

| | Well ID: | HGWC-18 | HGWC-18 | HGWC-18 | MW-21D ⁽⁴⁾ | MW-21D ⁽⁴⁾ | MW-21D ⁽⁴⁾ | MW-22 ⁽⁴⁾ | MW-22 ⁽⁴⁾ | MW-22 ⁽⁴⁾ | MW-23D ⁽⁴⁾ | MW-23D ⁽⁴⁾ | MW-23D ⁽⁴⁾ |
|----------|----------------------|---------------|----------------|----------------|-----------------------|-----------------------|-----------------------|----------------------|----------------------|----------------------|-----------------------|-----------------------|-----------------------|
| | Sample Date: | 3/14/2019 | 4/5/2019 | 9/25/2019 | 3/15/2019 | 4/4/2019 | 9/25/2019 | 3/15/2019 | 4/5/2019 | 9/27/2019 | 3/14/2019 | 4/5/2019 | 9/26/2019 |
| | Parameter (1,2,3) | | | | | | | | | | | | |
| | Boron* | | 6.4 | 11.7 | | 5.2 | 6.4 | | 2.1 | 2.9 | | 3.0 | 3.8 |
| Ξ | Calcium* | | 400 | 437 | | 427 | 420 | | 178 | 202 | | 352 | 306 |
| | Chloride* | | 217 | 181 | | 299 | 245 | | 131 | 176 | | 195 | 204 |
| 8 | Fluoride* | 0.88 | 0.37 | 0.73 | ND | ND (0.10 J) | ND | ND | ND (0.13 J) | ND (0.28 J) | ND | ND (0.14 J) | ND (0.16 J) |
| APPENDIX | pH* | 4.39 | 4.50 | 4.54 | 6.81 | 6.70 | 6.54 | 5.95 | 5.96 | 5.81 | 6.68 | 6.66 | 6.64 |
| AP | Sulfate* | | 1030 | 920 | | 915 | 767 | | 392 | 520 | | 585 | 556 |
| | TDS* | | 1610 | 1960 | | 1800 | 1970 | | 890 | 1110 | | 1400 | 1400 |
| | Antimony | ND | | | ND | | | ND | | | ND | | |
| | Arsenic | ND (0.0036 J) | ND (0.0015 J) | ND (0.0044 J) | ND | ND (0.00019 J) | ND | ND | ND | ND (0.00045 J) | ND | ND | ND |
| | Barium | 0.029 | 0.021 | 0.030 | 0.090 | 0.075 | 0.066 | 0.044 | 0.036 | 0.028 | 0.082 | 0.061 | 0.064 |
| | Beryllium | ND (0.0026 J) | ND (0.0022 J) | 0.0031 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| | Cadmium | 0.0019 | 0.0017 | ND (0.0023 J) | ND | ND | ND | ND (0.00082 J) | ND (0.00064 J) | ND (0.0014 J) | ND | ND | ND |
| <u> </u> | Chromium | ND | ND | ND | ND | ND | ND | ND | ND | ND (0.00040 J) | ND | ND | ND |
| X | Cobalt ⁺ | 0.16 | 0.14 | 0.18 | ND | ND (0.00034 J) | ND | 0.028 | 0.022 | 0.035 | ND (0.0013 J) | ND (0.0012 J) | ND (0.00098 J) |
| APPENDIX | Fluoride | 0.88 | 0.37 | 0.73 | ND | ND (0.10 J) | ND | ND | ND (0.13 J) | ND (0.28 J) | ND | ND (0.14 J) | ND (0.16 J) |
| PE | Lead | ND (0.0015 J) | ND (0.0015 J) | ND (0.0015 J) | ND | ND | ND | ND | ND | ND (0.00010 J) | ND | ND | ND |
| AF | Lithium | ND (0.011 J) | ND (0.0084 J) | ND (0.015 J) | ND (0.025 J) | ND (0.019 J) | ND (0.024 J) | ND (0.0020 J) | ND (0.0013 J) | ND (0.0013 J) | ND (0.0028 J) | ND (0.0021 J) | ND (0.0023 J) |
| | Mercury | ND | | | ND | | | ND | | | ND | | |
| | Molybdenum | ND | ND | ND | 0.045 | 0.033 | 0.038 | ND | ND (0.00013 J) | ND | ND | ND (0.0014 J) | ND (0.0025 J) |
| | Comb. Radium 226/228 | 1.37 U | 2.22 | 2.77 | 0.972 U | 0.791 U | 0.751 U | 0.977 | 1.06 U | 1.44 U | 0.872 U | 0.932 U | 1.25 |
| | Selenium | 0.016 | ND (0.0018 J) | 0.020 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| | Thallium | ND | ND (0.00014 J) | ND (0.00019 J) | ND | ND | ND | ND | ND | ND | ND | ND | ND |

Notes:

- J = Indicates the parameter was estimated and detected between the method detection limit (MDL) and the reporting limit (RL)
- ND = Indicates the parameter was not detected above the analytical MDL

TDS = total dissolved solids

- U = Indicates the parameter was not detected above the analytical MDL (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. The pH value presented was recorded at the time of sample collection in the field.
- (3) Appendix III parameters with a "*" exhibited statistically significant increases (SSIs) over background concentrations during the October 2017 detection monitoring event. Similarly, the

3 of 3

Appendix IV parameter with a "+" exhibited statistically significant levels (SSLs) over established Groundwater Protection Standards (GWPS) during the April and September 2019 assessment monitoring event.

(4) Well is designated a delineation monitoring well.

Table 6
Summary of Background Concentrations and Groundwater Protection Standards
Plant Hammond AP-2, Floyd County, Georgia

| Analyte | Units | Background ⁽¹⁾ | Federal GWPS ⁽²⁾ | State GWPS ⁽³⁾ |
|-------------------------|-------|---|-----------------------------|---------------------------|
| Antimony | mg/L | 0.003 | 0.006 | 0.006 |
| Arsenic | mg/L | 0.005 | 0.01 | 0.01 |
| Barium | mg/L | 0.21, 0.22 | 2 | 2 |
| Beryllium | mg/L | 0.003 | 0.004 | 0.004 |
| Cadmium | mg/L | 0.001, 0.003 | 0.005 | 0.005 |
| Chromium | mg/L | 0.019 | 0.1 | 0.1 |
| Cobalt | mg/L | 0.029, 0.038 | 0.029, 0.038 | 0.029, 0.038 |
| Fluoride | mg/L | 0.36 | 4 | 4 |
| Lead | mg/L | 0.005 | 0.015 | 0.005 |
| Lithium | mg/L | Federal 0.025 ⁽⁴⁾ , 0.03 State 0.05, 0.03 | 0.04 | 0.05, 0.03 |
| Mercury | mg/L | 0.0005 | 0.002 | 0.002 |
| Molybdenum | mg/L | 0.01 | 0.1 | 0.01 |
| Selenium | mg/L | 0.01 | 0.05 | 0.05 |
| Thallium | mg/L | 0.001 | 0.002 | 0.002 |
| Combined Radium-226/228 | pCi/L | 2.42 | 5 | 5 |

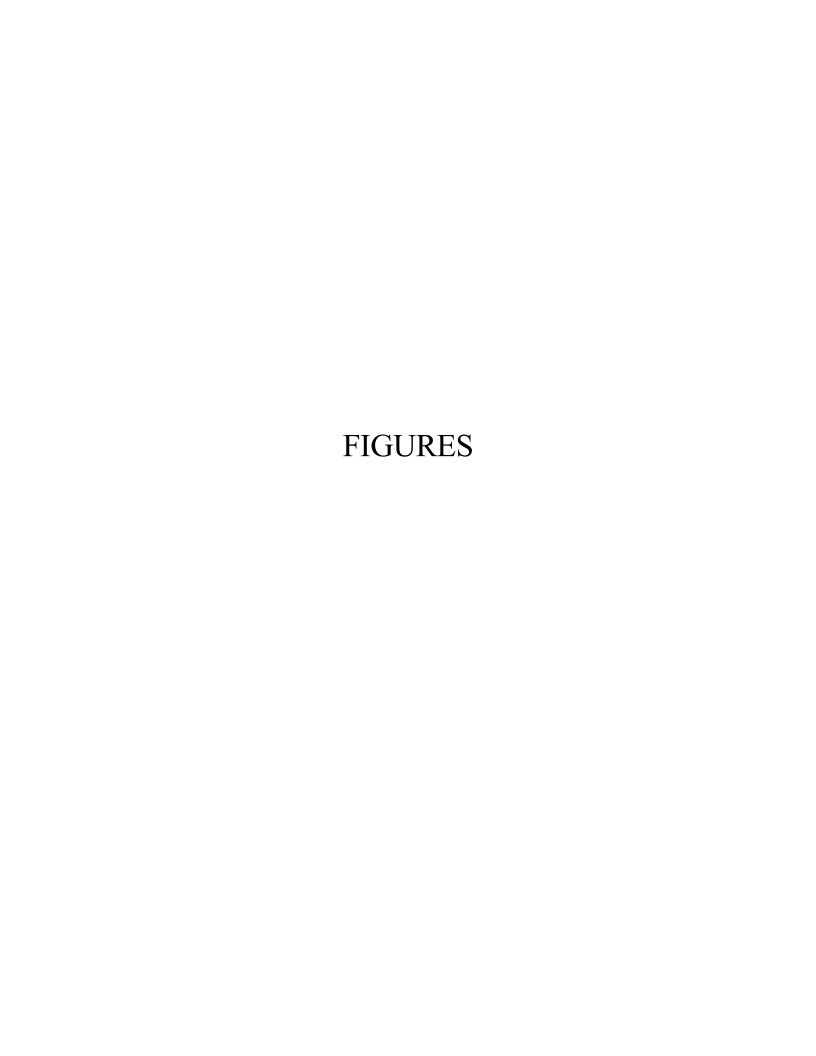
Notes:

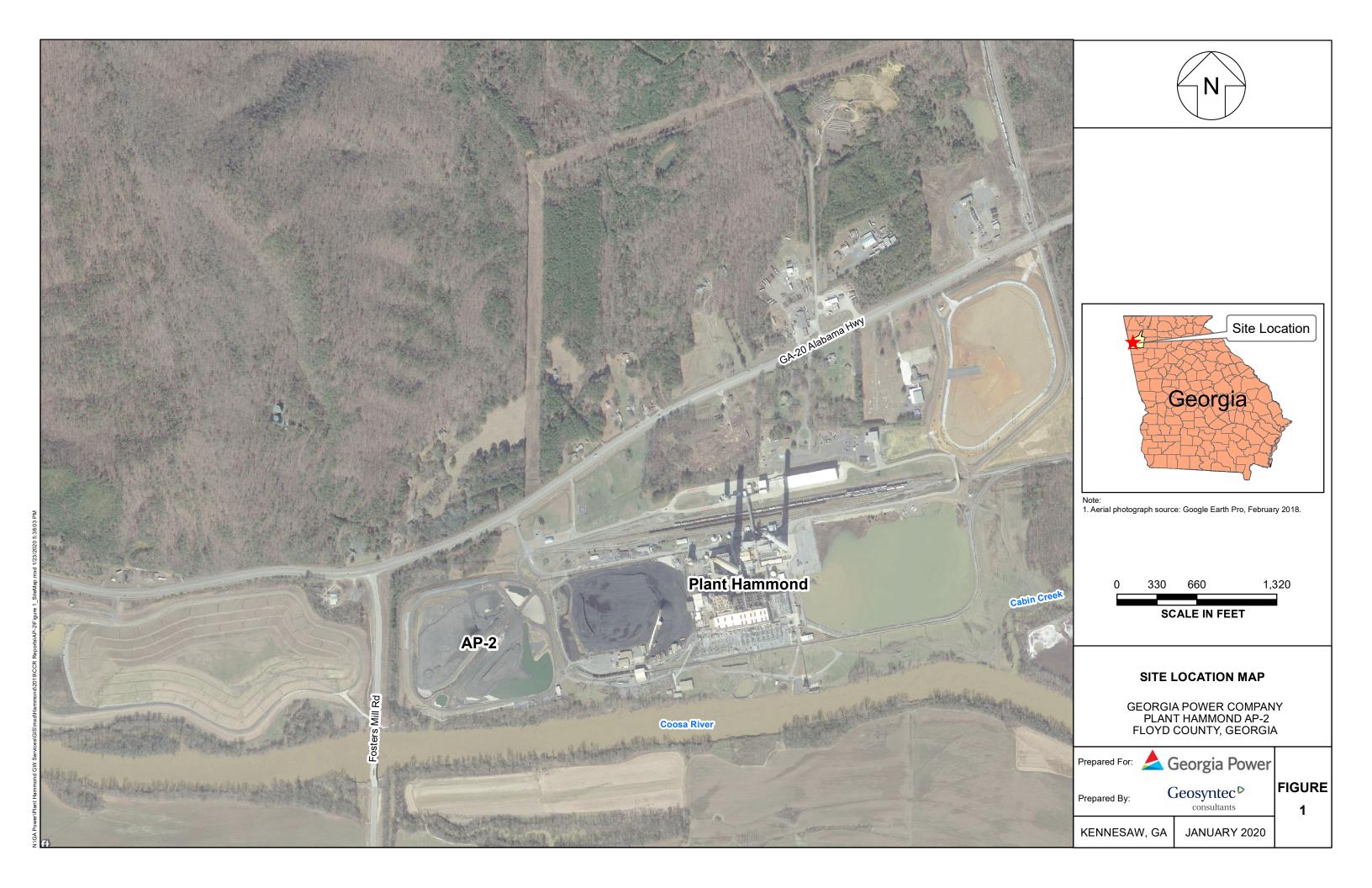
"mg/L" = milligrams per liter

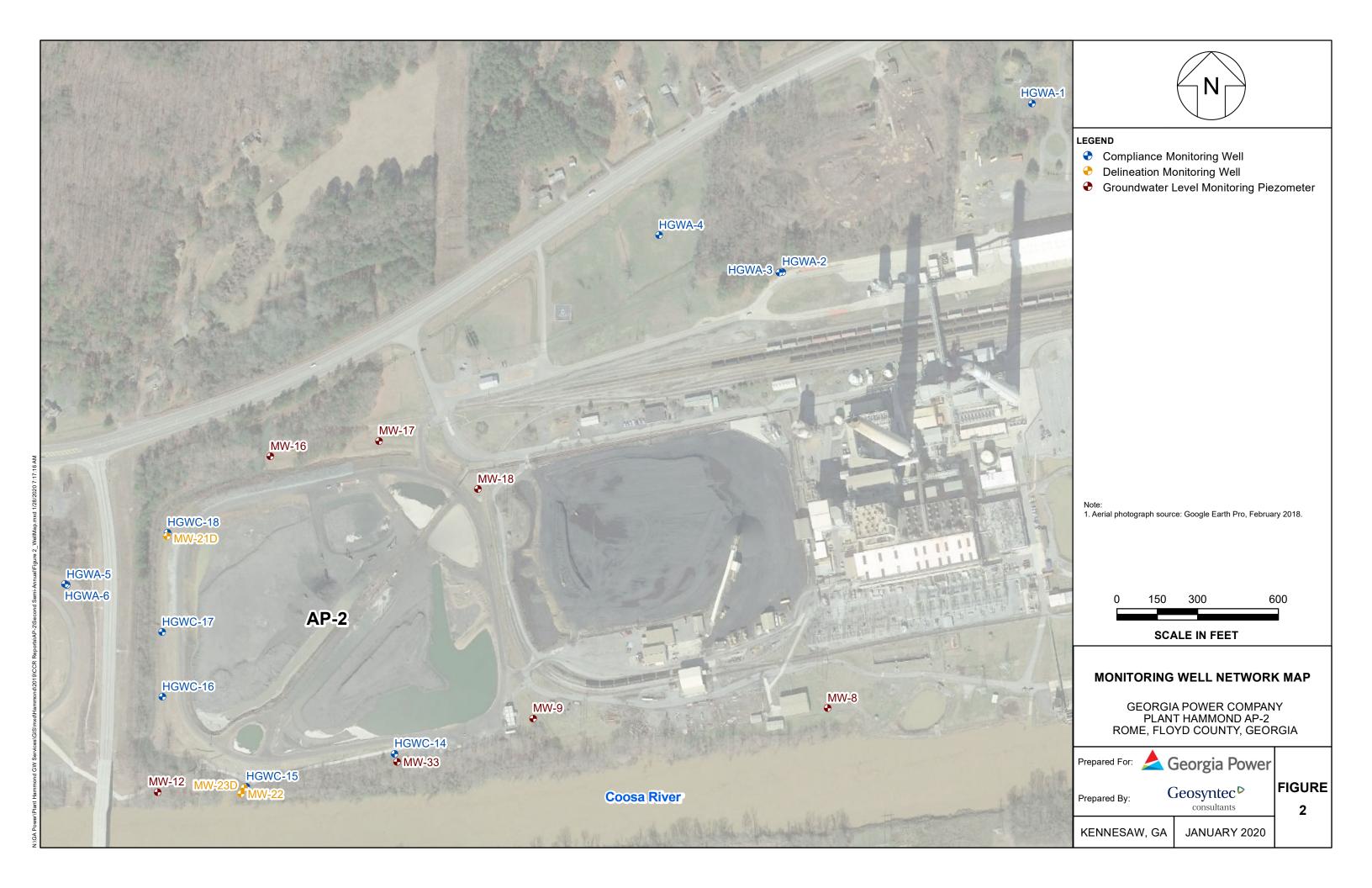
"pCi/L" = picocuries per liter

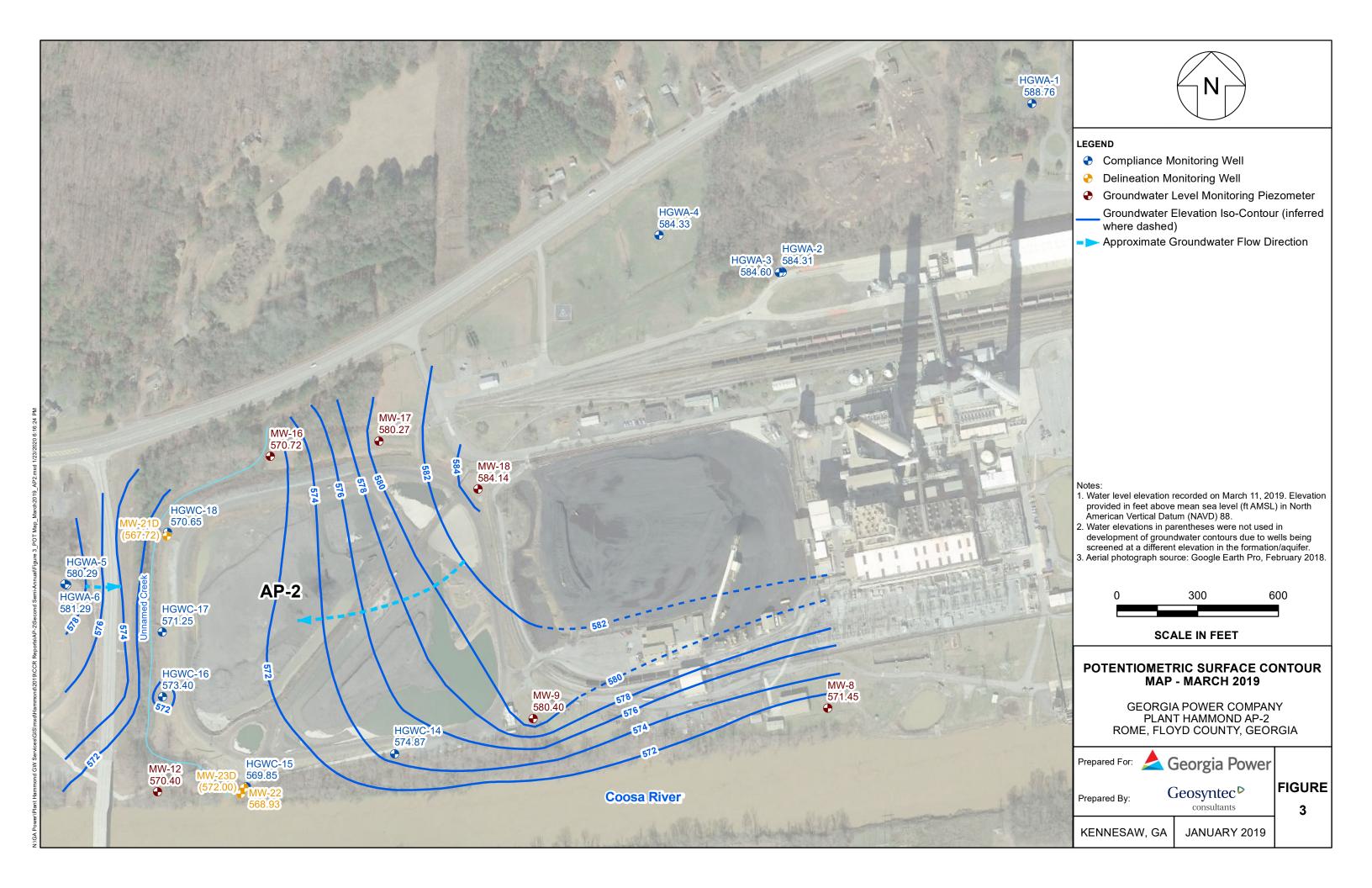
- 1. The background limits were used when determining the groundwater protection standard (GWPS) under 40 CFR §257.95(h) and Georgia Environmental Protection Division (EPD) Rule 391-3-4-.10(6)(a). Where two numbers are present, they denote the different background levels for each of the two semiannual monitoring events in the order that they were determined.
- 2. Under 40 CFR §257.95(h)(1-3) the GWPS is: (i) the maximum contaminant level (MCL) established under 141.62 and 141.66 of this title; (ii) where an MCL has not been established a rule-specific GWPS is used; or (iii) background concentrations for constituents were the background level is higher than the MCL or rule-specified GWPS.
- 3. Under the existing Georgia EPD rules, the GWPS is: (i) the MCL, (ii) where the MCL is not established, the background concentration, or (iii) background concentrations for constituents were the background level is higher than the MCL. Where two numbers are present, they denote the different background levels for each of the two semiannual monitoring events in the order that they were determined.
- 4. The background tolerance limit (TL) used to evaluate GWPS for this analyte equals half the laboratory specified reporting limit (RL). Per the Statistical Analysis Plan (SAP), and in accordance with the Unified Guidance, a non-parametric TL approach was used since the data set contained greater than 50% non-detect (ND) results for this analyte. Under this approach, the TL equals the highest value reported, for which is the laboratory RL. Since a RL may be influenced due to sample matrix interference at the time of analysis, half the RL was applied in this select case.

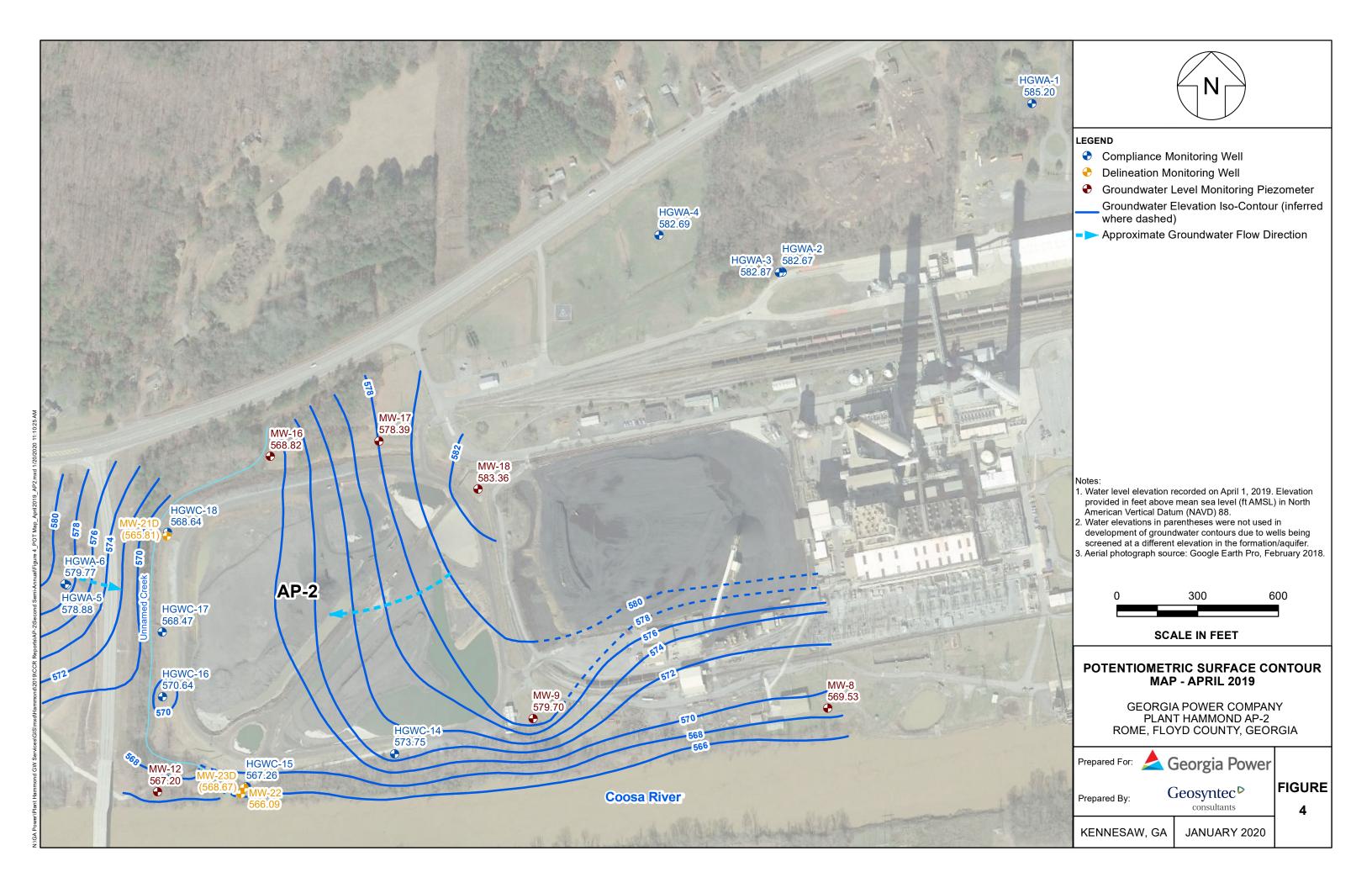
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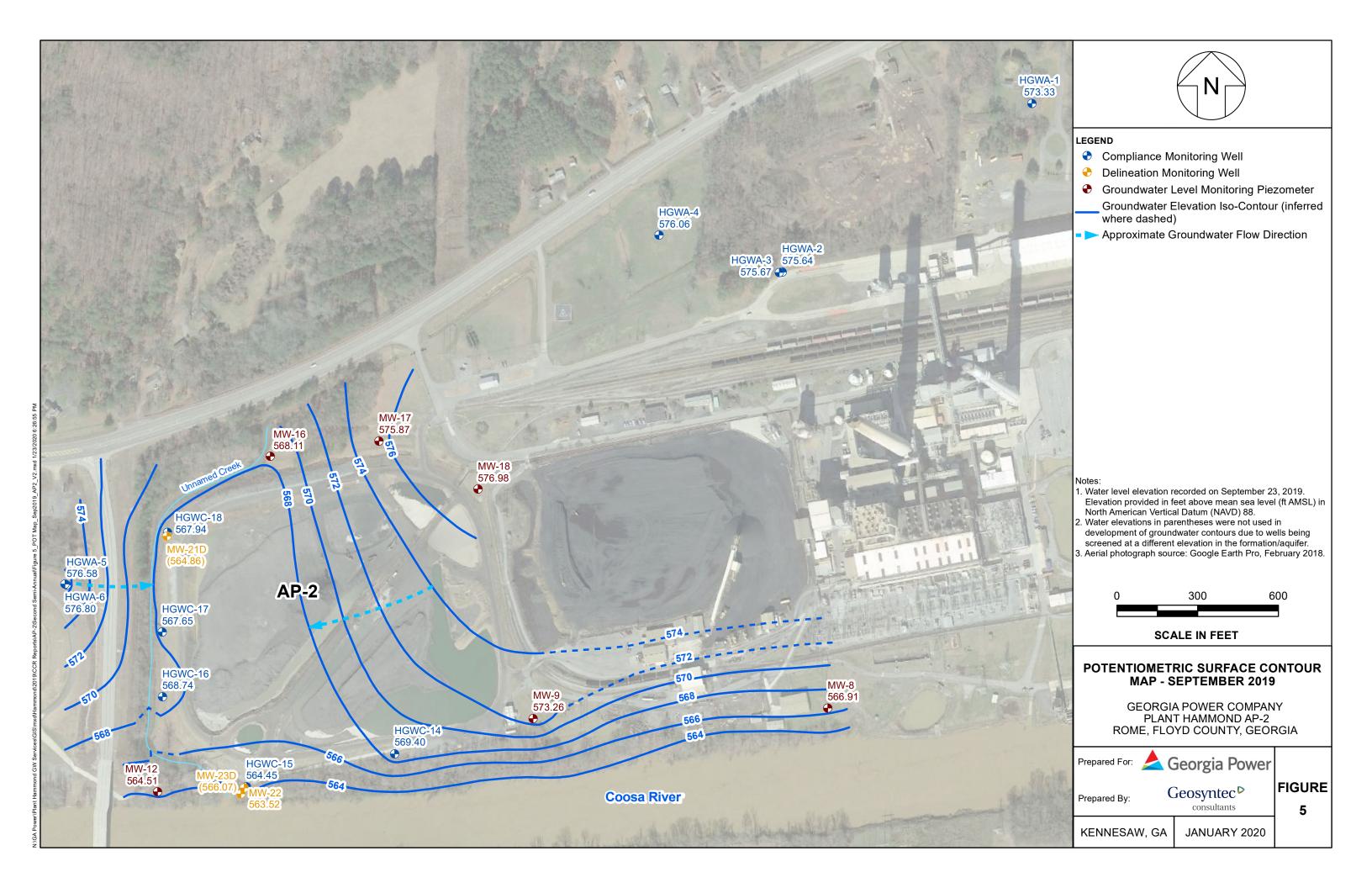












APPENDIX A

Well Design, Installation, and Development Report – Addendum No.3, Plant Hammond Ash Ponds 2 and 3 (AP-2 and AP-3)



Georgia Power Company

241 Ralph McGill Blvd NE Atlanta, Georgia 30308

WELL DESIGN, INSTALLATION, AND DEVELOPMENT REPORT – ADDENDUM No. 3

PLANT HAMMOND ASH PONDS 2 AND 3 (AP-2 AND AP-3)

Prepared by



engineers | scientists | innovators

1255 Roberts Boulevard, Suite 200 Kennesaw, Georgia 30144

Project Number GW6581B

January 2020



WELL DESIGN, INSTALLATION, AND DEVELOPMENT REPORT – ADDENDUM No. 3

Plant Hammond Ash Ponds 2 and 3 January 30, 2020

Whitney B. Law, P.E.

Project Manager

Geosyntec Consultants



TABLE OF CONTENTS

| 1. | INTR | ODUCTION | 1 | | | | | | | | |
|---------|-------|--------------------------------------|---|--|--|--|--|--|--|--|--|
| 2. | DRIL | LLING AND WELL INSTALLATION | | | | | | | | | |
| | 2.1 | Drilling Method | 2 | | | | | | | | |
| | 2.2 | Screened Interval | 3 | | | | | | | | |
| | 2.3 | Well Casings and Screens | 3 | | | | | | | | |
| | 2.4 | Well Intake Design | 3 | | | | | | | | |
| | 2.5 | Filter Pack | 3 | | | | | | | | |
| | 2.6 | Annular Seal | 4 | | | | | | | | |
| | 2.7 | Cap and Protective Casing | 4 | | | | | | | | |
| 3. | WEL | L DEVELOPMENT | 6 | | | | | | | | |
| 4. | SURV | VEY | 7 | | | | | | | | |
| 5. | REFE | ERENCES | 8 | | | | | | | | |
| | | LIST OF TABLES | | | | | | | | | |
| Table 1 | 1 | Summary of Well Construction Details | | | | | | | | | |
| | | LIST OF FIGURES | | | | | | | | | |
| Figure | | Monitoring Well Network Map – AP-3 | | | | | | | | | |
| Figure | 2 | Monitoring Well Network Map – AP-2 | | | | | | | | | |
| | | LIST OF APPENDICES | | | | | | | | | |
| Appen | dix A | Well Driller Performance Bonds | | | | | | | | | |
| Appen | dix B | Boring and Well Construction Logs | | | | | | | | | |
| Appen | dix C | Well Development Forms | | | | | | | | | |



LIST OF ACRONYMS

AP Ash Pond

ASTM American Society for Testing and Materials

CCR coal combustion residual CFR Code of Federal Regulations

CFS Civil Field Services
DO dissolved oxygen
ft MSL feet mean sea level

GA EPD Georgia Environmental Protection Division

GPC Georgia Power Company

NAD83 North America Datum of 1983

NAVD88 North American Vertical Datum of 1988

NSF National Sanitation Foundation
ORP oxygen reduction potential

PVC polyvinyl chloride

SCS Southern Company Services

TOC top of casing

US EPA United States Environmental Protection Agency

1. INTRODUCTION

This report provides details regarding the design, installation, and development of four wells to supplement the current groundwater monitoring system at Georgia Power Company (GPC) Plant Hammond (Site) Ash Ponds 2 and 3 (AP-2 and AP-3). Wells MW-31, MW-32, and MW-33 will be used as groundwater level monitoring piezometers. Wells MW-31 and MW-32 are associated with AP-3, while well MW-33 is associated with AP-2. The report was prepared as an addendum to the *Well Design, Installation, Development, and Decommissioning Report – Plant Hammond Ash Ponds 1 and 2* (ERM, 2017) and the *Well Design, Installation, and Development Report – Plant Hammond Ash Pond 3* (Geosyntec, 2019a) and meets the requirements promulgated in the United States Environmental Protection Agency (US EPA) coal combustion residual (CCR) rule [40 Code of Federal Regulations (CFR) Part 257, Subpart D], specifically 40 CFR §257.91(e)(1).

Plant Hammond is located in Floyd County, approximately 10 miles west of Rome, Georgia. The current groundwater monitoring systems at AP-2 and AP-3 includes wells associated with the certified CCR compliance monitoring well network and groundwater level monitoring piezometers. Additionally, AP-2 has a network of secondary groundwater delineation monitoring wells. The locations of these wells and piezometers are shown on **Figure 1** for AP-3 and **Figure 2** for AP-2. Details regarding the installation of the certified compliance well network are presented in the above referenced ERM and Geosyntec reports, whereas details regarding the installation of the delineation wells at AP-2 are provided in the initial addendum prepared by Geosyntec Consultants (Geosyntec) (Geosyntec, 2019b).

1

2. DRILLING AND WELL INSTALLATION

Well installation and development activities were performed according to accepted industry standards and following guidelines within the *Manual for Groundwater Monitoring* (GA EPD, 1991). Well drilling, installation, and surface completion activities were performed by Cascade Drilling Inc. (Cascade) of Midland, North Carolina under contact with, and the supervision of, Southern Company Services (SCS) Civil Field Services (CFS) personnel. In accordance with the Georgia Water Well Standards Act, the driller was required to have an insurance bond on file with the State of Georgia at the time of drilling. A copy of this bond is provided in **Appendix A**. A professional geologist (PG) registered to practice in the State of Georgia, and a geologist under the supervision of a PG, both employed with Geosyntec Consultants (Geosyntec), documented the drilling and installation efforts to record observations, soil and rock descriptions, subsurface stratigraphy, water elevations, and other field activities. Geosyntec was also responsible for the development of the newly installed wells.

AP-3 area wells MW-31 and MW-32, and AP-2 area well MW-33 were installed in November 2019. The locations of these wells are shown on **Figures 1** and **2**, respectively. Well construction details are provided in **Table 1**; boring and well construction logs are included in **Appendix B**.

2.1 Drilling Method

Sonic drilling method with continuous core collection was used for borehole advancement at MW-31. At MW-32 and MW-33, hollow-stem auger with 5-ft center [from 10 to 18.5 feet below ground surface (ft bgs)] and continuous (from 18.5 ft bgs to target depth or auger refusal) split spoon soil samplers were used for borehole advancement. At MW-32, a wireline rock coring method was used to advance borings to final depth into the bedrock. A truck-mounted TS-150 Sonic drill rig was used to install well MW-31; a CME-550 rubber tire ATV mounted drill rig installed MW-32 and MW-33 wells. To advance boreholes, the Sonic rig used a 6-inch sonic drill rod and the CME-550 used an 8-inch (OD) auger; a 4-inch drill rod was used for rock coring advancement. Care was taken so that the drilling methods did not introduce contamination of the groundwater from surface activities.

Drilling equipment was cleaned between each borehole.

2.2 Screened Interval

The wells are screened in the uppermost water bearing unit. The three new AP-2 and AP-3 wells are screened from approximately 566 to 543 feet mean sea level (ft MSL) as surveyed relative to the North American Vertical Datum 1988 (NAVD88). All wells are constructed with 10 feet of well screen.

2.3 Well Casings and Screens

The wells are constructed of 2-inch inner diameter Schedule 40 polyvinyl chloride (PVC) casing with flush-threaded fittings. Each well was installed with a 10-foot nominal length pre-packed dual-wall well screen with 0.010-inch slots. The casings and pre-packed screens arrived pre-cleaned and packaged by the manufacturer. The pre-packed well screen was constructed onsite by packing sand between slotted PVC and the well screen. Well construction materials are sufficiently durable to resist chemical and physical degradation and not interfere with the quality of groundwater samples. Casing and screens are flush-threaded. Solvent or glue was not used to construct the wells. A threaded bottom cap was attached to the bottom of the screen. The PVC products used were American Society for Testing and Materials (ASTM) and National Sanitation Foundation (NSF) rated. Well screen interval details are provided in **Table 1**.

2.4 Well Intake Design

Wells were designed and constructed to: (1) allow sufficient groundwater flow to the well for sampling; (2) minimize the passage of formation materials (turbidity) into the wells; and (3) ensure sufficient structural integrity to prevent collapse of the well. The annular space between the face of the formation and the screen was filled to minimize passage of formation materials into the wells. A filter pack of clean, well-rounded, quartz sand was installed in each well. The 0.01-inch slot size was selected to minimize the inflow of formation material without impairing influent groundwater flow.

2.5 <u>Filter Pack</u>

Highly Pure Quartzite of Southern Products & Silica Co. silica sand filter pack was used as the appropriate gradation for all wells. Highly Pure Quartzite meets the ASTM D5092 uniformity coefficient specification of 2.5 or less, with a uniformity coefficient of 1.6.

Filter pack material was placed within the pre-packed dual-wall well screens and in the annular space between the outside of the pre-pack screen and borehole wall to ensure an adequate thickness of filter pack material between the well and the formation. Filter pack

3



material placed in the annular space outside of the well screen extended approximately 2 feet above the top of screen. No bridging occurred during filter pack placement.

Upon placement of the filter pack, each well was pumped with a submersible pump to assure settlement of the filter pack. The top of filter pack depth was measured following pumping to ensure appropriate extension of filter sand above the screen. The depth of the top of the filter pack was measured and recorded on the well construction logs provided in **Appendix B**.

2.6 Annular Seal

A minimum of two feet of bentonite pellets (PelPlug time-release coated 3/8" bentonite pellets) were placed immediately above the filter pack by gravity-pouring into the annular space and hydrated per manufacture's specifications. A tremie pipe was used to probe the annular space to ensure that no bridging occurred. If any new well was installed within 15 feet of an existing well, the bentonite seal was brought above the elevation corresponding to the screen top of the nearby well. This was done to prevent grout from entering the water-bearing or screen zone. The bentonite was hydrated with potable water for a duration meeting or exceeding the manufacture's specifications prior to grouting the remaining annulus.

The annulus above the bentonite seal was grouted with Aqua Guard bentonite grout placed via tremie pipe from the top of the bentonite seal. During grouting, care was taken to assure that the bentonite seal was not disturbed by locating the base of the tremie pipe approximately 2 feet above the bentonite seal and injecting grout at low pressure/velocity. A cement apron 4-feet by 4-feet by 4-inches was poured around each well. The pad is mounded slightly outward to direct surface drainage away from the well.

2.7 Cap and Protective Casing

The well risers are fitted with a locking cap and a lockable cover. A one-quarter inch vent hole in the PVC riser pipe provides an avenue for the escape of gas. The protective cap guards the casing from damage and the locking cap serves as a security device to prevent well tampering. Bollards were installed around the four corners of the concrete pad to protect the well.

Wells are clearly marked with signs with the proper designation. A weep hole was drilled in the outer protective casing near the bottom above the concrete pad. Pea gravel was placed inside the protective casing between the riser pipe and the outer casing. Wells are

Geosyntec Consultants

clearly marked with the proper well identification number on the stand-up casing. Construction details are documented on the well construction logs provided in **Appendix B**.



3. WELL DEVELOPMENT

Wells were developed using a combination of surging and pumping to (1) restore the natural hydraulic conductivity of the formation, and (2) to remove fine-grained sediment to ensure low-turbidity groundwater samples. Wells were alternately surged and purged until visually clear of particulates. Turbidity, pH, temperature, conductivity, oxidation-reduction potential (ORP), and dissolved oxygen (DO) measurements were recorded to ensure that each well was fully developed. The development forms are included in **Appendix C**.

All equipment and tubing placed in the well was decontaminated or disposed of between wells.



4. SURVEY

Upon completion of the well installation, the horizontal locations and vertical elevations were surveyed by CFS. The survey pin installed at each well pad was surveyed to within +/- 0.5-foot horizontal accuracy. Elevations were also measured to the nearest 0.01-foot on the top of the PVC well casing [top of casing (TOC) elevation] and ground surface adjacent to the well pad. Northings and eastings were recorded in feet relative to the North America Datum of 1983 (NAD83). Top of casing and ground surface elevations are in feet relative to NAVD88. Certified survey data are provided in the well construction tables.

5. REFERENCES

- Environmental Resources Management (ERM), 2017. Well Design, Installation, Development, and Decommissioning Report Plant Hammond Ash Ponds 1 and 2. October 2017.
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- Geosyntec Consultants, 2019b. Well Design, Installation, and Development Report Addendum, Plant Hammond Ash Ponds 1 and 2 (AP-1 and AP-2). June 2019.
- United States Environmental Protection Agency. 2015a. Federal Register. Volume 80. No. 74. Friday April 17, 2015. Part II. Environmental Protection Agency. 40 CFR Parts 257 and 261. Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule. [EPA-HQ-RCRA-2009-0640; FRL-9919-44-OSWER]. RIN-2050-AE81, April 2015

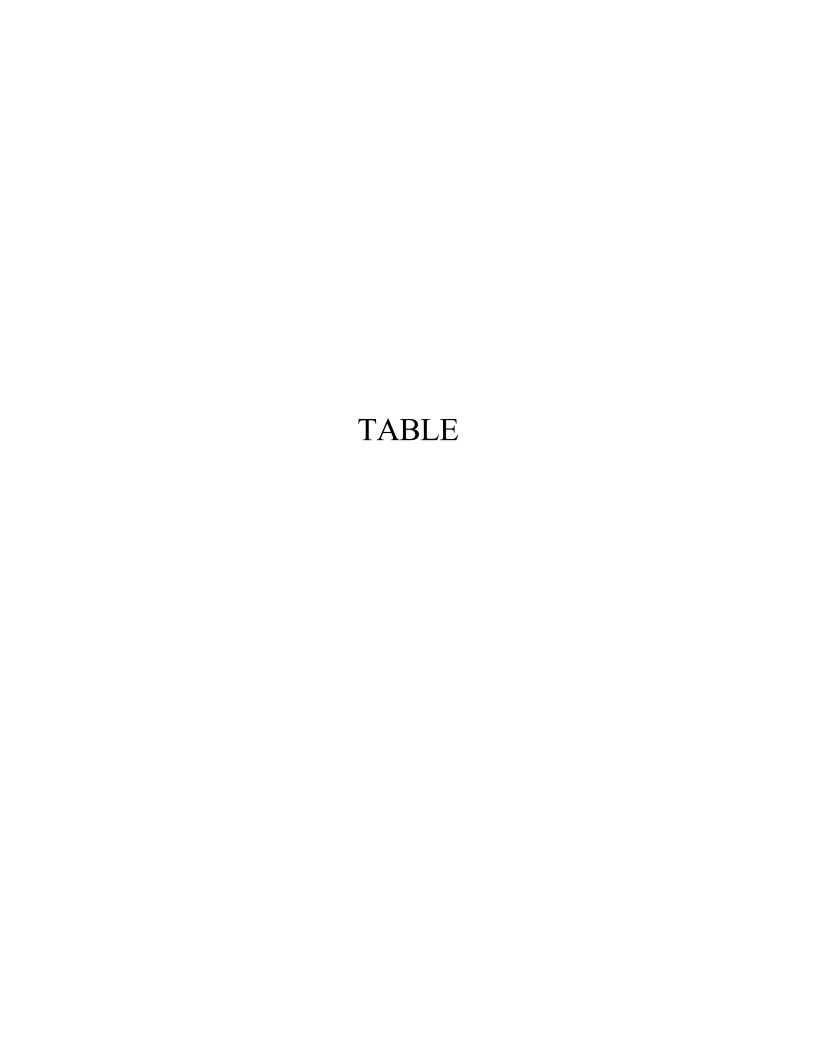


Table 1 Summary of Well Construction Details Plant Hammond AP-2 and AP-3, Floyd County, Georgia

| Well ID | Ash Pond | Purpose | Installation Date | Northing ⁽¹⁾ | Easting (1) | Ground Surface Elevation ⁽²⁾ (ft MSL) | Top of Nail Elevation (ft MSL) | Top of Casing Elevation (ft MSL) | Top of Screen Elevation (ft MSL) | Bottom of Screen Elevation (ft MSL) | Well Depth (ft bgs) (3) |
|---------|----------|------------------------|----------------------|-------------------------|-------------|---|--------------------------------------|--|--|--|----------------------------|
| MW-31 | 3 | Water Level Monitoring | 11/25/2019 | 1550422.94 | 1942688.613 | 608.60 | 608.83 | 611.35 | 552.60 | 542.60 | 66.0 |
| MW-32 | 3 | Water Level Monitoring | 11/22/2019 | 1551094.60 | 1943021.05 | 583.07 | 583.25 | 585.62 | 559.27 | 549.27 | 33.8 |
| MW-33 | 2 | Water Level Monitoring | 11/21/2019 | 1547975.23 | 1938411.668 | 591.06 | 591.26 | 593.99 | 566.06 | 556.06 | 35.0 |

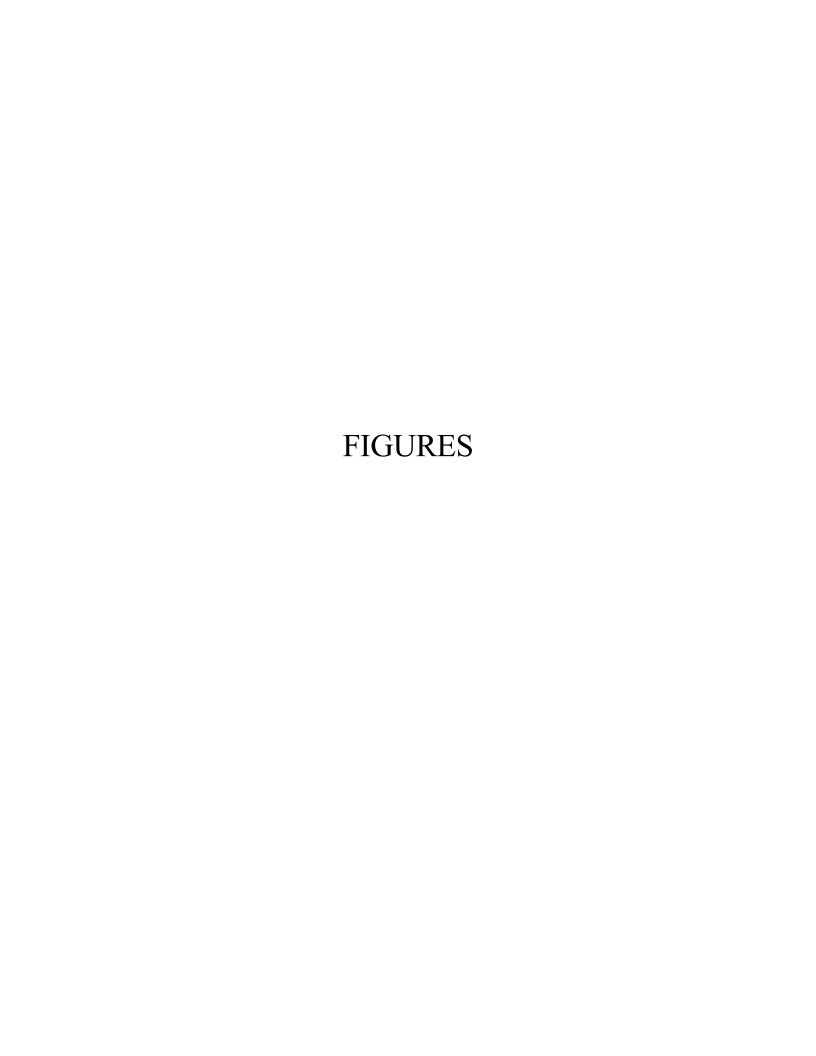
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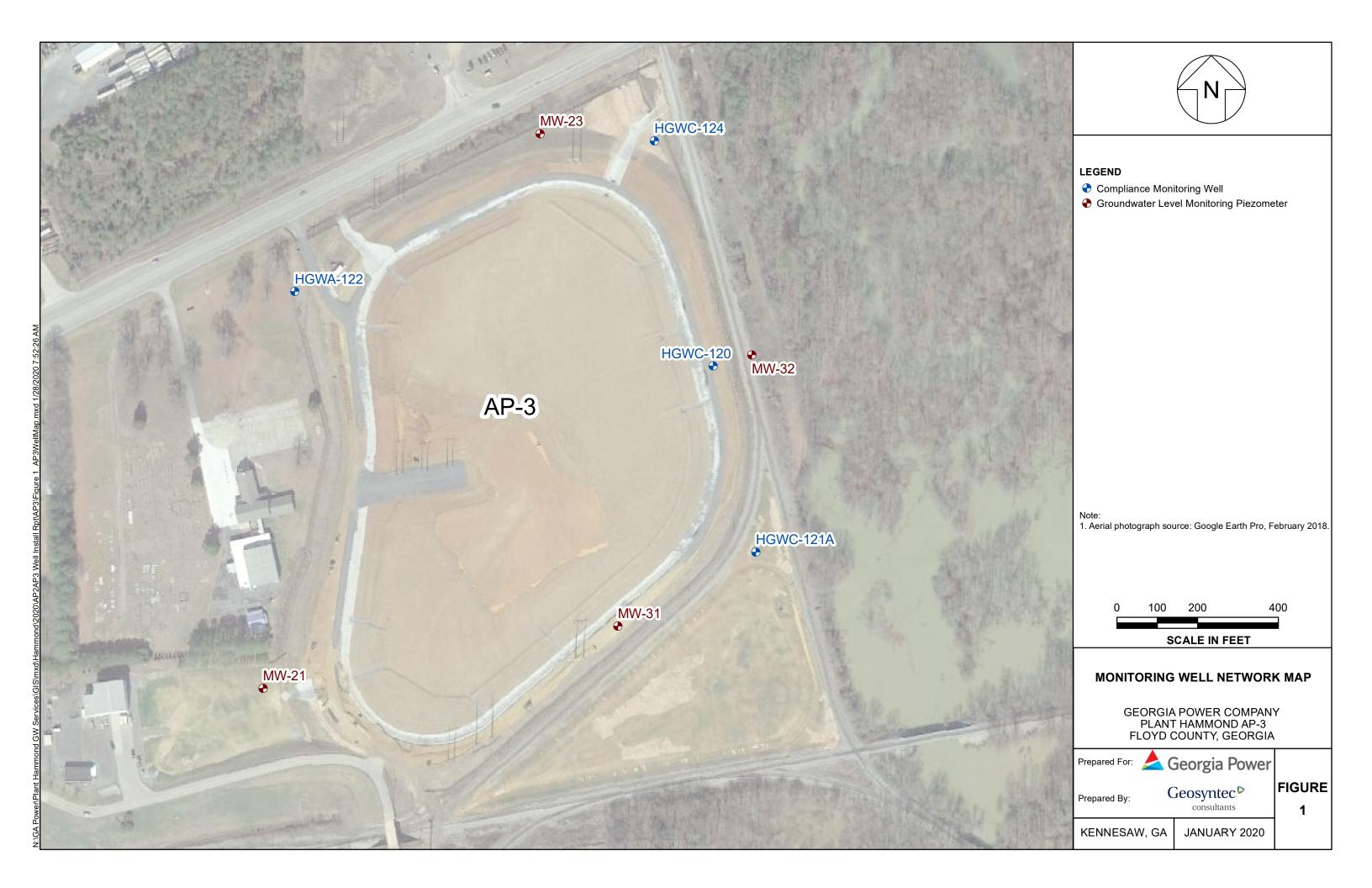
ft MSL = feet mean sea level

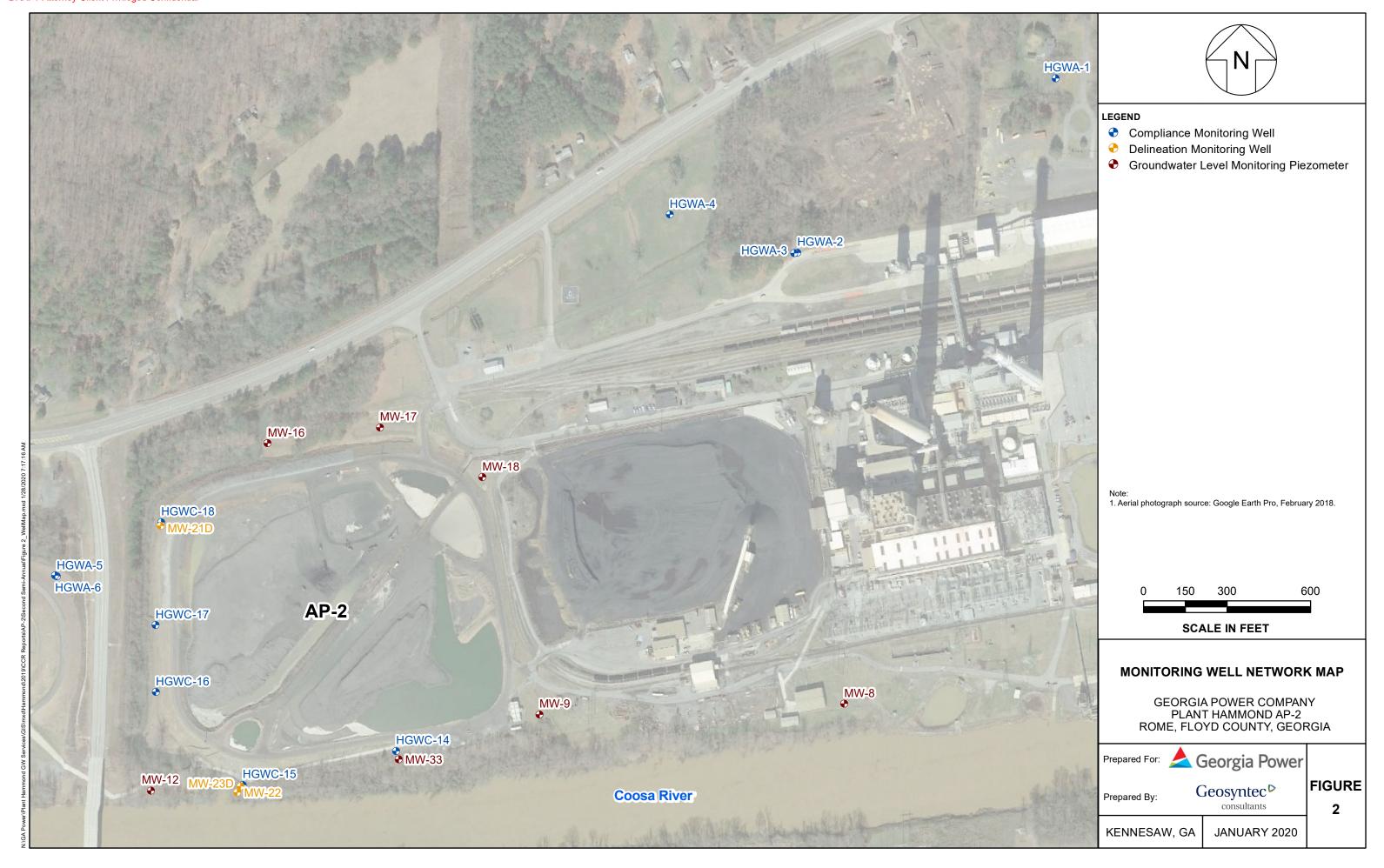
ft bgs = feet below ground surface

- (1) Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet.
- (2) Elevation referenced to the North American Vertical Datum of 1988 (NAVD88).
- (3) Total well depth accounts for sump if data provided on well construction logs.

1 of 1 January 2020







APPENDIX A

Well Driller Performance Bonds

CONTINUATION CERTIFICATE

Atlantic Specialty Insurance Company

, Surety upon

Issued on 9/27/2017 Expires on 6/30/2019

Renewed on 3/4/2019

Expires on 6/30/2021

a certain Bond No. 800033976

dated effective

09/27/2017

(MONTH-DAY-YEAR)

on behalf of

Ricky Davis / Cascade Drilling, L.P.

(PRINCIPAL)

and in favor of

Department of Natural Resources, State of Georgia

(OBLIGEE)

does hereby continue said bond in force for the further period

beginning on

06/30/2019

(MONTH-DAY-YEAR)

and ending on

06/30/2021

(MONTH-DAY-YEAR)

Amount of bond

Thirty Thousand and 00/100 Dollars (\$30,000.00)

Description of bond

Performance Bond for Water Well Contractors

Premium:

\$1200.00

PROVIDED: That this continuation certificate does not create a new obligation and is executed upon the express condition and provision that the Surety's liability under said bond and this and all Continuation Certificates issued in connection therewith shall not be cumulative and that the said Surety's aggregate liability under said bond and this and all such Continuation Certificates on account of all defaults committed during the period (regardless of the number of years) said bond had been and shall be in force, shall not in any event exceed the amount of said bond as hereinbefore set forth.

Signed and dated on

March 4th, 2019

(MONTH-DAY-YEAR)

Atlantic Specialty Insurance Company

Attorney-in-Fact Andrew P. Larser

Parker, Smith & Feek, Inc.

2233 112th Ave NE Bellevue, WA 98004

Address of Agent

425-709-3600

Telephone Number of Agent

S-0157/GE 8/08

APPENDIX B

Boring and Well Construction Logs

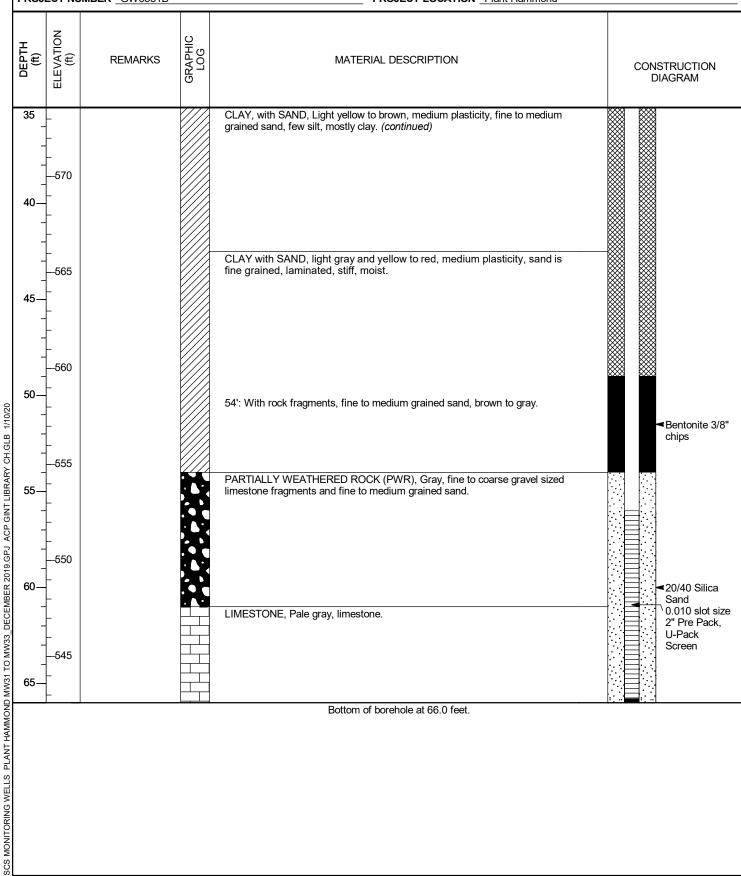
SCS MONITORING WELLS PLANT HAMMOND MW31 TO MW33_DECEMBER 2019.GPJ ACP GINT LIBRARY CH.GLB 1/10/20

Geosyntec Consultants 1255 Roberts Boulevard Kennesaw, GA 20144 **MW-31** PAGE 2 OF 2

CLIENT Southern Company Services

PROJECT NAME Plant Hammond Well Installation

PROJECT NUMBER GW6581B PROJECT LOCATION Plant Hammond



SCS MONITORING WELLS PLANT HAMMOND MW31 TO MW33_DECEMBER 2019.GPJ ACP GINT LIBRARY CH.GLB 1/10/20

100

22

560

3-2-2 (4)

0-1-1(2)

20/40 Silica

Sand

From 21.5': Dark brown, with weathered limestone

fragments, laminated, soft, moist to wet.

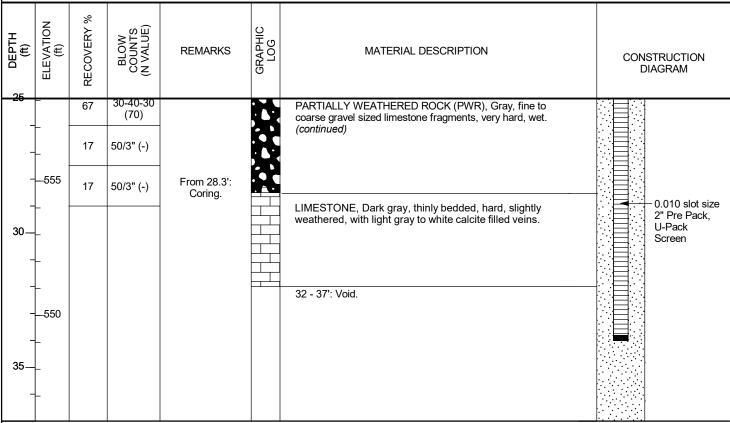
engineers | scientists | innovators

Geosyntec Consultants 1255 Roberts Boulevard Kennesaw, GA 30144 **MW-32** PAGE 2 OF 2

CLIENT Southern Company Services

PROJECT NAME Plant Hammond Well Installation

PROJECT NUMBER GW6581B PROJECT LOCATION Plant Hammond



Bottom of borehole at 37.0 feet.

SCS MONITORING WELLS PLANT HAMMOND MW31 TO MW33. DECEMBER 2019.GPJ ACP GINT LIBRARY CH.GLB 1/8/20

Geosyntec Consultants 1255 Roberts Boulevard Kennesaw, GA 30144 **MW-33** PAGE 2 OF 2

engineers | scientists | innovat

SCS MONITORING WELLS PLANT HAMMOND MW31 TO MW33. DECEMBER 2019.GPJ ACP GINT LIBRARY CH.GLB 1/8/20

CLIENT Southern Company Services

PROJECT NAME Plant Hammond Well Installation

PROJECT NUMBER _GW6581B **PROJECT LOCATION** Plant Hammond ELEVATION (ft msl) BLOW COUNTS (N VALUE) GRAPHIC LOG RECOVERY DEPTH (ft) MATERIAL DESCRIPTION CONSTRUCTION DIAGRAM 20 SILT, Brown, low to medium plasticity, trace fine sand, firm to stiff, with some clay, moist. (continued) 67 5-4-5 (9) 20': Firm to stiff. -570 ■Bentonite 3/8" chips 100 5-4-6 (10) 23': Firm. 100 3-3-3 (6) CLAY, Brown with black mottles, medium to high plasticity, trace silt, trace fine 25 sand, stiff, wet. 100 4-6-7 (13) -565 100 6-7-8 (15) 27.5': Firm. 78 2-4-4 (8) ■20/40 Silica 29': Light brown to light gray. Sand 100 4-6-6 (12) 0.010 slot size 30 2" Pre Pack, U-Pack 30.5': Light brown to light gray, stiff. Screen -560 4-5-6 (11) 89 CLAYEY SAND, Gray to brown, fine grained, poorly graded, medium dense, 100 moist to wet. GRAVELLY CLAY, Light brown to brown, medium to high plasticity, gravel is angular to subrounded, stiff, moist to wet. 89 7-6-4 (10)

Bottom of borehole at 35.0 feet.

APPENDIX C

Well Development Forms

| Geosyntec consultants | | | | | GR | OUNDWATER SAM | APLING LOG SE | HEET | | | | |
|-----------------------------------|------------|------------------------|-------------|--|---|-----------------------|---------------|-------------------------------|----------------------------|---|--|--|
| Client: | | SCS/GA Pa | wer | | | Project No.: | GW6581 | | | Sampling Date: 12/10/19 | | |
| Site: | | Plant Ham | | | | Location: | A7-3 | Sampler's Name: 3. (Nein man | | | | |
| Well ID: | | | | Pump Type/Model: | Man Soon | | _ | Sample Collection Time: (1746 | | | | |
| | | | | | Tubing Material: | Polyethyleu | ٩ | - Sa | imple Purge Rate (mL/min): | | | |
| 1 , , , | | 41.56 | | | Tubing Material: Polysty leve | | | | Sample ID: | | | |
| Well Diameter (in): | | | | - | | | | | | | | |
| Well Volume (gal) = $0.041d^2h$: | | | | - | | Purge Rate (mL/min): | | | | | | |
| Well Volume (L) = gal * 3.785: | | | 3 | - | | tal Purge Volume (L): | | | - | | | |
| | | | (6 - 1) | - | | | | | - | 0.4/00 0-11-4-40 | | |
| d = well diameter (inc | | | umn (Jeet) | | | | | | QA/QC Collected? | | | |
| Well Type: | Flush | Stick Up | | | | Sampling Method: | Pump Dischar | ge Other: | | QA/QC I.D. | | |
| Well Lock: | Yes | No | | | | | | | | | | |
| Well Cap Condition: | | | | | All sample containers requiring chemical preservation properly preserved prior to demob from well? Yes No | | | | | | | |
| Well Tag Present: | Ves) | No | , | | | | | , | | | | |
| Time | pH (SU) | Spec. Cond. (µS/cm) | ORP (mV) | DO (mg/L) | Temp. (°C) | Turbidity (NTUs) | DTW (ft btoc) | Purge Rate (mL/min) | Purged Volume (L) | Notes (Purge method, water clarity, odor, purge rate, issues with pump/well/weather/etc.) | | |
| 1:13 | 7,38 | 365.0 | 158.5 | 7.96 | 14,55 | 10.45 | | | 35 L | 70 mp at 65' | | |
| 150 | 7,31 | 793,5 | 28.0 | 8.86 | 14,43 | 14.24 | | | 66 L | pump at 60' | | |
| 1:55 | 7,71 | 778.9 | 73.8 | 10,00 | 15.38 | 8.56 | | | 706 | Jump at 60' | | |
| 2:74 | 7.24 | 742.7 | 73.7 | 2.88 | 14.38 | 27.60 | | | 93L | Jump at 55' | | |
| V 7 . | 7.24 | 787.4 | 65.3 | 3.20 | 14.65 | 11.2e & 8.44 | | | | 7-mp = 55 | | |
| To: 41 | 7, 5 1 | \$C.7.5 | 51,8 | 2,1 | 15/31 | 4. 8. 77 | - | | | purp et 55 | | |
| | | | | | | | | | / | | | |
| 3. | | | | | | | | | | | | |
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| | | | | | | | | | | | | |
| Stabilizing Criteria | +/- 0.1 SU | +/- 5% | | 0.2 mg/L or 10% for DO > 0.5 mg/L (whichever is greater) | | < 5 NTUs | < 0.3 ft | > 100 mL < 250 mL | >3L | | | |

| Geosyntec consultants | | | | | GR | OUNDWATER SAM | IPLING LOG SH | IEET | | | |
|-----------------------------|-----------------------|-------------------|------------|--|------------------|------------------------|---------------------------------|------------------------|-------------------------|---|--|
| Client: | | GA Pover | | | | Project No.: | 96581 | | | Sampling Date: 17/1/19 | |
| Site: Plant Hammond | | | | | | ass traveles) | | | | | |
| Well ID: NW-32 | | | | | Pump Type/Model: | | , | _ | Sample Collection Time: | | |
| | | | | | | | | - Sa | | | |
| Total Depth (ft): 36,69 | | | | Tubing Material. | Polystnylen | | Gample I dige Nate (IIII/IIII). | | | | |
| Depth to Water (ft): [9,39' | | | Pi | amp Intake Depth (ft): | | | Sample ID: | | | | |
| Well Diameter (in): | Well Diameter (in): | | | | | Start/Stop Purge Time: | | | | Laboratory Analyses: | |
| Well Volume (gal) = 0 | .041d ² h: | | | | | Purge Rate (mL/min): | | | - | | |
| Well Volume (L) = gal | * 3.785: | | | | | tal Purge Volume (L): | | | _ | | |
| d = well diameter (inc | hes); h = len | gth of water coli | umn (feet) | | | Purge Method: | Low-Flow W | ell Volume Other: | | QA/QC Collected? | |
| Well Type: | Flush (| Stick Up | | | | Sampling Method: | Pump Discharg | ge Other: | | QA/QC I.D. | |
| Well Lock: | (Yes) | No | | | | | | | | | |
| Well Cap Condition: | Good | Replace | | | All sample co | ontainers requiring c | hemical preserva | tion properly preser | ved prior to demol | b from well? Yes No | |
| Well Tag Present: | Yes | No | | | | | | | | | |
| Time | pH (SU) | Spec. Cond. | ORP (mV) | DO (mg/L) | Temp. (°C) | Turbidity (NTUs) | DTW (ft btoc) | Purge Rate (mL/min) | Purged Volume (L) | Notes (Purge method, water clarity, odor, purge rate, issues with pump/well/weather/etc.) | |
| (1:5°3 | 6.46 | 918.1 | 110.1 | 7.01 | 18.55 | 39.49 | | | is | 55' , Burger) and start | |
| 12:02 | 6.94 | 877.5 | 105.6 | 8.27 | 17.61 | 21.72 | | | 28 | 35' | |
| 12314 | 6.92 | 874.6 | 104.0 | 2.70 | 17,74 | 13.61 | | | 43 | h | |
| 12:19 | 6.95 | 895.5 | (03.1 | ~2.16 | 17.08 | 10.17 | | | 49 | n | |
| 12:21 | 6.93 | 297.3 | 103.0 | 2.90 | 16.59 | 9.31 | | | 54 | 11 | |
| 12:38 | 6.98 | 904.0 | 97.1 | 1,95 | 16.58 | 51,58 | | | 76 | Surged and 12:25 | |
| 12:44 | 6,99 | 898.6 | 9510 | 2.02 | 17.01 | 21.81 | | | 85 | ((| |
| 12:49 | 6.92 | 911.3 | 96.5 | 2.19 | 17.21 | 14.43 | | | 91 | را دا | |
| 12:53 | 6.91 | 912.9 | 95.5 | 701.97 | 17.48 | 9.75 | | | 99 | u sure) at 1108 | |
| 1:07 | 6.99 | 932.4 | 94.5 | 3.23 | 15.96 | 8.02 | - | | 125 | 11 30727 21 1108 | |
| 1:21 | 7,00 | 876.2 | 92.3 | 3,99 | 18,00 | 14.49 | | | 136 | · · | |
| 1:25 | 7.03 | 911.5 8cco. 7 | 92.4 | 7.88 | 17.59 | 9.44 | | | 147 | | |
| 1:34 | F.08 | 914.1 | 92.1 | 6,19 | 17.71 | 7.84 | | | 153 | | |
| 1:44 | 6,94 | 913.5 | 91.5 | 214 | 14.94 | 5.95 | | | 160 | | |
| 1:49 | 6,90 | 924.8 | 90.4 | 2,77 | 16.86 | 5.25 | | | 147 | | |
| .,, | 6,10 | 701.0 | , | - | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| Stabilizing Criteria | +/- 0.1 SU | +/- 5% | | 0.2 mg/L or 10% for DO > 0.5 mg/L (whichever is greater) | | < 5 NTUs | < 0.3 ft | > 100 mL < 250 mL | >3L | | |

| consultants engineers + scientists : innovations | | | 1 | | | | | | | | | |
|---|-----------------------|---------------------|----------|--------------|------------------|--|--|-----------------------------|--|--|--|--|
| Client: | nt: GA+Poved | | | - | | | | | | Sampling Date: 12/14/19 | | |
| Site: Plant Hammon) | | _ | | Location: | Plant HAP | -7 | | Sampler's Name: B. Weinmann | | | | |
| Well ID: | | MW-33 | | | | Pump Type/Model: | | | | Sample Collection Time: 15:30 Secia | | |
| Total Depth (ft): | | 30.5' | | | | Tubing Material: | Paylethyle | ne | Sa | Sample Collection Time: 15:30 become sample Purge Rate (mL/min): | | |
| Depth to Water (ft): | | 24.73 | | - | Pı | Tubing Material: ump Intake Depth (ft): | / / | | _ | Sample ID: | | |
| Well Diameter (in): | | | - | | | | | | Laboratory Analyses: | | | |
| , | 041 d ² h. | | | - | | Purge Rate (mL/min): | | | | | | |
| Well Volume (gal) = 0 | | | | _ | | | | | _ | | | |
| Well Volume $(L) = gal$ | | | | - | 10 | tal Purge Volume (L): | | | | 0.4.10.0.0.0.11 | | |
| d = well diameter (inches); h = length of water column (feet) | | | | | | | | | | | | |
| Well Type: Flush Stick Up | | | | | Sampling Method: | Pump Discharg | ge Other: | | QA/QC I.D. | | | |
| Well Lock: Yes No | | | | | | | | | A CONTRACTOR OF THE CONTRACTOR | | | |
| Well Cap Condition: | Good | Replace | | | All sample co | ontainers requiring c | hemical preservat | tion properly prese | rved prior to demo | b from well? Yes No | | |
| Well Tag Present: | Yes | No | | | | | | | | | | |
| Time | pH (SU) | Spec. Cond. (µS/cm) | ORP (mV) | DO (mg/L) | Temp. (°C) | Turbidity (NTUs) | DTW (ft btoc) | Purge Rate (mL/min) | Purged Volume (L) | Notes (Purge method, water clarity, odor, pur rate, issues with pump/well/weather/etc.) | | |
| 3:45 | 6.17 | 2967.3 | 77.4 | 7. 9 | 14.87 | 17.58 | | | ~ 241 | P-p at 37' | | |
| 3:51 | 5,753 | 7970 5 | 33.1 | 9,28 | 15.64 | 3,43 | | | ~31L | 7- 7- | | |
| 4:01 | 5.09 | 2954.1 | 90,1 | 9,00 | 14.85 | 32.42 | | | -471 | 32' | | |
| 4:10 | 4.99 | 2943.7 | 94.0 | 3.49 | 15.93 | 9.75 | | | ~616 | 37' Suga | | |
| 4:24 | 4.92 | 3004.7 | 012.7 | 2,42 | 14.86 | 29,11 | 24.19 | | ~ 35L | 37' been spileing 20007 | | |
| 1:38 | 6.14 | 3218.3 | 164.9 | 7.36 | 13.76 | 12.00 | 201,100 | | 34144 | | | |
| 10:07 | 4.61 | 7929.0 | 141.4 | 3.47 | 14.02 | 19.68 | | | COL | 36 | | |
| 10:17 | 4.66 | 2083 7 | 145,7 | 3.05 | 15,19 | 7.79 | | | 701 | 34' | | |
| ,,, | 1.00 | 700 | | | | | | | | | | |
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APPENDIX B

Well Inspection Forms

Geosyntec^D WELL INSPECTION FORM Field Technician: Grant Walter Hannord Site/Location: Inspection Date: 03/11/-2019 **Well Inspection Items** Present (Y/N) Inspection Well ID Comments regarding well condition Time Lock Locking Cap | Bollards | Concrete Pad | Protective Casing Vegetation Top of protective caseing had creak HGWC-DIA 12:58 N Y Y 13:20 Y MW-APIA -Y 13:27 vegestation on pad 13:56 Good condition SAA Lock ruster

Hower Car

| Geosynteco | | | 124 | | LL INSPECT | | | |
|-----------------|---------------------------|--------|----------------|----------|---------------|-------------------|------------|-------------------------------------|
| Field Technicia | n: Noelia | Muskus | Site/Location: | AP. | -Z Pla | cut House m | and | Inspection Date: 3/11/19 |
| | | | | 100 | Well Inspecti | on Items | 21100 | inspection Date. |
| | Present (Y/N) Inspection | | | | | | | |
| Well ID | Time | Lock | Locking Cap | Bollards | Concrete Pad | Protective Casing | Vegetation | Comments regarding well condition |
| MW-12 | 1304 | Y | Y | У | У | У | Y | Wrong iD tag (AP2-MWIZ) Feeler tree |
| | | | -2 | | | | | Lock is hard to open. |
| HENVA-6 | 1321 | Y | У | Y | Y | Y | Y | TO DET. |
| HGWA-5 | 1329 | 4 | Y | Y | Y | Y | Ä | |
| HGWA-4 | 1340 | 4 | Y | 4 | Y | Ÿ | Ň | overgrown vegetation on pad |
| | | | | | | | | J. Coffice To To The |
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| Geosyntec ^D | | Water is | | WI | ELL INSPECT | TION FORM | | |
|--|------------|----------|----------------|-----------|---------------|-------------------|------------------|-----------------------------------|
| Field Technician | n: BU- | 1 | Site/Location: | Ha | Well Inspecti | ion Items | 1 9-2 | Inspection Date: 03/1/13 |
| T. | Inspection | 1000 | | Prese | ent (Y/N) | | | |
| Well ID | Time | Lock | Locking Cap | Bollards | Concrete Pad | Protective Casing | Vegetation | Comments regarding well condition |
| H6Wi-16 | 10:10 | | У | У | Y | Y | LI | |
| 12-13-13-13-13-13-13-13-13-13-13-13-13-13- | 10:15 | Y | 4 | Y | X | > | 4 | |
| 1x66C-1B | | Y | 4 | 1 | \ \ | V | H | |
| UN-250 | 10130 | 7 | 1 | $\sqrt{}$ | Y | V | H | |
| | Ppici | V | V | V | Y | 4 | 4 | |
| 16-210 | 1005 | 4 | \ | V | 1 | Ϋ́ | 4 | |
| dw-22 | W CO | Ý | 4 | 1 | V | 4 | + | |
| lanc-14 | 11:20 | ¥ | Ý | 4 | Y | (Y | 4 | |
| H6-9 | 11:37 | Y | Y | Y | Y | Ý | Y | |
| Nu -03 | 11:65 | 14 | A | H | H | H | H | |
| w-1B | 12:16 | Y | 4 | Y | Y | V | Y | |
| Mn-17 | 12:26 | Y | 1 | Y | Y | Y | +1 | |
| 1210-17 1210-16 1410-04 | 12:34 | 4 | 4 | 4 | Y | 4 | H | |
| 14w-04 | 12.45 | 14 | H | H | H | 1 | hi | |
| | | | | | | | | |
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| Geosyntec | | | | W | ELL INSPECT | TION FORM | | |
|-----------------|--------------------|--------|---------------|----------|---------------|-------------------|---------------|-----------------------------------|
| Field Technicia | in: Greent 1 | walter | Site/Location | AP- | Well Inspecti | on Items | | Inspection Date: 03/11/19 |
| Well ID | Inspection Time | Look | | | ent (Y/N) | | | Comments regarding well condition |
| | Time | Lock | Locking Cap | Bollards | Concrete Pad | Protective Casing | Vegetation | |
| MW-7 | 9:33 | 4 | Y | Y | 4 | Y | N | Good condition |
| MW-8 | 9:45 | Y | 1 | 4 | 4 | Y | N | AA2 |
| MW-19 | 10:13 | 4 | Y | 4 | Y | Y | \mathcal{N} | SAA |
| HGWC-13 | 10124 | Y | 7 | 7 | Y | Y | N | SAA |
| MW-24D | 10:26 | 4 | Y | Y | Y | Y | \sim | SAA, Needs label |
| PMW-01 | 10:35 | N. | N | N | \mathcal{N} | 7 | \mathcal{N} | No lock, No coming |
| HGWC-11 | 10:42 | Y | Y | Y | Y | Y | N | Good condition |
| HGWC-12 | 10:44 | ~ | 4 | Y | Y | Y | N | SAA |
| MW-25D | 10:46 | 4 | Y | Y | Y | Y | N | SAA |
| H6WC-10 | 10:54 | 4 | 4 | Y | Y | Y | N | SAA |
| MW-6 | 10:56 | Y | Y | 4 | Y | Y | N | SAA |
| MW-5 | 1101 | 1 | Y | 4 | 7 | 4 | N | SAA |
| HGWC-9 | 11:08 | Y | Y | Y | Y | 4 | N | SAA |
| MW-26D | 11:10 | Y | Y | 4 | Y | Y | N | SAA |
| MW-20 | 11:18 | Y | Y | 7 | Y | Y | N | SAA |
| MW-27D | 11:26 | 1 | Y | Y | Y | Y | 2 | SAA |
| H6WC-8 | 11:28 | 4 | Y | 7 | 7 | 4 | N | SAA |
| MW-29 | 11:34 | 4 | 1 | Y | 7 | Υ | N | AA2 |
| HGWC-7 | 11:41 | Y | Y | Y | Y | Y | N | SAA |

| Site Name | Hanmond ARI and AP-2 | | | |
|--------------------------|---|-------------------------|----------|---------------|
| Permit Number Well ID | 11/11/4 | | | |
| Date | HGWA-1 | | | |
| - 4.0 | | yes | no | n/a |
| 1 Location/Id | | - | | |
| а | Is the well visible and accessible? | <u>_X</u> | | - |
| b | Is the well properly identified with the correct well ID? | | | · |
| С | Is the well in a high traffic area and does the well require | | \ | |
| -i | protection from traffic? | | | |
| d | Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path) | × | | |
| 0.5 | | | | · |
| 2 Protective | | | | |
| а | Is the protective casing free from apparent damage and able to be secured? | Y | | |
| h | Is the casing free of degradation or deterioration? | \rightarrow | | |
| b C | Does the casing have a functioning weep hole? | - | | |
| d | Is the annular space between casings clear of debris and water, | | - | |
| u | or filled with pea gravel/sand? | \mathbf{X} | | |
| е | Is the well locked and is the lock in good condition? | × | | |
| 3 Surface pa | ad. | | 2 | |
| a <u>Surface pa</u> | Is the well pad in good condition (not cracked or broken)? | X | | |
| b | Is the well pad sloped away from the protective casing? | $\overline{\mathbf{x}}$ | | |
| c | Is the well pad in complete contact with the protective casing? | × | | |
| d | Is the well pad in complete contact with the ground surface and | | | |
| | stable? (not undermined by erosion, animal burrows, and does not | | | |
| | move when stepped on) | <u>×</u> | | |
| е | Is the pad surface clean (not covered with sediment or debris)? | _X_ | - | |
| 4 Internal ca | asina | | | |
| a | Does the cap prevent entry of foreign material into the well? | × | | |
| b | Is the casing free of kinks or bends, or any obstructions from | | | 25 |
| | foreign objects (such as bailers)? | X | | |
| С | Is the well properly vented for equilibration of air pressure? | X | | |
| d | Is the survey point clearly marked on the inner casing? | <u>×</u> | | |
| - e | Is the depth of the well consistent with the original well log? | X | | - |
| f | Is the casing stable? (or does the pvc move easily when touched | • | | |
| | or can it be taken apart by hand due to lack of grout or use of slip | 4 | | |
| | couplings in construction) | | | 3 |
| 5 Sampling: | Groundwater Wells Only: | | | |
| а | Does well recharge adequately when purged? | <u>×</u> | | |
| ь | If dedicated sampling equipment installed, is it in good condition | \/ | | |
| • | and specified in the approved groundwater plan for the facility? Does the well require redevelopment (low flow, turbid)? | | ~ | |
| С | boes the well require redevelopment flow now, turbla): | | | • |
| 6 Based on | your professional judgement, is the well construction / location | | | |
| | appropriate to 1) achieve the objectives of the Groundwater | | | |
| | Monitoring Program and 2) comply with the applicable regulatory | 1 | | |
| | requirements? | | - | |
| 7 Corrective | e actions as needed, by date: | | | |
| - | | | | |
| | 9 V V | | | |

| Site Name | Howard AP-1 and AP-2 | _ | | | |
|--------------------------|--|--------------|-----|------------------|-----|
| Permit Number Well ID | 114114-0 | - | | | |
| Date | HGWA-2 | - | | | |
| Date | 03/12/19 | yes | no | n/a | |
| 1 Location/l | dentification | ,00 | 110 | 1170 | |
| a | Is the well visible and accessible? | X | | | |
| b | Is the well properly identified with the correct well ID? | 文 | | | |
| C | Is the well in a high traffic area and does the well require | | | - | |
| - | protection from traffic? | | X | | |
| d | Is the drainage around the well acceptable? (no standing water, | | | | |
| _ | nor is well located in obvious drainage flow path) | _X_ | | | |
| 2 Protoctive | Casina | | | | |
| 2 Protective | s casing Is the protective casing free from apparent damage and able to be | | | | |
| а | secured? | X | | | |
| b | Is the casing free of degradation or deterioration? | <u>X</u> | | , , , | |
| C | Does the casing have a functioning weep hole? | | - | - | |
| d | Is the annular space between casings clear of debris and water, | | | | |
| u | or filled with bea gravel/sand | * | | X. | GW) |
| е | Is the well locked and is the lock in good condition? | V | | | |
| C | to the well locked and to the lock in good container. | _ | | | |
| 3 Surface p | | | | | |
| а | Is the well pad in good condition (not cracked or broken)? | <u>X_</u> | | | |
| b | Is the well pad sloped away from the protective casing? | K | | | |
| С | Is the well pad in complete contact with the protective casing? | <u></u> | | | |
| d | Is the well pad in complete contact with the ground surface and | | | | |
| | stable? (not undermined by erosion, animal burrows, and does not | | | | |
| | move when stepped on) | <u>×</u> | | | |
| е | Is the pad surface clean (not covered with sediment or debris)? | <u>x</u> | | | |
| 4 Internal ca | asing | | | | |
| а | Does the cap prevent entry of foreign material into the well? | _X_ | | | |
| b | Is the casing free of kinks or bends, or any obstructions from | | | | |
| | foreign objects (such as bailers)? | _×_ | | | |
| С | Is the well properly vented for equilibration of air pressure? | X | | | |
| d | Is the survey point clearly marked on the inner casing? | X | | | |
| е | Is the depth of the well consistent with the original well log? | * | | | |
| f | Is the casing stable? (or does the pvc move easily when touched | | | | |
| | or can it be taken apart by hand due to lack of grout or use of slip | V | | | |
| | couplings in construction) | _ | | | |
| 5 Sampling | : Groundwater Wells Only: | | | | |
| а | Does well recharge adequately when purged? | × | | | |
| b | If dedicated sampling equipment installed, is it in good condition | | - | | |
| _ | and specified in the approved groundwater plan for the facility? | × | | | |
| С | Does the well require redevelopment (low flow, turbid)? | | X | | |
| 6 Dagad | your professional judgement, is the well construction / location | | | | |
| o based on | appropriate to 1) achieve the objectives of the Groundwater | | | | |
| | Monitoring Program and 2) comply with the applicable regulatory | | | | |
| | requirements? | X | | | |
| | Toquilomonia: | | | | |
| 7 Corrective | e actions as needed, by date: | | | | |
| | | | | | |
| ¥ | 2 9 | | | | |

| Site Name | PLANT VALLUONO AP-1 AND A | P-2 | | |
|---------------|---|----------------------|---------------|-------|
| Permit Number | | | | |
| Well ID | your -3 | - / | | |
| Date | 03/12/19 | | | |
| | | yes | no | n/a |
| 1 Location/lo | | 1 | | |
| а | Is the well visible and accessible? | _X_ | | |
| b | Is the well properly identified with the correct well ID? | \times | | |
| С | Is the well in a high traffic area and does the well require | | \ | |
| | protection from traffic? | | | - |
| d | Is the drainage around the well acceptable? (no standing water, | | | |
| | nor is well located in obvious drainage flow path) | \times | | - |
| 2 Protective | Casing | | | |
| a | Is the protective casing free from apparent damage and able to be | | | |
| ~ | secured? | \times | | |
| b | Is the casing free of degradation or deterioration? | <u></u> | | - |
| c | Does the casing have a functioning weep hole? | X | | |
| d | Is the annular space between casings clear of debris and water, | | | |
| _ | or filled with pea gravel/sand? | X | | |
| е | Is the well locked and is the lock in good condition? | X | | |
| | | | | |
| 3 Surface pa | | × | | |
| а | Is the well pad in good condition (not cracked or broken)? | | | |
| b | Is the well pad sloped away from the protective casing? | X | | |
| C | Is the well pad in complete contact with the protective casing? | <u>×</u> | | |
| d | Is the well pad in complete contact with the ground surface and | | | |
| | stable? (not undermined by erosion, animal burrows, and does not | | | |
| _ | move when stepped on) Is the pad surface clean (not covered with sediment or debris)? | $\frac{1}{\sqrt{2}}$ | | - |
| е | is the pad surface clean (not covered with sediment of debits)! | | | |
| 4 Internal ca | sing | | | |
| а | Does the cap prevent entry of foreign material into the well? | X | | |
| b | Is the casing free of kinks or bends, or any obstructions from | | | |
| | foreign objects (such as bailers)? | X | | |
| С | Is the well properly vented for equilibration of air pressure? | $\overline{\lambda}$ | | |
| d | Is the survey point clearly marked on the inner casing? | X | | |
| е | Is the depth of the well consistent with the original well log? | | λ | 26 20 |
| f | Is the casing stable? (or does the pvc move easily when touched | | | |
| | or can it be taken apart by hand due to lack of grout or use of slip | \checkmark | | |
| | couplings in construction) | | | |
| 5 Sampling: | Groundwater Wells Only: | | | |
| a | Does well recharge adequately when purged? | \sim | | |
| b | If dedicated sampling equipment installed, is it in good condition | | | |
| | and specified in the approved groundwater plan for the facility? | \times | | |
| С | Does the well require redevelopment (low flow, turbid)? | | $\overline{}$ | |
| 0.5 | | | | |
| 6 Based on | your professional judgement, is the well construction / location | | | |
| | appropriate to 1) achieve the objectives of the Groundwater | | | |
| | Monitoring Program and 2) comply with the applicable regulatory | 1 | | |
| | requirements? | \triangle | | - |
| 7 Corrective | actions as needed, by date: | | | |
| | · • | | | |
| | ğ g | | | R |

| Site Mar | | Groundwater Monitoring Well Integrity Form | | | |
|----------------------|-------------------|---|---|----|---------------|
| Site Nar Permit N | | AT 2 1 (CO) Transferred | *5 | | |
| Vell ID | | HGWA-4 | | | |
| Date | | 3/11/2019 | ation ation well visible and accessible? well properly identified with the correct well ID? well in a high traffic area and does the well require tion from traffic? well located in obvious drainage flow path) g protective casing free from apparent damage and able to be ed? casing free of degradation or deterioration? the casing have a functioning weep hole? annular space between casings clear of debris and water, d with pea gravel/sand? well pad in good condition (not cracked or broken)? well pad sloped away from the protective casing? well pad in complete contact with the ground surface and ?? (not undermined by erosion, animal burrows, and does not when stepped on) pad surface clean (not covered with sediment or debris)? the cap prevent entry of foreign material into the well? casing free of kinks or bends, or any obstructions from n objects (such as bailers)? well properly vented for equilibration of air pressure? survey point clearly marked on the inner casing? depth of the well consistent with the original well log? casing stable? (or does the pvc move easily when touched nit be taken apart by hand due to lack of grout or use of slip ings in construction) indwater Wells Only: well recharge adequately when purged? icated sampling equipment installed, is it in good condition pecified in the approved groundwater plan for the facility? the well require redevelopment (low flow, turbid)? | | |
| | | | yes | no | n/a |
| | 1 Location/lo | | ~ | | |
| | a | | <u>~</u> | | · |
| | b | · · · | <u>×</u> | - | |
| | С | | | X | |
| | لد | · | | | ·—— |
| | d | | 4 | | |
| | | nor is well located in obvious drainage now path) | | | |
| | 2 Protective | Casing | | | |
| | а | Is the protective casing free from apparent damage and able to be | | | |
| | | secured? | × | | |
| | b | Is the casing free of degradation or deterioration? | X | | |
| | С | | $\frac{\times}{}$ | | |
| | d | · | 120 | | |
| | | or filled with pea gravel/sand? | | | (|
| | е | Is the well locked and is the lock in good condition? | | | · |
| | 3 Surface p | ad | | | |
| | a | | X | | |
| | b | | × | | - |
| | C | Is the well pad in complete contact with the protective casing? | 文 | | |
| | d | | | | |
| | - | stable? (not undermined by erosion, animal burrows, and does not | | | |
| | | move when stepped on) | X | | |
| | е | Is the pad surface clean (not covered with sediment or debris)? | | X | |
| | 1 Internal or | ocina | | · | |
| | 4 Internal ca | | X | | |
| | b b | , , , | | | |
| | D | | X | | |
| | С | | | | |
| | d | Is the survey point clearly marked on the inner casing? | | | ******* |
| | e | Is the depth of the well consistent with the original well log? | | - | - |
| | f | Is the casing stable? (or does the pvc move easily when touched | | | |
| | | | 1 | | |
| | | couplings in construction) | | - | |
| | 5 Sampling | : Groundwater Wells Only: | | | |
| | a <u>Sampling</u> | | X | | |
| | b | | | - | - |
| | D | | X | | |
| | С | Does the well require redevelopment (low flow, turbid)? | | X | |
| | | | | | |
| | 6 Based on | your professional judgement, is the well construction / location | | | |
| | | appropriate to 1) achieve the objectives of the Groundwater | | | |
| | | Monitoring Program and 2) comply with the applicable regulatory | × | | |
| | | requirements? | | - | / |
| | 7 Corrective | e actions as needed, by date: | | | |
| | | o dolollo do lloodou, of date. | | | |

| Site Name | | Harmond AP-2 | | | | |
|-----------|-------------|--|-------------------------|------|-----|------------|
| Permit Nu | ımber | | | | | |
| Well ID | | HGWA'S | - | | | |
| Date | | 03/12/19 | | | -/- | |
| 1 | Location/k | dentification | yes | no | n/a | |
| 1 | | Is the well visible and accessible? | Y | | | |
| | a | Is the well properly identified with the correct well ID? | | | | |
| | b | Is the well in a high traffic area and does the well require | | | | |
| | С | protection from traffic? | | Y | | |
| | al | Is the drainage around the well acceptable? (no standing water, | — | _ | | |
| | d | nor is well located in obvious drainage flow path) | / | | | |
| | | Tion is well located in obvious drainage now patri | | | | |
| 2 | Protective | Casing | | | | |
| 36 | а | Is the protective casing free from apparent damage and able to be | | | | |
| | | secured? | X | | | |
| | b | Is the casing free of degradation or deterioration? | X | | | |
| | С | Does the casing have a functioning weep hole? | X | | | |
| | d | Is the annular space between casings clear of debris and water, | | | | <i>a</i> O |
| | | or filled with pea gravel/sand | X | | X | (GW) |
| | е | Is the well locked and is the lock in good condition? | X | | | |
| _ | | | | | | |
| 3 | Surface pa | | \ / | | | |
| | a | Is the well pad in good condition (not cracked or broken)? | <u>X</u> | | - | |
| | b | Is the well pad sloped away from the protective casing? | <u>X</u> | | | |
| | C | Is the well pad in complete contact with the protective casing? | _X_ | | | |
| | d | Is the well pad in complete contact with the ground surface and | | | | |
| | | stable? (not undermined by erosion, animal burrows, and does not | | | | |
| | | move when stepped on) | <u>×</u> | ~ | | |
| | е | Is the pad surface clean (not covered with sediment or debris)? | | X | | |
| 4 | Internal ca | asing | | | | |
| | a | Does the cap prevent entry of foreign material into the well? | X | | | |
| | b | Is the casing free of kinks or bends, or any obstructions from | | | | |
| | | foreign objects (such as bailers)? | X | | | |
| | С | Is the well properly vented for equilibration of air pressure? | $\overline{\mathbf{x}}$ | **** | | |
| | d | Is the survey point clearly marked on the inner casing? | X | - | | |
| | е | Is the depth of the well consistent with the original well log? | X | | | |
| | f | Is the casing stable? (or does the pvc move easily when touched | | | | |
| | | or can it be taken apart by hand due to lack of grout or use of slip | V . | | | |
| | | couplings in construction) | | | | |
| _ | Camadiaa | Crown divintor Walls Only | | | | |
| 5 | - | Groundwater Wells Only: Does well recharge adequately when purged? | V | | | |
| | a | If dedicated sampling equipment installed, is it in good condition | | | | |
| | b | and specified in the approved groundwater plan for the facility? | X | | | |
| | • | Does the well require redevelopment (low flow, turbid)? | | | | |
| | С | boes the well require redevelopment (low now, turbid): | | _ | - | |
| 6 | Based on | your professional judgement, is the well construction / location | | | | |
| | | appropriate to 1) achieve the objectives of the Groundwater | | | | |
| | | Monitoring Program and 2) comply with the applicable regulatory | | | | |
| | | requirements? | × | | | |
| | | • | | | | |
| 7 | Corrective | e actions as needed, by date: | | | | |
| | | | | | | |
| | | | | | - | |

| Site Name Permit Number Well ID | Groundwater Monitoring Well Integrity Form HOW A - 6 | <u>.</u> | | |
|---|--|---------------|----------------------|-------------|
| Date | 03/12/19 | | | |
| | The tree | yes | no | n/a |
| 1 Location/Id | | 1 | | |
| а | Is the well visible and accessible? | × | | |
| b | Is the well properly identified with the correct well ID? | \propto | | |
| С | Is the well in a high traffic area and does the well require | | \propto | |
| | protection from traffic? | | $\stackrel{\sim}{-}$ | |
| d | Is the drainage around the well acceptable? (no standing water, | N/ | | |
| | nor is well located in obvious drainage flow path) | - X | | |
| 2 Protective | Casing | | | |
| a | Is the protective casing free from apparent damage and able to be | | | |
| u | secured? | X | | |
| b | Is the casing free of degradation or deterioration? | - X | 9 | |
| C | Does the casing have a functioning weep hole? | N | | |
| d | Is the annular space between casings clear of debris and water, | | $\overline{}$ | |
| u | or filled with pea gravel/sand? | X | | |
| е | Is the well locked and is the lock in good condition? | <u> </u> | | |
| C | to the well looked and is the look in good condition: | | | |
| 3 Surface pa | <u>ad</u> | | | |
| а | Is the well pad in good condition (not cracked or broken)? | X_{-} | | |
| b | Is the well pad sloped away from the protective casing? | $_{\times}$ | | |
| С | Is the well pad in complete contact with the protective casing? | X | | |
| d | Is the well pad in complete contact with the ground surface and | | | |
| | stable? (not undermined by erosion, animal burrows, and does not | -/ | | |
| | move when stepped on) | | | |
| е | Is the pad surface clean (not covered with sediment or debris)? | | | |
| 4 Internal ca | eing | _ | | |
| VC-04-12-11-11-11-11-11-11-11-11-11-11-11-11- | Does the cap prevent entry of foreign material into the well? | 1 | | |
| a b | Is the casing free of kinks or bends, or any obstructions from | $\overline{}$ | ·—— | |
| b | foreign objects (such as bailers)? | ~1 | | |
| • | Is the well properly vented for equilibration of air pressure? | <u> </u> | · — | |
| ر ط | Is the survey point clearly marked on the inner casing? | <u>X</u> | | |
| d | Is the depth of the well consistent with the original well log? | | ~ | |
| e f | Is the casing stable? (or does the pvc move easily when touched | | | |
| ' | or can it be taken apart by hand due to lack of grout or use of slip | | | |
| | couplings in construction) | ~/ | | |
| | 35 m 35 m 35 m | | | *** |
| 5 Sampling: | Groundwater Wells Only: | | | |
| а | Does well recharge adequately when purged? | L | | |
| b | If dedicated sampling equipment installed, is it in good condition | | | |
| | and specified in the approved groundwater plan for the facility? | \sim | | |
| С | Does the well require redevelopment (low flow, turbid)? | | λ | |
| 6 Dagad on | vous professional judgement, is the well construction / leastion | | . / | |
| o based on | your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater | | | |
| | Monitoring Program and 2) comply with the applicable regulatory | | | |
| | requirements? | N | | |
| | requirements: | _K | | |
| 7 Corrective | actions as needed, by date: | | | |
| | | | | |
| | (4)) | 12 | | |

| Name int Number IID IID IID IID IID IID IID I |
|--|
| 1 Location/identification a Is the well visible and accessible? b Is the well properly identified with the correct well ID? c Is the well in a high traffic area and does the well require protection from traffic? d Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path) 2 Protective Casing a Is the protective casing free from apparent damage and able to be secured? b Is the casing free of degradation or deterioration? c Does the casing have a functioning weep hole? d Is the annular space between casings clear of debris and water, or filled with pea gravel/sand? e Is the well locked and is the lock in good condition? 3 Surface pad a Is the well pad in good condition (not cracked or broken)? b Is the well pad in complete contact with the protective casing? c Is the well pad in complete contact with the proted surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on) e Is the easing free of kinks or bends, or any obstructions from foreign objects (such as bailers)? c Is the well properly vented for equilibration of air pressure? d Is the survey point clearly marked on the inner casing? e Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)? c Is the easing free of kinks or bends, or any obstructions from foreign objects (such as bailers)? 5 Sampling: Groundwater Vells Only: a Does well recharge adequately when purged? b If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility? c Does the well require redevelopment (low flow, turbid)? |
| 1 Location/identification a Is the well visible and accessible? b Is the well properly identified with the correct well ID? c Is the well in a high traffic area and does the well require protection from traffic? d Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path) 2 Protective Casing a Is the protective casing free from apparent damage and able to be secured? b Is the casing free of degradation or deterioration? c Does the casing have a functioning weep hole? d Is the annular space between casings clear of debris and water, or filled with pea gravel/sand? e Is the well locked and is the lock in good condition? 3 Surface pad a Is the well pad in good condition (not cracked or broken)? b Is the well pad in complete contact with the protective casing? c Is the well pad in complete contact with the protective casing? d Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on) e Is the pad surface clean (not covered with sediment or debris)? 4 Internal casing a Does the cap prevent entry of foreign material into the well? b Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)? c Is the well properly vented for equilibration of air pressure? d Is the survey point clearly marked on the inner casing? Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)? c Is the easing free of kinks or bends, or any obstructions from foreign objects (or does the prote move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction) 5 Sampling: Groundwater Wells Only: a Does well recharge adequately when purged? b If declicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility? c Does the well require redevelopment (low flow, turbid)? |
| 1 Location/Identification a Is the well visible and accessible? b Is the well properly identified with the correct well ID? c Is the well in a high traffic area and does the well require protection from traffic? d Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path) 2 Protective Casing a Is the protective casing free from apparent damage and able to be secured? b Is the casing free of degradation or deterioration? c Does the casing have a functioning weep hole? d Is the annular space between casings clear of debris and water, or filled with pea gravel/sand? e Is the well pad in good condition (not cracked or broken)? b Is the well pad in good condition (not cracked or broken)? b Is the well pad in complete contact with the protective casing? d Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on) e Is the pad surface clean (not covered with sediment or debris)? 4 Internal casing a Does the cap prevent entry of foreign material into the well? b Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)? c Is the well properly vented for equilibration of air pressure? d Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction) 5 Sampling: Groundwater Wells Only: a Does well recharge adequately when purged? b If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility? c Does the well require redevelopment (low flow, turbid)? |
| 1 Location/Identification a Is the well visible and accessible? b Is the well properly identified with the correct well ID? c Is the well in a high traffic area and does the well require protection from traffic? d Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path) 2 Protective Casing a Is the protective casing free from apparent damage and able to be secured? b Is the casing free of degradation or deterioration? c Does the casing have a functioning weep hole? d Is the annular space between casings clear of debris and water, or filled with pea gravel/sand? e Is the well locked and is the lock in good condition? 3 Surface pad a Is the well pad in good condition (not cracked or broken)? b Is the well pad sloped away from the protective casing? c Is the well pad in complete contact with the protective casing? d Is the well pad in complete contact with the protective casing? d Is the pad surface clean (not covered with sediment or debris)? 4 Internal casing a Does the cap prevent entry of foreign material into the well? b Is the easing free of kinks or bends, or any obstructions from foreign objects (such as bailers)? c Is the well properly vented for equilibration of air pressure? d Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction) 5 Sampling: Groundwater Wells Only: a Does well recharge adequately when purged? b If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility? c Does the well require redevelopment (low flow, turbid)? |
| Location/Identification a Is the well visible and accessible? |
| a Is the well properly identified with the correct well ID? c Is the well in a high traffic area and does the well require protection from traffic? d Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path) 2 Protective Casing a Is the protective casing free from apparent damage and able to be secured? b Is the casing free of degradation or deterioration? c Does the casing have a functioning weep hole? d Is the annular space between casings clear of debris and water, or filled with pea gravel/sand? e Is the well pad in good condition (not cracked or broken)? b Is the well pad sloped away from the protective casing? c Is the well pad sloped away from the protective casing? d Is the well pad in complete contact with the protective casing? d Is the well pad in complete contact with the protective casing? d Is the well pad in complete contact with the protective casing? d Is the well pad in complete contact with the protective casing? d Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on) e Is the pad surface clean (not covered with sediment or debris)? 4 Internal casing a Does the cap prevent entry of foreign material into the well? b Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)? c Is the well properly vented for equilibration of air pressure? d Is the survey point clearly marked on the inner casing? f Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction) 5 Sampling: Groundwater Wells Only. a Does well recharge adequately when purged? b If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility? c Does the well require redevelopment (low flow, turbid)? |
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| appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory |
| Monitoring Program and 2) comply with the applicable regulatory |
| Monitoring Program and 2) comply with the applicable regulatory |
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| 7 Corrective actions as needed, by date: |
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Groundwater Monitoring Well Integrity Form warrand Site Name Permit Number Well ID Date 03/14/19 n/a 1 Location/Identification а Is the well visible and accessible? Is the well properly identified with the correct well ID? b Is the well in a high traffic area and does the well require С protection from traffic? Is the drainage around the well acceptable? (no standing water, d nor is well located in obvious drainage flow path) 2 Protective Casing Is the protective casing free from apparent damage and able to be а secured? Is the casing free of degradation or deterioration? b Does the casing have a functioning weep hole? С Is the annular space between casings clear of debris and water, d or filled with foea gravel/sand? Is the well locked and is the lock in good condition? е 3 Surface pad а Is the well pad in good condition (not cracked or broken)? Is the well pad sloped away from the protective casing? b Is the well pad in complete contact with the protective casing? С Is the well pad in complete contact with the ground surface and d stable? (not undermined by erosion, animal burrows, and does not move when stepped on) Is the pad surface clean (not covered with sediment or debris)? е 4 Internal casing Does the cap prevent entry of foreign material into the well? а Is the casing free of kinks or bends, or any obstructions from b foreign objects (such as bailers)? Is the well properly vented for equilibration of air pressure? С Is the survey point clearly marked on the inner casing? d Is the depth of the well consistent with the original well log? е Is the casing stable? (or does the pvc move easily when touched f or can it be taken apart by hand due to lack of grout or use of slip couplings in construction) 5 Sampling: Groundwater Wells Only: а Does well recharge adequately when purged? If dedicated sampling equipment installed, is it in good condition b and specified in the approved groundwater plan for the facility? Does the well require redevelopment (low flow, turbid)? С 6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory

Signature and Seal of PE/PG responsible for inspection

requirements?

7 Corrective actions as needed, by date:

| | Groundwater Monitoring Well Integrity Form | | | |
|----------------------------|--|---------------------------|---------------|---------------|
| Site Name Permit Number | PALT WILLIAM AP-2 | = | | |
| Well ID | 101-0-1/ | - | | |
| Date | Har C 716 | . . | | |
| Date | W3/4/15 | -0 | | |
| 41 | | yes | no | n/a |
| 1 Location/I | dentification | La | | |
| а | Is the well visible and accessible? | | | |
| b | Is the well properly identified with the correct well ID? | X. | | |
| С | Is the well in a high traffic area and does the well require | D. | | |
| | protection from traffic? | * | X | |
| d | Is the drainage around the well acceptable? (no standing water, | | ~ | |
| | nor is well located in obvious drainage flow path) | | 1. | |
| | | | | · |
| 2 Protective | Casing | | | |
| а | Is the protective casing free from apparent damage and able to be | 0 / | | |
| | secured? | X | | |
| b | Is the casing free of degradation or deterioration? | $\overline{}$ | $\overline{}$ | |
| С | Does the casing have a functioning weep hole? | × | - | · |
| d | Is the annular space between casings clear of debris and water, | $\overline{}$ | | |
| • | or filled with pea gravel/sand? | X | | |
| е | Is the well locked and is the lock in good condition? | <u> </u> | | |
| C | is the well looked and is the lock in good condition: | Δ | | |
| 3 Surface p | ad | | | |
| a | Is the well pad in good condition (not cracked or broken)? | X | | |
| b | Is the well pad sloped away from the protective casing? | × | | |
| c | Is the well pad in complete contact with the protective casing? | $\frac{\hat{x}}{\hat{x}}$ | | ? |
| ď | Is the well pad in complete contact with the ground surface and | $\stackrel{\sim}{-}$ | - | (|
| u | stable? (not undermined by erosion, animal burrows, and does not | | | |
| | move when stepped on) | \times | | |
| • | Is the pad surface clean (not covered with sediment or debris)? | -7 | | |
| е | is the pad surface clean (not covered with sediment of debits)? | <u>x</u> | | |
| 4 Internal ca | asing | ζ. | | |
| a | Does the cap prevent entry of foreign material into the well? | X | | |
| b | Is the casing free of kinks or bends, or any obstructions from | | | |
| ~ | foreign objects (such as bailers)? | 1 | | |
| С | Is the well properly vented for equilibration of air pressure? | ~ | | - |
| d | Is the survey point clearly marked on the inner casing? | \ | - | |
| e | Is the depth of the well consistent with the original well log? | $\frac{1}{X}$ | | - |
| f | Is the casing stable? (or does the pvc move easily when touched | | | |
| ' | or can it be taken apart by hand due to lack of grout or use of slip | V | | |
| | couplings in construction) | X | | |
| | oodpiiiigo iii ooriottaattorii) | | | |
| 5 Sampling: | Groundwater Wells Only: | | | |
| а | Does well recharge adequately when purged? | X | | |
| b | If dedicated sampling equipment installed, is it in good condition | | | |
| 3 | and specified in the approved groundwater plan for the facility? | X | | |
| С | Does the well require redevelopment (low flow, turbid)? | $\overline{\checkmark}$ | | |
| | (, | _ | | |
| 6 Based on | your professional judgement, is the well construction / location | | | |
| | appropriate to 1) achieve the objectives of the Groundwater | | | |
| | Monitoring Program and 2) comply with the applicable regulatory | | | |
| | requirements? | X | | |
| | · | | | · /· |
| 7 Corrective | actions as needed, by date: | | | |
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| | 5 8 9 | | | - 10 |
| | | | | |
| Ciamatura == 1 C: 1 | f DE/DO seems with a few transacti | | | |

Groundwater Monitoring Well Integrity Form Site Name Permit Number Well ID Date n/a 1 Location/Identification Is the well visible and accessible? а b Is the well properly identified with the correct well ID? Is the well in a high traffic area and does the well require С protection from traffic? Is the drainage around the well acceptable? (no standing water, d nor is well located in obvious drainage flow path) 2 Protective Casing Is the protective casing free from apparent damage and able to be а secured? Is the casing free of degradation or deterioration? b Does the casing have a functioning weep hole? С Is the annular space between casings clear of debris and water, d or filled with pea gravel/sand? Is the well locked and is the lock in good condition? е 3 Surface pad Is the well pad in good condition (not cracked or broken)? а Is the well pad sloped away from the protective casing? b Is the well pad in complete contact with the protective casing? С Is the well pad in complete contact with the ground surface and d stable? (not undermined by erosion, animal burrows, and does not move when stepped on) Is the pad surface clean (not covered with sediment or debris)? е 4 Internal casing Does the cap prevent entry of foreign material into the well? а Is the casing free of kinks or bends, or any obstructions from b foreign objects (such as bailers)? Is the well properly vented for equilibration of air pressure? С Is the survey point clearly marked on the inner casing? d Is the depth of the well consistent with the original well log? е Is the casing stable? (or does the pvc move easily when touched f or can it be taken apart by hand due to lack of grout or use of slip couplings in construction) 5 Sampling: Groundwater Wells Only: Does well recharge adequately when purged? а If dedicated sampling equipment installed, is it in good condition b and specified in the approved groundwater plan for the facility? Does the well require redevelopment (low flow, turbid)? С 6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements? 7 Corrective actions as needed, by date:

Groundwater Monitoring Well Integrity Form Site Name monand Permit Number Well ID Date yes n/a 1 Location/Identification Is the well visible and accessible? а Is the well properly identified with the correct well ID? b Is the well in a high traffic area and does the well require С protection from traffic? Is the drainage around the well acceptable? (no standing water, d nor is well located in obvious drainage flow path) 2 Protective Casing Is the protective casing free from apparent damage and able to be а secured? b Is the casing free of degradation or deterioration? Does the casing have a functioning weep hole? С Is the annular space between casings clear of debris and water, d or filled with pea gravel/sand? Is the well locked and is the lock in good condition? е 3 Surface pad Is the well pad in good condition (not cracked or broken)? а b Is the well pad sloped away from the protective casing? Is the well pad in complete contact with the protective casing? С Is the well pad in complete contact with the ground surface and d stable? (not undermined by erosion, animal burrows, and does not move when stepped on) Is the pad surface clean (not covered with sediment or debris)? е 4 Internal casing Does the cap prevent entry of foreign material into the well? а b Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)? Is the well properly vented for equilibration of air pressure? С d Is the survey point clearly marked on the inner casing? Is the depth of the well consistent with the original well log? е Is the casing stable? (or does the pvc move easily when touched f or can it be taken apart by hand due to lack of grout or use of slip couplings in construction) 5 Sampling: Groundwater Wells Only: а Does well recharge adequately when purged? If dedicated sampling equipment installed, is it in good condition b and specified in the approved groundwater plan for the facility? Does the well require redevelopment (low flow, turbid)? С 6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements? 7 Corrective actions as needed, by date:

Groundwater Monitoring Well Integrity Form Hammond Site Name Permit Number Well ID Date ves n/a 1 Location/Identification Is the well visible and accessible? а b Is the well properly identified with the correct well ID? Is the well in a high traffic area and does the well require С protection from traffic? d Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path) 2 Protective Casing Is the protective casing free from apparent damage and able to be а secured? Is the casing free of degradation or deterioration? b С Does the casing have a functioning weep hole? Is the annular space between casings clear of debris and water, d or filled with pea gravel/sand? е Is the well locked and is the lock in good condition? 3 Surface pad а Is the well pad in good condition (not cracked or broken)? b Is the well pad sloped away from the protective casing? Is the well pad in complete contact with the protective casing? С Is the well pad in complete contact with the ground surface and d stable? (not undermined by erosion, animal burrows, and does not move when stepped on) Is the pad surface clean (not covered with sediment or debris)? е 4 Internal casing а Does the cap prevent entry of foreign material into the well? Is the casing free of kinks or bends, or any obstructions from b foreign objects (such as bailers)? С Is the well properly vented for equilibration of air pressure? Is the survey point clearly marked on the inner casing? d Is the depth of the well consistent with the original well log? е Is the casing stable? (or does the pvc move easily when touched f or can it be taken apart by hand due to lack of grout or use of slip couplings in construction) 5 Sampling: Groundwater Wells Only: Does well recharge adequately when purged? а If dedicated sampling equipment installed, is it in good condition b and specified in the approved groundwater plan for the facility? Does the well require redevelopment (low flow, turbid)? С 6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?

Signature and Seal of PE/PG responsible for inspection

7 Corrective actions as needed, by date:

| | Groundwater Monitoring Well Integrity Form | | | |
|-------------|---|--------------|----|-------------------------------|
| me | AP-2 Hammond | _ | | |
| Number | | 7. 27 | | |
| | Mw-9 | | | |
| | 4/1/19 | - | | |
| 1 Location | n/Identification | yes | no | n/a |
| a | Is the well visible and accessible? | ~ | | |
| b | Is the well properly identified with the correct well ID? | - | | |
| C | Is the well in a high traffic area and does the well require | | | |
| | protection from traffic? | | × | |
| d | Is the drainage around the well acceptable? (no standing water, | | | |
| | nor is well located in obvious drainage flow path) | 7 | | |
| 2 Protectiv | ve Casina | | | |
| a | Is the protective casing free from apparent damage and able to be | | | |
| u. | secured? | X | | |
| b | Is the casing free of degradation or deterioration? | × | | |
| C | Does the casing have a functioning weep hole? | X | | |
| d | Is the annular space between casings clear of debris and water, | | | |
| | or filled with pea gravel/sand? | X | | |
| е | Is the well locked and is the lock in good condition? | X | | |
| 3 Surface | pad | | | |
| a | Is the well pad in good condition (not cracked or broken)? | × | | |
| b | Is the well pad sloped away from the protective casing? | | | |
| С | Is the well pad in complete contact with the protective casing? | × | | |
| d | Is the well pad in complete contact with the ground surface and | | | |
| | stable? (not undermined by erosion, animal burrows, and does not | | | |
| | move when stepped on) | <u>×</u> _ | | |
| е | Is the pad surface clean (not covered with sediment or debris)? | X | | |
| 4 Internal | casing | | | |
| а | Does the cap prevent entry of foreign material into the well? | X | | |
| b | Is the casing free of kinks or bends, or any obstructions from | ~ | | |
| | foreign objects (such as bailers)? | <u> </u> | | |
| С | Is the well properly vented for equilibration of air pressure? | | | |
| d | Is the survey point clearly marked on the inner casing? | * | - | |
| e | Is the depth of the well consistent with the original well log? Is the casing stable? (or does the pvc move easily when touched | _×_ | | |
| f | or can it be taken apart by hand due to lack of grout or use of slip | | | |
| | couplings in construction) | X | | |
| 5 Causal's | Construction Wells College | | - | 17 |
| | g: Groundwater Wells Only: Does well recharge adequately when purged? | | | \ / |
| a b | If dedicated sampling equipment installed, is it in good condition | | - | |
| D | and specified in the approved groundwater plan for the facility? | | | X |
| С | Does the well require redevelopment (low flow, turbid)? | | | \frac{\frac{1}{3}} |
| C D : | , | | | |
| o Based o | n your professional judgement, is the well construction / location | | | |
| | appropriate to 1) achieve the objectives of the Groundwater | | | |
| | Monitoring Program and 2) comply with the applicable regulatory requirements? | V | | |
| | roquiremente: | | | ·—— |
| 7 Correctiv | ve actions as needed, by date: | | | |
| | | | | |
| | 30 | - 16 | | |

| Name | Plant Hammond | | | |
|---------------|--|---------|----|---------------|
| mit Number | | - | | |
| ll ID | m V - 12 | - | | |
| e | 4-1-2019 | - | | |
| | | yes | no | n/a |
| 1 Location/ | dentification | , | | 1170 |
| а | Is the well visible and accessible? | V | | |
| b | Is the well properly identified with the correct well ID? | | | |
| С | Is the well in a high traffic area and does the well require | | | |
| | protection from traffic? | | | |
| d | Is the drainage around the well acceptable? (no standing water, | | | |
| | nor is well located in obvious drainage flow path) | | | |
| 2 Protective | Casina | | | |
| a | Is the protective casing free from apparent damage and able to be | | | |
| a | secured? | | | |
| b | Is the casing free of degradation or deterioration? | <u></u> | | |
| C | Does the casing have a functioning weep hole? | _ | | |
| d | Is the annular space between casings clear of debris and water, | | | |
| ď | or filled with pea gravel/sand? | 1 | | |
| е | Is the well locked and is the lock in good condition? | | | |
| · · | To the well booked and is the lock in good condition? | | | |
| 3 Surface p | | | | |
| а | Is the well pad in good condition (not cracked or broken)? | / | | |
| b | Is the well pad sloped away from the protective casing? | | | - |
| С | Is the well pad in complete contact with the protective casing? | | |) |
| d | Is the well pad in complete contact with the ground surface and | | | |
| | stable? (not undermined by erosion, animal burrows, and does not | t | | |
| | move when stepped on) | 1 | | |
| е | Is the pad surface clean (not covered with sediment or debris)? | | | |
| 4 Internal ca | esina | | | |
| a | Does the cap prevent entry of foreign material into the well? | 1 | | |
| b | Is the casing free of kinks or bends, or any obstructions from | | | 3 |
| | foreign objects (such as bailers)? | 1 | | |
| С | Is the well properly vented for equilibration of air pressure? | | | |
| d | Is the survey point clearly marked on the inner casing? | | | |
| e | Is the depth of the well consistent with the original well log? | | | |
| f | Is the casing stable? (or does the pvc move easily when touched | | | |
| • | or can it be taken apart by hand due to lack of grout or use of slip | - | | |
| | couplings in construction) | | | |
| 5 Commission | One was desirated to the contract of the contr | | | |
| | Groundwater Wells Only: | | | / |
| a | Does well recharge adequately when purged? | | | |
| b | If dedicated sampling equipment installed, is it in good condition | | | |
| | and specified in the approved groundwater plan for the facility? Does the well require redevelopment (low flow, turbid)? | - | | _/ |
| С | boes the well require redevelopment (low flow, turbid)? | | | |
| 6 Based on | your professional judgement, is the well construction / location | | | |
| | appropriate to 1) achieve the objectives of the Groundwater | | | |
| | | | | |
| | Monitoring Program and 2) comply with the applicable regulatory | 1 | | |
| | Monitoring Program and 2) comply with the applicable regulatory requirements? | 1 | | |

Groundwater Monitoring Well Integrity Form Plant Hammond Site Name Permit Number Well ID Date ves n/a 1 Location/Identification Is the well visible and accessible? а Is the well properly identified with the correct well ID? b Is the well in a high traffic area and does the well require С protection from traffic? Is the drainage around the well acceptable? (no standing water, d nor is well located in obvious drainage flow path) 2 Protective Casing Is the protective casing free from apparent damage and able to be secured? b Is the casing free of degradation or deterioration? Does the casing have a functioning weep hole? С Is the annular space between casings clear of debris and water. d or filled with pea gravel/sand? Is the well locked and is the lock in good condition? е 3 Surface pad а Is the well pad in good condition (not cracked or broken)? Is the well pad sloped away from the protective casing? b Is the well pad in complete contact with the protective casing? С Is the well pad in complete contact with the ground surface and d stable? (not undermined by erosion, animal burrows, and does not move when stepped on) Is the pad surface clean (not covered with sediment or debris)? е 4 Internal casing Does the cap prevent entry of foreign material into the well? а Is the casing free of kinks or bends, or any obstructions from b foreign objects (such as bailers)? Is the well properly vented for equilibration of air pressure? С Is the survey point clearly marked on the inner casing? d Is the depth of the well consistent with the original well log? е Is the casing stable? (or does the pvc move easily when touched f or can it be taken apart by hand due to lack of grout or use of slip couplings in construction) 5 Sampling: Groundwater Wells Only: а Does well recharge adequately when purged? b If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility? Does the well require redevelopment (low flow, turbid)? С 6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater

Monitoring Program and 2) comply with the applicable regulatory

Signature and Seal of PE/PG responsible for inspection

requirements?

| yes no n/a correct well ID? pes the well require stable? (no standing water, at flow path) arent damage and able to be sterioration? geep hole? sclear of debris and water, stable ground water, at the protective casing? the the protective casing? the the ground surface and animal burrows, and does not with sediment or debris)? material into the well? or any obstructions from attion of air pressure? the inner casing? the original well log? comove easily when touched to lack of grout or use of slip purged? alled, is it in good condition water plan for the facility? (low flow, turbid)? ell construction / location es of the Groundwater | Site Name | AP-2 Plant Hammond | | | |
|--|---------------|--|--------------|----|--------------|
| correct well ID? pes the well require stable? (no standing water, a flow path) arent damage and able to be seterioration? eep hole? sclear of debris and water, se clear of debris and w | Permit Number | | | | |
| correct well ID? pes the well require patable? (no standing water, a flow path) arent damage and able to be atterioration? peep hole? a clear of debris and water, a flow condition? cracked or broken)? protective casing? the the protective casing? the the ground surface and animal burrows, and does not with sediment or debris)? material into the well? or any obstructions from ation of air pressure? the inner casing? or the original well log? or move easily when touched to lack of grout or use of slip purged? alled, is it in good condition water plan for the facility? (low flow, turbid)? ell construction / location as of the Groundwater and a flow patable in the groundwater in the grou | Vell ID | MW-17 | - | | |
| correct well ID? pes the well require stable? (no standing water, e flow path) arent damage and able to be esterioration? eep hole? so clear of debris and water, cod condition? cracked or broken)? protective casing? th the ground surface and animal burrows, and does not with sediment or debris)? material into the well? or any obstructions from ation of air pressure? the inner casing? In the original well log? or move easily when touched to lack of grout or use of slip purged? alled, is it in good condition water plan for the facility? (low flow, turbid)? ell construction / location es of the Groundwater | ate | 4/1/19 | - | | |
| pes the well require petable? (no standing water, et flow path) arent damage and able to be eterioration? Reep hole? So clear of debris and water, et clear of debris and water e | 4.1 | | yes | no | n/a |
| pes the well require petable? (no standing water, et flow path) arent damage and able to be eterioration? peep hole? sclear of debris and water, et clear of debris and water et clear of debris and water. V | | Identification | | | |
| pes the well require petable? (no standing water, a flow path) arent damage and able to be seterioration? peep hole? so clear of debris and water, a clear of debris and water and animal burrows, and does not a clear of debris and debris and animal burrows, and does not a clear of debris and debris and debris and animal burrows, and does not a clear of debris and debri | a | Is the well visible and accessible? | <u>X</u> | | - |
| arent damage and able to be electrioration? eep hole? es clear of debris and water, ood condition? cracked or broken)? cracked or broken)? the protective casing? the the ground surface and enimal burrows, and does not with sediment or debris)? material into the well? with einer casing? the inner c | b | Is the well properly identified with the correct well ID? | <u> </u> | | |
| arent damage and able to be eterioration? eep hole? so clear of debris and water, bod condition? cracked or broken)? protective casing? th the protective casing? th the ground surface and animal burrows, and does not with sediment or debris)? material into the well? or any obstructions from ation of air pressure? the inner casing? or the original well log? or move easily when touched to lack of grout or use of slip purged? alled, is it in good condition water plan for the facility? (low flow, turbid)? ell construction / location es of the Groundwater | С | Is the well in a high traffic area and does the well require protection from traffic? | | × | |
| eterioration? eep hole? s clear of debris and water, cod condition? cracked or broken)? protective casing? th the protective casing? th the ground surface and animal burrows, and does not with sediment or debris)? material into the well? or any obstructions from ation of air pressure? the inner casing? or the original well log? or move easily when touched to lack of grout or use of slip purged? alled, is it in good condition water plan for the facility? (low flow, turbid)? ell construction / location es of the Groundwater | d | Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path) | × | | |
| eterioration? eep hole? s clear of debris and water, cod condition? cracked or broken)? protective casing? th the protective casing? th the ground surface and animal burrows, and does not with sediment or debris)? material into the well? or any obstructions from ation of air pressure? the inner casing? or the original well log? or move easily when touched to lack of grout or use of slip purged? alled, is it in good condition water plan for the facility? (low flow, turbid)? ell construction / location es of the Groundwater | 2 Protectiv | e Casing | | | |
| reep hole? soclear of debris and water, bood condition? cracked or broken)? protective casing? the the protective casing? the the ground surface and animal burrows, and does not with sediment or debris)? material into the well? or any obstructions from ration of air pressure? the inner casing? or the original well log? or move easily when touched to lack of grout or use of slip purged? alled, is it in good condition water plan for the facility? (low flow, turbid)? ell construction / location es of the Groundwater | a | Is the protective casing free from apparent damage and able to be secured? | · 🗸 | | |
| reep hole? soclear of debris and water, bood condition? cracked or broken)? protective casing? the the protective casing? the the ground surface and animal burrows, and does not with sediment or debris)? material into the well? or any obstructions from ration of air pressure? the inner casing? or the original well log? or move easily when touched to lack of grout or use of slip purged? alled, is it in good condition water plan for the facility? (low flow, turbid)? ell construction / location es of the Groundwater | h | Is the casing free of degradation or deterioration? | | | |
| cracked or broken)? protective casing? th the protective casing? th the ground surface and animal burrows, and does not with sediment or debris)? material into the well? or any obstructions from ation of air pressure? the inner casing? the original well log? or move easily when touched to lack of grout or use of slip purged? alled, is it in good condition water plan for the facility? (low flow, turbid)? ell construction / location es of the Groundwater | b | Does the casing have a functioning weep hole? | | | |
| cracked or broken)? protective casing? th the protective casing? th the ground surface and animal burrows, and does not with sediment or debris)? material into the well? or any obstructions from ation of air pressure? the inner casing? the original well log? or move easily when touched to lack of grout or use of slip purged? alled, is it in good condition water plan for the facility? (low flow, turbid)? ell construction / location es of the Groundwater | c d | Is the annular space between casings clear of debris and water, | <u>×</u> | | |
| cracked or broken)? protective casing? th the protective casing? th the ground surface and animal burrows, and does not with sediment or debris)? material into the well? or any obstructions from ation of air pressure? the inner casing? or the original well log? or move easily when touched to lack of grout or use of slip purged? alled, is it in good condition water plan for the facility? (low flow, turbid)? pell construction / location es of the Groundwater | u | or filled with pea gravel/sand? | ¥ | | |
| protective casing? th the protective casing? th the ground surface and animal burrows, and does not with sediment or debris)? material into the well? or any obstructions from ation of air pressure? the inner casing? the original well log? or move easily when touched to lack of grout or use of slip purged? alled, is it in good condition water plan for the facility? (low flow, turbid)? ell construction / location es of the Groundwater | е | Is the well locked and is the lock in good condition? | X | | |
| protective casing? th the protective casing? th the ground surface and animal burrows, and does not with sediment or debris)? material into the well? or any obstructions from ation of air pressure? the inner casing? the original well log? or move easily when touched to lack of grout or use of slip purged? alled, is it in good condition water plan for the facility? (low flow, turbid)? ell construction / location es of the Groundwater | 3 Surface | pad | | | |
| th the protective casing? th the ground surface and animal burrows, and does not with sediment or debris)? material into the well? or any obstructions from ation of air pressure? the inner casing? or the original well log? or move easily when touched to lack of grout or use of slip purged? alled, is it in good condition water plan for the facility? (low flow, turbid)? | a | Is the well pad in good condition (not cracked or broken)? | × | | |
| th the ground surface and animal burrows, and does not with sediment or debris)? material into the well? material into the well? or any obstructions from ation of air pressure? the inner casing? the original well log? comove easily when touched to lack of grout or use of slip purged? alled, is it in good condition water plan for the facility? (low flow, turbid)? ell construction / location es of the Groundwater | b | Is the well pad sloped away from the protective casing? | 文 | | - |
| with sediment or debris)? material into the well? material into the w | С | Is the well pad in complete contact with the protective casing? | × | | - |
| with sediment or debris)? material into the well? or any obstructions from ation of air pressure? the inner casing? or the original well log? or move easily when touched to lack of grout or use of slip purged? alled, is it in good condition water plan for the facility? (low flow, turbid)? | d | Is the well pad in complete contact with the ground surface and | | | |
| material into the well? or any obstructions from ation of air pressure? the inner casing? the original well log? or move easily when touched to lack of grout or use of slip purged? alled, is it in good condition water plan for the facility? (low flow, turbid)? | | stable? (not undermined by erosion, animal burrows, and does no move when stepped on) | t * | | |
| purged? alled, is it in good condition water plan for the facility? (low flow, turbid)? | е | Is the pad surface clean (not covered with sediment or debris)? | X | | |
| purged? alled, is it in good condition water plan for the facility? (low flow, turbid)? | 4 Internal of | asing | | | |
| ation of air pressure? the inner casing? the original well log? c move easily when touched to lack of grout or use of slip purged? alled, is it in good condition water plan for the facility? (low flow, turbid)? | а | Does the cap prevent entry of foreign material into the well? | * | | |
| the inner casing? In the original well log? In the original well log? In move easily when touched It is location It is it in good condition It is it in good | b | Is the casing free of kinks or bends, or any obstructions from | | | * |
| the inner casing? In the original well log? In the original well log? In move easily when touched It is location It is it in good condition It is it in good | | foreign objects (such as bailers)? | X | | |
| purged? alled, is it in good condition water plan for the facility? (low flow, turbid)? | С | Is the well properly vented for equilibration of air pressure? | X | | |
| purged? alled, is it in good condition water plan for the facility? (low flow, turbid)? | d | Is the survey point clearly marked on the inner casing? | V | | |
| purged? alled, is it in good condition water plan for the facility? (low flow, turbid)? | е | Is the depth of the well consistent with the original well log? | | | |
| purged? alled, is it in good condition water plan for the facility? (low flow, turbid)? | f | Is the casing stable? (or does the pvc move easily when touched | | | |
| alled, is it in good condition water plan for the facility? (low flow, turbid)? | | or can it be taken apart by hand due to lack of grout or use of slip | | | |
| alled, is it in good condition water plan for the facility? (low flow, turbid)? | | couplings in construction) | <u> </u> | | |
| alled, is it in good condition water plan for the facility? (low flow, turbid)? | 5 Sampling | : Groundwater Wells Only: | | | |
| water plan for the facility? (low flow, turbid)? Ell construction / location es of the Groundwater | а | Does well recharge adequately when purged? | | | V |
| (low flow, turbid)? Ell construction / location es of the Groundwater | b | If dedicated sampling equipment installed, is it in good condition | | | \ |
| ell construction / location es of the Groundwater | | and specified in the approved groundwater plan for the facility? | | | |
| es of the Groundwater | С | Does the well require redevelopment (low flow, turbid)? | | | X |
| | 6 Based or | your professional judgement, is the well construction / location | | | |
| ith the applicable regulatory | | appropriate to 1) achieve the objectives of the Groundwater | | | |
| _ | | Monitoring Program and 2) comply with the applicable regulatory | , | | |
| | | requirements? | / | | |
| | ~ 7 Correctiv | | <u>*</u> | | _ |

| Site Name Permit Number Well ID Date 1 Location/I a b c | Is the well visible and accessible? Is the well properly identified with the correct well ID? Is the well in a high traffic area and does the well require protection from traffic? Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path) | yes X X | noX | n/a |
|--|---|-----------------------|----------|-----|
| 2 <u>Protective</u> a b c d | Casing Is the protective casing free from apparent damage and able to be secured? Is the casing free of degradation or deterioration? Does the casing have a functioning weep hole? Is the annular space between casings clear of debris and water, or filled with pea gravel/sand? Is the well locked and is the lock in good condition? | × × × × | <u> </u> | |
| 3 <u>Surface p</u> a b c d | Is the well pad in good condition (not cracked or broken)? Is the well pad sloped away from the protective casing? Is the well pad in complete contact with the protective casing? Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on) Is the pad surface clean (not covered with sediment or debris)? | X X X X | | |
| 4 <u>Internal ca</u> a b c d e f | Does the cap prevent entry of foreign material into the well? Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)? Is the well properly vented for equilibration of air pressure? Is the survey point clearly marked on the inner casing? Is the depth of the well consistent with the original well log? Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction) | X X X X X | | |
| a b c | Groundwater Wells Only: Does well recharge adequately when purged? If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility? Does the well require redevelopment (low flow, turbid)? your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory | <u>×</u> — | | 人とよ |

7 Corrective actions as needed, by date:

| Site Name | AD-2 Plant Hammond | | | |
|-------------------|--|---------------|-------------------|-------------|
| Permit Number | | | | |
| Well ID | MW-ZID | | | |
| Date | 4/1/19 | | | |
| | | yes | no | n/a |
| 1 Location/le | | | | |
| а | Is the well visible and accessible? | <u></u> | | |
| b | Is the well properly identified with the correct well ID? | <u>×</u> | | |
| С | Is the well in a high traffic area and does the well require | A. M. | | |
| | protection from traffic? | | $\frac{\times}{}$ | - |
| d | Is the drainage around the well acceptable? (no standing water, | \/ | | |
| | nor is well located in obvious drainage flow path) | <u> </u> | | |
| 2 Protective | Casing | | | |
| a | Is the protective casing free from apparent damage and able to be | | | |
| ŭ | secured? | × | | |
| b | Is the casing free of degradation or deterioration? | X | | - |
| c | Does the casing have a functioning weep hole? | _ | | |
| d | Is the annular space between casings clear of debris and water, | | | |
| ŭ | or filled with pea gravel/sand? | × | | |
| е | Is the well locked and is the lock in good condition? | $\overline{}$ | | |
| | | | | - |
| 3 Surface page | | | | |
| а | Is the well pad in good condition (not cracked or broken)? | <u>×</u> | | |
| b | Is the well pad sloped away from the protective casing? | × | | |
| С | Is the well pad in complete contact with the protective casing? | <u>×</u> | | |
| d | Is the well pad in complete contact with the ground surface and | | | |
| | stable? (not undermined by erosion, animal burrows, and does not | | | |
| | move when stepped on) | <u>×</u> | | |
| е | Is the pad surface clean (not covered with sediment or debris)? | <u>×</u> | | - |
| 4 Internal ca | esina | | | |
| a | Does the cap prevent entry of foreign material into the well? | × | | |
| b | Is the casing free of kinks or bends, or any obstructions from | / | - 1 | |
| D | foreign objects (such as bailers)? | X | | |
| С | Is the well properly vented for equilibration of air pressure? | | - | |
| d | Is the survey point clearly marked on the inner casing? | | | |
| e | Is the depth of the well consistent with the original well log? | | | • |
| f | Is the casing stable? (or does the pvc move easily when touched | | | |
| 1.0 | or can it be taken apart by hand due to lack of grout or use of slip | | | |
| | couplings in construction) | × | | |
| E October | Croundwater Walls Only | | | |
| 37-000-010-010-00 | Groundwater Wells Only: | X | | |
| a | Does well recharge adequately when purged? If dedicated sampling equipment installed, is it in good condition | | | |
| b | and specified in the approved groundwater plan for the facility? | | | |
| С | Does the well require redevelopment (low flow, turbid)? | | | |
| C | 2000 and won require redevelopment (low now, turble): | | | |
| 6 Based on | your professional judgement, is the well construction / location | | | |
| | appropriate to 1) achieve the objectives of the Groundwater | | | |
| | Monitoring Program and 2) comply with the applicable regulatory | | | |
| | requirements? | <u> </u> | | 9 |
| 7 Corrective | actions as needed, by date: | | | |
| / Corrective | e actions as needed, by date: | | | |
| · · | 95 (11) | | | |

| Site Name | AP-2 Houserend | | | |
|---------------|---|-------------------------|----|---------------|
| Permit Number | | - | | |
| Well ID | MW-22 | | | |
| Date | 03/14/19 | | | |
| 1 Location/I | dentification | yes | no | n/a |
| a | Is the well visible and accessible? | V | | |
| b | Is the well properly identified with the correct well ID? | - ≎- | | |
| c | Is the well in a high traffic area and does the well require | | | |
| - | protection from traffic? | | V | |
| d | Is the drainage around the well acceptable? (no standing water, | | | - |
| _ | nor is well located in obvious drainage flow path) | X | | |
| 2 Desta ativa | | | | |
| 2 Protective | | | | |
| а | Is the protective casing free from apparent damage and able to be secured? | X | | |
| b | Is the casing free of degradation or deterioration? | \overline{x} | | |
| С | Does the casing have a functioning weep hole? | × | | |
| d | Is the annular space between casings clear of debris and water, | | | 2 |
| | or filled with pea gravel/sand? | <u>X_</u> | | |
| е | Is the well locked and is the lock in good condition? | \perp | | |
| 3 Surface p | ad | | | |
| a | Is the well pad in good condition (not cracked or broken)? | ~ | | |
| b | Is the well pad sloped away from the protective casing? | \$ | | |
| С | Is the well pad in complete contact with the protective casing? | $\frac{\hat{x}}{x}$ | | |
| d | Is the well pad in complete contact with the ground surface and | | | |
| | stable? (not undermined by erosion, animal burrows, and does not | | | |
| | move when stepped on) | X | | |
| е | Is the pad surface clean (not covered with sediment or debris)? | 又 | | |
| 4 Internal ca | asina | | | |
| a | Does the cap prevent entry of foreign material into the well? | ~ | | |
| b | Is the casing free of kinks or bends, or any obstructions from | | | |
| | foreign objects (such as bailers)? | X | | |
| С | Is the well properly vented for equilibration of air pressure? | ; | | |
| d | Is the survey point clearly marked on the inner casing? | $\frac{\lambda}{x}$ | | |
| е | Is the depth of the well consistent with the original well log? | 文 | | |
| f | Is the casing stable? (or does the pvc move easily when touched | | - | |
| | or can it be taken apart by hand due to lack of grout or use of slip | | | |
| | couplings in construction) | <u>X</u> | | |
| 5 Sampling | Groundwater Wells Only: | | | |
| a a | Does well recharge adequately when purged? | | ~ | |
| b | If dedicated sampling equipment installed, is it in good condition | | | / |
| | and specified in the approved groundwater plan for the facility? | | | X |
| С | Does the well require redevelopment (low flow, turbid)? | $\overline{\mathbf{x}}$ | | |
| 6 Daned on | | | | |
| o based on | your professional judgement, is the well construction / location | | | |
| | appropriate to 1) achieve the objectives of the Groundwater | | | |
| | Monitoring Program and 2) comply with the applicable regulatory requirements? | | | |
| | · | | | |
| 7 Corrective | actions as needed, by date: | | | |
| | | | | |
| 18 | | | | |

| Site Name | Groundwater Monitoring Well Integrity Form AP-2 Howard | | | | |
|--|---|-------------------------|--------------------------|----------------|------|
| Permit Number | (EW) | • | | | |
| Well ID | -MW-210 OF MW-23D | • | | | |
| Date | 03/14/19 | 50 60 | | | |
| 4 1 4: 1 | de esta esta esta esta esta esta esta est | yes | no | n/a | |
| | dentification Is the well visible and accessible? | V | | | |
| a | | - | - CON | (1 | |
| b | Is the well properly identified with the correct well ID? Is the well in a high traffic area and does the well require | _X_ | _(M)(V) | | |
| С | protection from traffic? | | V | | |
| d | Is the drainage around the well acceptable? (no standing water, | | | | |
| ď | nor is well located in obvious drainage flow path) | X | | | |
| | The test to accept the obvious drainings how path) | | - | | |
| 2 Protective | | | | | |
| а | Is the protective casing free from apparent damage and able to be | Y | | | |
| | secured? | | | | |
| b | Is the casing free of degradation or deterioration? | <u> </u> | | | |
| С | Does the casing have a functioning weep hole? | | <u> </u> | | |
| d | Is the annular space between casings clear of debris and water, | - | | V | |
| | or filled with oea gravel/sand? | 7/ | | _ | (eu) |
| е | Is the well locked and is the lock in good condition? | | | | |
| 3 Surface p | <u>ad</u> | | | | |
| а | Is the well pad in good condition (not cracked or broken)? | X | | | |
| b | Is the well pad sloped away from the protective casing? | X | | | |
| C | Is the well pad in complete contact with the protective casing? | X | | | |
| d | Is the well pad in complete contact with the ground surface and | | | | |
| | stable? (not undermined by erosion, animal burrows, and does not | | | | |
| • | move when stepped on) Is the pad surface clean (not covered with sediment or debris)? | $\stackrel{\sim}{\sim}$ | | | |
| е | is the pad surface clean (not covered with sediment or debits)? | X | - | - | |
| 4 Internal ca | asing | | | | |
| а | Does the cap prevent entry of foreign material into the well? | X | | | |
| b | Is the casing free of kinks or bends, or any obstructions from | | | | |
| | foreign objects (such as bailers)? | <u>X</u> | | | |
| C | Is the well properly vented for equilibration of air pressure? | X | | | |
| d | Is the survey point clearly marked on the inner casing? | <u> </u> | | | |
| e | Is the depth of the well consistent with the original well log? Is the casing stable? (or does the pvc move easily when touched | | $\underline{\mathbf{x}}$ | | |
| f | or can it be taken apart by hand due to lack of grout or use of slip | | | | |
| | couplings in construction) | X | | | |
| = :=:::::::::::::::::::::::::::::::::: | , <u> </u> | • | | | |
| | Groundwater Wells Only: | | | | |
| а | Does well recharge adequately when purged? | X | | | |
| b | If dedicated sampling equipment installed, is it in good condition | | | 1 | - |
| • | and specified in the approved groundwater plan for the facility? Does the well require redevelopment (low flow, turbid)? | | | 4 | |
| С | coes the well require redevelopment (low now, turbid)? | | | | |
| 6 Based on | your professional judgement, is the well construction / location | | | | |
| | appropriate to 1) achieve the objectives of the Groundwater | | | | |
| | Monitoring Program and 2) comply with the applicable regulatory | | | | |

requirements?

7 Corrective actions as needed, by date:

| Geosyntec [©] | | | | W | ELL INSPEC | TION FORM | | 美克洛拉特别罗尔 克克克 |
|------------------------|------------|--------|----------------|----------|--------------|-------------------|------------|---|
| Field Technicia | n:Aaron | Reeder | Site/Location: | Plan | + Hame | tond AP | land 2 | Inspection Date: 4/1/2019 |
| | | | | | | ion items | | |
| Well ID | Inspection | | | Prese | ent (Y/N) | | | Comments regarding well condition |
| well ID | Time | Lock | Locking Cap | Bollards | Concrete Pad | Protective Casing | Vegetation | Comments regarding wen condition |
| HGWA-1 | 1123 | У | Y | Y | У | Y | У | |
| teva-2 | 1143 | 7 | у | y | y | y | Y | |
| HGWA-3 | 1147 | 7 | У | y | У | λ | У | |
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| Geosyntec ^o | | | | W | ELL INSPECT | TION FORM | | |
|------------------------|------------|--------|---------------|----------|-------------------------|-------------------|------------|-----------------------------------|
| Field Technicia | n:Aaron | Reeder | Site/Location | Plan | + Hamn Well Inspecti | nona AP | -2 | Inspection Date: 4-1- 2019 |
| | | | | | | ion Items | | |
| W-II ID | Inspection | | | Prese | ent (Y/N) | | | |
| Well ID | Time | Lock | Locking Cap | Bollards | Concrete Pad | Protective Casing | Vegetation | Comments regarding well condition |
| HGWA-5 | 1000 | Y | У | У | У | У | N | 300d |
| HGWA-6 | 1008 | У | У | У | У | У | N | 9000 |
| m W-12 | 0937 | У | У | À | У | У | N | needs Tag |
| HGWA-4 | 1132 | Y | У | У | Y | У | N | Ants in well and mound on pa |
| | | | | | | | | |
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| Field Technicia | n: Noelia | Musku | Site/Location | AP | 2-7/Pk | ant Hamm | iond | Inspection Date | : 411119 |
|-----------------|------------|-------|---------------|----------|--------------|-------------------|------------|-----------------|------------------------------|
| | | | | | Well Inspect | ion Items | | | |
| | Inspection | | | Prese | ent (Y/N) | | | | |
| Well ID | Time | Lock | Locking Cap | Bollards | Concrete Pad | Protective Casing | Vegetation | Comme | nts regarding well condition |
| MW-9 | 0854 | Y | 7 | 4 | V | Y | Y | OK | |
| HENIC-14 | 0938 | Y | 1 | Y | Y | Y | Y | OK | |
| HGWC-15 | 0951 | Y | Y | Y | Y | 4 | Y | OK | |
| MW-23D | 0959 | 7 | Y | Y | У | Y | Y | OK | |
| MW-22 | 1013 | Y | 1 | Y | Y | Y | Y | OK | |
| HGWC-16 | (028 | Y | Y | 4 | Y | Y | 4 | OK | |
| HGWC-17 | 1034 | Y | Y | Y | Y | У | У | OK | |
| MM-51D | 1041 | Y | Y | Y | Y | Y | Y | OK | |
| HGWC-18 | 1046 | 4 | Y | Y | × | У | Y | OK | |
| MW-16 | 1132 | Y | Y | Y | Y | Y | Y | Bees | in protective co |
| FI-WM | 1144 | Y | У | Y | Y | Y | Y | OK | |
| MW-18 | 1157 | Y | Y | Y | Y | Y | 4 | OK | |
| | | = | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| = | | | | | | | | | |
| * | | | | | | | | | |

| Name | Hammond AP-1/AP-2 | - | | |
|-------------------|---|--------------|-------|------|
| it Number ID | Maria d | - | | |
| field conditions | HGWA-1 | - | | |
| , neid conditions | 09-23-2014 | - 1000 | no | n/a |
| 1 Location/le | dentification | yes | 110 | II/a |
| a | Is the well visible and accessible? | V | | |
| b | Is the well properly identified with the correct well ID? | <u></u> | | |
| С | Is the well in a high traffic area and does the well require | | | |
| C | protection from traffic? | \checkmark | | |
| d | Is the drainage around the well acceptable? (no standing water, | — | | - |
| ŭ | nor is well located in obvious drainage flow path) | V | | |
| | and of | | | |
| 2 Protective | | | | |
| а | Is the protective casing free from apparent damage and able to be | | | |
| | secured? | | | |
| b | Is the casing free of degradation or deterioration? | | | |
| С | Does the casing have a functioning weep hole? | Win | NI NI | 104 |
| d | Is the annular space between casings clear of debris and water, | Jones. | | |
| | or filled with pea gravel/sand? | | | |
| е | Is the well locked and is the lock in good condition? | | - | |
| 3 Surface pa | ad | | | |
| a | ls the well pad in good condition (not cracked or broken)? | ~ | | |
| b | Is the well pad sloped away from the protective casing? | 7 | | |
| C | Is the well pad in complete contact with the protective casing? | _/ | | |
| d | Is the well pad in complete contact with the ground surface and | | | |
| ű | stable? (not undermined by erosion, animal burrows, and does not | | | |
| | move when stepped on) | / | | |
| е | Is the pad surface clean (not covered with sediment or debris)? | | - | |
| | | | | |
| 4 Internal ca | | , | | |
| a | Does the cap prevent entry of foreign material into the well? | | | |
| b | Is the casing free of kinks or bends, or any obstructions from | , | | |
| | foreign objects (such as bailers)? | | | |
| C | Is the well properly vented for equilibration of air pressure? | | | |
| d | Is the survey point clearly marked on the inner casing? | | | |
| e | Is the depth of the well consistent with the original well log? | - | | |
| f | Is the casing stable? (or does the pvc move easily when touched | , | | |
| | or can it be taken apart by hand due to lack of grout or use of slip couplings in construction) | / | | |
| | couplings in construction) | | _ | |
| 5 Sampling: | Groundwater Wells Only: | , | | |
| a | Does well recharge adequately when purged? | / | | |
| b | If dedicated sampling equipment installed, is it in good condition | | | |
| | and specified in the approved groundwater plan for the facility? | / | | |
| С | Does the well require redevelopment (low flow, turbid)? | | / | |
| 0.5 | , | | | |
| 6 Based on | your professional judgement, is the well construction / location | | | |
| | appropriate to 1) achieve the objectives of the Groundwater | | | |
| | Monitoring Program and 2) comply with the applicable regulatory | / | | |
| | requirements? | | | |
| | | | | |
| 7 Corrective | actions as needed, by date: | | | |

| '+ N | API/APZ Hammond | - | | |
|-------------------------|--|---------------|----|--------|
| mit Number | | _ | | |
| IID . field eendikie | 144VA-2 | _ | | |
| e, fleia conditio | ns 9/23/19- 5UNAV | | | , |
| 1.Locatio | n/Identification | yes | no | n/a |
| a | Is the well visible and accessible? | | | |
| b | Is the well properly identified with the correct well ID? | | • | |
| С | Is the well in a high traffic area and does the well require | | | |
| | protection from traffic? | / | | |
| d | Is the drainage around the well acceptable? (no standing water, | | | |
| | nor is well located in obvious drainage flow path) | _ | | |
| 2 Protecti | ve Casing | | | |
| a | Is the protective casing free from apparent damage and able to be | ; | | |
| | secured? | / | | |
| b | Is the casing free of degradation or deterioration? | -/ | | |
| С | Does the casing have a functioning weep hole? | | | - |
| d | Is the annular space between casings clear of debris and water, | | | |
| | or filled with pea gravel/sand? | / | | |
| е | Is the well locked and is the lock in good condition? | $\overline{}$ | | |
| 3 Surface | pad | | | |
| a | Is the well pad in good condition (not cracked or broken)? | / | | |
| b | Is the well pad sloped away from the protective casing? | | | |
| С | Is the well pad in complete contact with the protective casing? | | 2 | |
| d | Is the well pad in complete contact with the ground surface and | | | ****** |
| | stable? (not undermined by erosion, animal burrows, and does not | | | |
| | move when stepped on) | 1 | | |
| е | Is the pad surface clean (not covered with sediment or debris)? | | | |
| 4 Internal | casing | | | |
| a | Does the cap prevent entry of foreign material into the well? | 1 | | |
| b | Is the casing free of kinks or bends, or any obstructions from | | | |
| | foreign objects (such as bailers)? | 1 | | |
| С | Is the well properly vented for equilibration of air pressure? | | | |
| d | Is the survey point clearly marked on the inner casing? | | | |
| е | Is the depth of the well consistent with the original well log? | $\overline{}$ | | |
| f | Is the casing stable? (or does the pvc move easily when touched | | | |
| | or can it be taken apart by hand due to lack of grout or use of slip | | | |
| | couplings in construction) | | | |
| 5 <u>Samplin</u> | g: Groundwater Wells Only: | | | |
| а | Does well recharge adequately when purged? | | | |
| b | If dedicated sampling equipment installed, is it in good condition | | | |
| | and specified in the approved groundwater plan for the facility? | | | |
| С | Does the well require redevelopment (low flow, turbid)? | | | |
| 6 Based o | n your professional judgement, is the well construction / location | | | |
| | appropriate to 1) achieve the objectives of the Groundwater | | | |
| | Monitoring Program and 2) comply with the applicable regulatory | | | |
| | requirements? | / | | |
| | | | | |

| Site Name | AP-1/AP-2 Hammond | <u>.</u> | | |
|-----------------------|--|----------|----|-----|
| Permit Number | | | | |
| Well ID | HGWA-3 | _ | | |
| ate, field conditions | 09/23/19 Clear, sunny 800F | | | |
| 1 Location/L | dentification | yes | no | n/a |
| a | Is the well visible and accessible? | ~ | | |
| b | Is the well properly identified with the correct well ID? | | | |
| C | Is the well in a high traffic area and does the well require | <u>×</u> | - | |
| O | protection from traffic? | V | | |
| d | Is the drainage around the well acceptable? (no standing water, | | - | |
| u | nor is well located in obvious drainage flow path) | × | | |
| | • , | <u> </u> | | |
| 2 Protective | | | | |
| a | Is the protective casing free from apparent damage and able to be | | | |
| | secured? | <u>×</u> | | |
| b | Is the casing free of degradation or deterioration? | X | | |
| C | Does the casing have a functioning weep hole? | _X_ | | |
| ď | Is the annular space between casings clear of debris and water, | × | | |
| | or filled with pea gravel/sand? | | | |
| е | Is the well locked and is the lock in good condition? | _X_ | · | |
| 3 Surface pa | <u>ad</u> | | | |
| а | Is the well pad in good condition (not cracked or broken)? | X | | |
| b | Is the well pad sloped away from the protective casing? | × | | |
| С | Is the well pad in complete contact with the protective casing? | -X | | |
| d | Is the well pad in complete contact with the ground surface and | | | |
| | stable? (not undermined by erosion, animal burrows, and does not | | | |
| | move when stepped on) | <u>×</u> | | |
| е | Is the pad surface clean (not covered with sediment or debris)? | _×_ | | |
| 4 Internal ca | sina | | | |
| a | Does the cap prevent entry of foreign material into the well? | X | | |
| b | Is the casing free of kinks or bends, or any obstructions from | | | |
| | foreign objects (such as bailers)? | X | | |
| С | Is the well properly vented for equilibration of air pressure? | × | | |
| d | Is the survey point clearly marked on the inner casing? | * | | |
| е | Is the depth of the well consistent with the original well log? | * | | |
| f | Is the casing stable? (or does the pvc move easily when touched | | | |
| | or can it be taken apart by hand due to lack of grout or use of slip | | | |
| | couplings in construction) | <u>×</u> | | - |
| 5 Sampling: | Groundwater Wells Only: | | | |
| | Does well recharge adequately when purged? | X | | |
| | If dedicated sampling equipment installed, is it in good condition | | | |
| | and specified in the approved groundwater plan for the facility? | X | | |
| С | Does the well require redevelopment (low flow, turbid)? | | X | |
| 6 Rased on v | our professional judgement, is the well construction / location | | | |
| | appropriate to 1) achieve the objectives of the Groundwater | | | |
| | Monitoring Program and 2) comply with the applicable regulatory | | | |
| | requirements? | X | | |
| | | | | |
| 7 Corrective | actions as needed, by date: | | | |
| | | | | |

| Site Name | Hammond AP-Z | | | |
|------------------------|--|-------------|-----------|-----|
| Permit Number | | | | |
| Well ID | HGWA-4 | _ | | |
| Date, field conditions | | - | | |
| 1 Location/I | <u>Identification</u> | yes | no | n/a |
| а | Is the well visible and accessible? | V | | |
| b | Is the well properly identified with the correct well ID? | 1 | | |
| С | Is the well in a high traffic area and does the well require protection from traffic? | <i>\</i> | 8 | |
| d | Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path) | <u>/</u> | | |
| 2 Protective | e Casing | | | |
| a | Is the protective casing free from apparent damage and able to be secured? | | | |
| b | | | | - |
| | Is the casing free of degradation or deterioration? Does the casing have a functioning weep hole? | | | |
| c d | Is the annular space between casings clear of debris and water, | _4 | | |
| ď | or filled with pea gravel/sand? | <u>y</u> | 7 <u></u> | |
| е | Is the well locked and is the lock in good condition? | <u>y</u> | | |
| 3 Surface p | 74 | | | |
| а | Is the well pad in good condition (not cracked or broken)? | | | |
| b | Is the well pad sloped away from the protective casing? | | | |
| C | Is the well pad in complete contact with the protective casing? | <u>- Ý</u> | | |
| d | Is the well pad in complete contact with the ground surface and | | | |
| | stable? (not undermined by erosion, animal burrows, and does not | t | | |
| | move when stepped on) | | | |
| е | Is the pad surface clean (not covered with sediment or debris)? | | | |
| 4 Internal ca | asing | | | |
| а | Does the cap prevent entry of foreign material into the well? | ٧ | | |
| b | Is the casing free of kinks or bends, or any obstructions from | | | |
| | foreign objects (such as bailers)? | ¥ | | |
| С | Is the well properly vented for equilibration of air pressure? | | | |
| d | Is the survey point clearly marked on the inner casing? | Y | | |
| е | Is the depth of the well consistent with the original well log? | 1 | / | |
| f | Is the casing stable? (or does the pvc move easily when touched | 1/13 | - | |
| | or can it be taken apart by hand due to lack of grout or use of slip | | | |
| | couplings in construction) | <u>y</u> | | |
| 5 Sampling: | Groundwater Wells Only: | | | |
| а | Does well recharge adequately when purged? | 1 | | |
| b | If dedicated sampling equipment installed, is it in good condition | | | |
| | and specified in the approved groundwater plan for the facility? | 1 | | |
| С | Does the well require redevelopment (low flow, turbid)? | | | |
| 6 Based on | your professional judgement, is the well construction / location | | - | |
| | appropriate to 1) achieve the objectives of the Groundwater | | | |
| | Monitoring Program and 2) comply with the applicable regulatory requirements? | / | | |
| | | | | |
| / Corrective | actions as needed, by date: | | | |

| Site Name | AP-7 Hammond | -1 | | |
|------------------------|--|----------------------|----------|-----|
| Permit Number | 11- 20 5 | 2 | | |
| Well ID | HGWA-5 | 2 | | |
| Pate, field conditions | 09/24/19 clear, sunny, 75% | 5 | | , |
| 1 Location/I | dentification | yes | no | n/a |
| а | Is the well visible and accessible? | X | | |
| b | Is the well properly identified with the correct well ID? | × | | |
| С | Is the well in a high traffic area and does the well require | | | |
| | protection from traffic? | | \times | - |
| d | Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path) | ~ | | |
| | Tion is well located in obvious drainage now path) | | | · · |
| 2 Protective | Casing | | | |
| а | Is the protective casing free from apparent damage and able to be secured? | × | | |
| b | Is the casing free of degradation or deterioration? | - | | - |
| | Does the casing have a functioning weep hole? | - | | |
| c d | Is the annular space between casings clear of debris and water, | | : | - |
| u | or filled with pea gravel/sand? | \ | | |
| е | Is the well locked and is the lock in good condition? | _ | | |
| | - | | | |
| 3 Surface pa | | | | |
| a | Is the well pad in good condition (not cracked or broken)? | X | | |
| b | Is the well pad sloped away from the protective casing? | | | |
| C | Is the well pad in complete contact with the protective casing? | _X_ | | |
| d | Is the well pad in complete contact with the ground surface and | | | |
| | stable? (not undermined by erosion, animal burrows, and does not | ~ | | |
| е | move when stepped on) Is the pad surface clean (not covered with sediment or debris)? | - | | |
| C | is the pad surface clean (not covered with sediment or debits): | $\stackrel{\sim}{-}$ | - | |
| 4 Internal ca | | | | |
| а | Does the cap prevent entry of foreign material into the well? | _X | | |
| b | Is the casing free of kinks or bends, or any obstructions from | | | |
| | foreign objects (such as bailers)? | <u>×</u> | | |
| С | Is the well properly vented for equilibration of air pressure? | X | | |
| d | Is the survey point clearly marked on the inner casing? | | | |
| e | Is the depth of the well consistent with the original well log? | <u>×</u> | | |
| f | Is the casing stable? (or does the pvc move easily when touched | | | |
| | or can it be taken apart by hand due to lack of grout or use of slip couplings in construction) | × | | |
| | couplings in construction) | | - | |
| 5 Sampling: | Groundwater Wells Only: | | | |
| а | Does well recharge adequately when purged? | $\underline{\times}$ | | |
| b | If dedicated sampling equipment installed, is it in good condition | | | |
| | and specified in the approved groundwater plan for the facility? | \times | 1 | |
| С | Does the well require redevelopment (low flow, turbid)? | _ORANO | <u>×</u> | |
| , | your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements? | X | | |
| 7 Corrective | actions as needed, by date: | | | |
| . 3011301140 | asis is as mooded, by date. | | | |

| AP-2 Hammond | | | |
|--|--|--|--|
| 7 CONTRACTOR | | | |
| 11-10 A - C | • | | |
| 50001/9/24/19 | | | |
| | VAS | no | n/a |
| dentification | ycs | 110 | II/a |
| | 1 | | |
| | | | - |
| | | | " |
| | | X | |
| | 2 | | |
| nor is well located in obvious drainage flow path) | 1 | | |
| 20 2 | | | |
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| | 1 | | |
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| | 1 | | |
| | | | |
| is the well locked and is the lock in good condition: | | | |
| <u>ad</u> | | | |
| Is the well pad in good condition (not cracked or broken)? | / | | |
| Is the well pad sloped away from the protective casing? | | | |
| Is the well pad in complete contact with the protective casing? | | | |
| Is the well pad in complete contact with the ground surface and | | | |
| | | | |
| | / | | |
| Is the pad surface clean (not covered with sediment or debris)? | | | |
| sing | | | |
| | / | | |
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| | | 3 | |
| Is the depth of the well consistent with the original well log? | | | |
| Is the casing stable? (or does the pvc move easily when touched | | - | |
| or can it be taken apart by hand due to lack of grout or use of slip | . 6 | | |
| couplings in construction) | | | |
| Graundwater Wells Only | | | |
| | / | | |
| - · · · · · · · | <u> </u> | | |
| | / | | |
| | - wen | <u></u> | |
| 2 coo and wan radiana radiavalapiniana (lott note, tarbia). | 10/04- | 10/04 | |
| your professional judgement, is the well construction / location | | | |
| | | | |
| | 20 | | |
| requirements? | _/ | | |
| actions as needed, by deter | | | |
| actions as needed, by date. | | | |
| | dentification Is the well visible and accessible? Is the well properly identified with the correct well ID? Is the well in a high traffic area and does the well require protection from traffic? Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path) Casing Is the protective casing free from apparent damage and able to be secured? Is the casing free of degradation or deterioration? Does the casing have a functioning weep hole? Is the annular space between casings clear of debris and water, or filled with pea gravel/sand? Is the well locked and is the lock in good condition? ad Is the well pad in good condition (not cracked or broken)? Is the well pad in complete contact with the protective casing? Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on) Is the pad surface clean (not covered with sediment or debris)? Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)? Is the well properly vented for equilibration of air pressure? Is the depth of the well consistent with the original well log? Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip | dentification Is the well visible and accessible? Is the well properly identified with the correct well ID? Is the well in a high traffic area and does the well require protection from traffic? Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path) Casing Is the protective casing free from apparent damage and able to be secured? Is the casing free of degradation or deterioration? Does the casing have a functioning weep hole? Is the annular space between casings clear of debris and water, or filled with pea gravel/sand? Is the well pad in good condition (not cracked or broken)? Is the well pad in complete contact with the protective casing? Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on) Is the pad surface clean (not covered with sediment or debris)? Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)? Is the well properly vented for equilibration of air pressure? Is the easing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction) Groundwater Wells Only: Does well recharge adequately when purged? If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility? Does the well require redevelopment (low flow, turbid)? Joes the well require redevelopment (low flow, turbid)? Joes the well require redevelopment (low flow, turbid)? | Security 1/2 |

| Site Name | Hammond AP.2 | | | |
|-----------------|--|---------------|-------------|-----|
| Permit Number | | | | |
| Well ID | HGWC . 14 | _ | | |
| ate, field cond | ditions 09-24-2-19 | | | / |
| 1 Loc | ation/Identification | yes | no | n/a |
| а | Is the well visible and accessible? | / | | |
| b | Is the well properly identified with the correct well ID? | 7 | | |
| С | Is the well in a high traffic area and does the well require protection from traffic? | <u> </u> | |). |
| d | Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path) | _/_ | | |
| 2 Pro | tective Casing | | | |
| а | Is the protective casing free from apparent damage and able to be secured? | J | | |
| b | Is the casing free of degradation or deterioration? | - | | |
| С | Does the casing have a functioning weep hole? | 1 | 7 | |
| d | Is the annular space between casings clear of debris and water, or filled with pea gravel/sand? | / | | |
| е | Is the well locked and is the lock in good condition? | V | | |
| 3 Sur | f <u>ace pad</u> | | | |
| а | Is the well pad in good condition (not cracked or broken)? | 1 | | |
| b | Is the well pad sloped away from the protective casing? | V. | - | |
| С | Is the well pad in complete contact with the protective casing? | \neg | | |
| d | Is the well pad in complete contact with the ground surface and | | | |
| | stable? (not undermined by erosion, animal burrows, and does no move when stepped on) | t 🗸 | | |
| е | Is the pad surface clean (not covered with sediment or debris)? | $\overline{}$ | | |
| 4 Inte | rnal casing | | | |
| а | Does the cap prevent entry of foreign material into the well? | | | |
| b | Is the casing free of kinks or bends, or any obstructions from | | | |
| | foreign objects (such as bailers)? | | | |
| С | Is the well properly vented for equilibration of air pressure? | -V | | |
| d | Is the survey point clearly marked on the inner casing? | | | - |
| е | Is the depth of the well consistent with the original well log? | | <u> </u> | |
| f | Is the casing stable? (or does the pvc move easily when touched | | | |
| | or can it be taken apart by hand due to lack of grout or use of slip | | | |
| | couplings in construction) | | | |
| 5 Sam | npling: Groundwater Wells Only: | | | |
| a | Does well recharge adequately when purged? | / | | |
| b | If dedicated sampling equipment installed, is it in good condition | | | |
| - | and specified in the approved groundwater plan for the facility? | 1 | | |
| С | Does the well require redevelopment (low flow, turbid)? | 4 | | |
| | | to | | |
| 6 Base | ed on your professional judgement, is the well construction / location | | | |
| | appropriate to 1) achieve the objectives of the Groundwater | | | |
| | Monitoring Program and 2) comply with the applicable regulatory requirements? | | | |
| 7 Corr | rective actions as needed, by date: | | | |
| | | | | |

| Site Name | Harmond AP-2 | _ | | |
|-----------------------|--|----------------|-----|------|
| Permit Number | | | | |
| Well ID | HGWC-18 | - | | |
| ate, field conditions | 09-24-2014 DRY/Het | - ves | no | n/a |
| 1 Location/le | dentification | yes | 110 | II/a |
| а | Is the well visible and accessible? | 1 | | |
| b | Is the well properly identified with the correct well ID? | _ | | |
| С | Is the well in a high traffic area and does the well require protection from traffic? | | | |
| d | Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path) | <u></u> | | |
| 2 Protective | Casing | | | |
| a | Is the protective casing free from apparent damage and able to be | | | |
| | secured? | 1 | | |
| b | Is the casing free of degradation or deterioration? | - | | |
| C | Does the casing have a functioning weep hole? | | | - |
| d | Is the annular space between casings clear of debris and water, | | - | |
| | or filled with pea gravel/sand? | 1 | | |
| е | Is the well locked and is the lock in good condition? | _/ | | |
| 3 Surface pa | ad | | | |
| a | Is the well pad in good condition (not cracked or broken)? | 1 | | |
| b | Is the well pad sloped away from the protective casing? | \overline{J} | | 2 |
| С | Is the well pad in complete contact with the protective casing? | | | - |
| d | Is the well pad in complete contact with the ground surface and | | | • |
| | stable? (not undermined by erosion, animal burrows, and does not move when stepped on) | : 1 | | |
| е | Is the pad surface clean (not covered with sediment or debris)? | _/_ | - | |
| 4 Internal ca | sina | | | |
| | Does the cap prevent entry of foreign material into the well? | J | | |
| b | Is the casing free of kinks or bends, or any obstructions from | | | 2 2 |
| | foreign objects (such as bailers)? | V | | |
| С | Is the well properly vented for equilibration of air pressure? | -/ | | |
| d | Is the survey point clearly marked on the inner casing? | - <u>/</u> | | |
| е | Is the depth of the well consistent with the original well log? | | _/ | |
| | Is the casing stable? (or does the pvc move easily when touched | | | |
| | or can it be taken apart by hand due to lack of grout or use of slip | | | |
| | couplings in construction) | | | |
| 5 Sampling: | Groundwater Wells Only: | 1 | | |
| а | Does well recharge adequately when purged? | 1 | | |
| | If dedicated sampling equipment installed, is it in good condition | | | |
| | and specified in the approved groundwater plan for the facility? | <u></u> | | |
| С | Does the well require redevelopment (low flow, turbid)? | • | | |
| | your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory | , | | |
| | requirements? | <u> </u> | | |
| 7 Corrective | actions as needed, by date: | | | |

| Site Name | Hammond AP-2 | - 5 | | |
|-----------------------|--|--------------|-----------------|------------|
| Permit Number | | - | | |
| Vell ID | Henc-16 | - | | |
| ate, field conditions | 09-25-2012 Pry /Hot | yes | no | n/a |
| 1 Location/I | dentification | yes | 110 | II/a |
| a | Is the well visible and accessible? | ✓ | | |
| b | Is the well properly identified with the correct well ID? | <u> </u> | 8 | |
| С | Is the well in a high traffic area and does the well require | | | |
| | protection from traffic? | <u>_v</u> _ | | |
| d | Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path) | | Ş Ş | |
| 2 Protective | Casing | | | |
| a | Is the protective casing free from apparent damage and able to be | | | |
| | secured? | J | | |
| b | Is the casing free of degradation or deterioration? | V | | (<u> </u> |
| С | Does the casing have a functioning weep hole? | 2/ | ON HA | olo4 |
| d | Is the annular space between casings clear of debris and water, | , | | |
| | or filled with pea gravel/sand? | /_ | | |
| е | Is the well locked and is the lock in good condition? | ^/ | | |
| 3 Surface pa | ad | | | |
| а | Is the well pad in good condition (not cracked or broken)? | 1 | | |
| b | Is the well pad sloped away from the protective casing? | | - | |
| С | Is the well pad in complete contact with the protective casing? | ~ | | |
| d | Is the well pad in complete contact with the ground surface and | | | |
| | stable? (not undermined by erosion, animal burrows, and does not | : | | |
| | move when stepped on) | | √ | |
| е | Is the pad surface clean (not covered with sediment or debris)? | | | |
| 4 Internal ca | asing | | | |
| a | Does the cap prevent entry of foreign material into the well? | \checkmark | | |
| b | Is the casing free of kinks or bends, or any obstructions from | | | |
| | foreign objects (such as bailers)? | | | |
| С | Is the well properly vented for equilibration of air pressure? | V | | |
| d | Is the survey point clearly marked on the inner casing? | | X 26 | |
| е | Is the depth of the well consistent with the original well log? | X | <u> </u> | |
| f | Is the casing stable? (or does the pvc move easily when touched | | | |
| | or can it be taken apart by hand due to lack of grout or use of slip couplings in construction) | √ | | |
| F 0 | | | () | |
| | Groundwater Wells Only: | , | | |
| a | Does well recharge adequately when purged? | | | |
| b | If dedicated sampling equipment installed, is it in good condition | , | | |
| | and specified in the approved groundwater plan for the facility? | | | |
| С | Does the well require redevelopment (low flow, turbid)? | | | |
| 6 Based on | your professional judgement, is the well construction / location | | | |
| | appropriate to 1) achieve the objectives of the Groundwater | | | |
| | Monitoring Program and 2) comply with the applicable regulatory | , | | |
| | requirements? | | | |
| 7 Corrective | actions as needed, by date: | | | |

| Site Name | Harmond AP-2 | _ | | |
|--------------------------|--|----------|-----------------|------|
| Permit Number Well ID | 10.11 | _ | | |
| | HGWC-17 | _ | | |
| Pate, field conditions | 04.22.2014 | 5 | | , |
| 1 Location/le | dentification | yes | no | n/a |
| a | Is the well visible and accessible? | V | | |
| b | Is the well properly identified with the correct well ID? | _/_ | | - |
| C | Is the well in a high traffic area and does the well require | | | - |
| • | protection from traffic? | 1/ | | |
| d | Is the drainage around the well acceptable? (no standing water, | <u> </u> | | |
| | nor is well located in obvious drainage flow path) | | (| |
| 2 Protective | Casing | | | |
| а | Is the protective casing free from apparent damage and able to be secured? | 1 | | |
| b | Is the casing free of degradation or deterioration? | 1 | | |
| С | Does the casing have a functioning weep hole? | X | (X) (Nm | 1404 |
| d | Is the annular space between casings clear of debris and water, | 10/04 | · - | |
| | or filled with pea gravel/sand? | | | |
| е | Is the well locked and is the lock in good condition? | | | |
| 3 Surface pa | ad | | | |
| a | Is the well pad in good condition (not cracked or broken)? | 1 | | |
| b | Is the well pad sloped away from the protective casing? | | | |
| С | Is the well pad in complete contact with the protective casing? | 1 | | - |
| d | Is the well pad in complete contact with the ground surface and | | | - |
| | stable? (not undermined by erosion, animal burrows, and does not | , | | |
| | move when stepped on) | _/_ | | |
| е | Is the pad surface clean (not covered with sediment or debris)? | | | |
| 4 Internal ca | sing | | | |
| | Does the cap prevent entry of foreign material into the well? | 1 | | |
| | Is the casing free of kinks or bends, or any obstructions from | | | |
| | foreign objects (such as bailers)? | 1 | | |
| С | Is the well properly vented for equilibration of air pressure? | - | | |
| d | Is the survey point clearly marked on the inner casing? | 1 | | |
| | Is the depth of the well consistent with the original well log? | 1 | | |
| | Is the casing stable? (or does the pvc move easily when touched | | | |
| | or can it be taken apart by hand due to lack of grout or use of slip | 1 | | |
| | couplings in construction) | | | |
| 5 Sampling: | Groundwater Wells Only: | | | |
| a | Does well recharge adequately when purged? | / | | |
| | If dedicated sampling equipment installed, is it in good condition | | | - |
| | and specified in the approved groundwater plan for the facility? | 1 | | |
| С | Does the well require redevelopment (low flow, turbid)? | | / | |
| | vour professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements? | | | |
| | oquitorito: | | | |
| 7 Corrective | actions as needed, by date: | | | |

| Site Name | Hammond AP-2 | _ | | |
|----------------------------------|---|--------------|-------------|------|
| Permit Number Well ID | (ICAN . IA | - | | |
| vveiri⊔ ੇate, field condition | HGWC · 1B | - | | |
| ate, neid condition | 5 07-25-2014 | - VOC | no | n/a |
| 1 Location | /Identification | yes | no | II/a |
| a | Is the well visible and accessible? | V | | |
| b | Is the well properly identified with the correct well ID? | - | | , |
| С | Is the well in a high traffic area and does the well require | | = | |
| | protection from traffic? | V | | |
| d | Is the drainage around the well acceptable? (no standing water, | | - | |
| | nor is well located in obvious drainage flow path) | _/_ | | |
| 2 Protectiv | a Casing | | | No. |
| a | Is the protective casing free from apparent damage and able to be | | | |
| u | secured? | 1 | | |
| b | Is the casing free of degradation or deterioration? | | | |
| c | Does the casing have a functioning weep hole? | | 7 | |
| d | Is the annular space between casings clear of debris and water, | | | |
| | or filled with pea gravel/sand? | V | | |
| е | Is the well locked and is the lock in good condition? | 1 | | - |
| 2 Curtons | nad. | | | |
| 3 Surface | ls the well pad in good condition (not cracked or broken)? | | | |
| a b | Is the well pad sloped away from the protective casing? | | | |
| C | Is the well pad in complete contact with the protective casing? | | | |
| d | Is the well pad in complete contact with the ground surface and | — | - | |
| <u>.</u> | stable? (not undermined by erosion, animal burrows, and does not | | | |
| | move when stepped on) | 1 | | |
| е | Is the pad surface clean (not covered with sediment or debris)? | _ | | |
| 4 Telegraph | en Blon | | | |
| 4 Internal o | | _ | | |
| a b | Does the cap prevent entry of foreign material into the well? Is the casing free of kinks or bends, or any obstructions from | | | · |
| D | foreign objects (such as bailers)? | ./ | | |
| С | Is the well properly vented for equilibration of air pressure? | | - | |
| d | Is the survey point clearly marked on the inner casing? | Ť | 3 | |
| e | Is the depth of the well consistent with the original well log? | - | _ | |
| f | Is the casing stable? (or does the pvc move easily when touched | | | |
| | or can it be taken apart by hand due to lack of grout or use of slip | | | |
| | couplings in construction) | | | |
| 5 Sampling | g: Groundwater Wells Only: | | | |
| a <u>Sampling</u> | Does well recharge adequately when purged? | 1 | | |
| b | If dedicated sampling equipment installed, is it in good condition | <u> </u> | | |
| , , , | and specified in the approved groundwater plan for the facility? | 1 | | |
| С | Does the well require redevelopment (low flow, turbid)? | | | |
| | (************************************** | | | |
| 6 Based or | your professional judgement, is the well construction / location | | | |
| | appropriate to 1) achieve the objectives of the Groundwater | | | |
| | Monitoring Program and 2) comply with the applicable regulatory | 1 | | |
| | requirements? | | | |
| 7 Correctiv | e actions as needed, by date: | | | |
| | • • | | | |

| te Name | Plant Hammon - API | | | | |
|-----------------------|---|------------------|---------------|----------------------------|--------|
| ermit Number | Tillo 99 | | | | |
| ell ID | MU) - 8 | - | | | |
| ate, field conditions | 9/23/19 - Sunni | | | | |
| | | yes | no | n/a | |
| 1 Location/ | <u>Identification</u> | , | | | |
| а | Is the well visible and accessible? | | | | |
| b | Is the well properly identified with the correct well ID? | _/ | | | |
| С | Is the well in a high traffic area and does the well require | | | | |
| | protection from traffic? | | _X_ | | |
| d | Is the drainage around the well acceptable? (no standing water, | 02 | | | |
| | nor is well located in obvious drainage flow path) | | | | |
| 2 Protective | e Casing | | | | |
| a | Is the protective casing free from apparent damage and able to be | | | | |
| | secured? | 1 | | | |
| b | Is the casing free of degradation or deterioration? | | X | | |
| С | Does the casing have a functioning weep hole? | | | - | |
| d | Is the annular space between casings clear of debris and water, | | | | |
| | or filled with pea gravel/sand? | 1 | | | |
| е | Is the well locked and is the lock in good condition? | | | | |
| 2 Curtons n | | | | | |
| 3 Surface p | | ~ | | | |
| a b | Is the well pad in good condition (not cracked or broken)? Is the well pad sloped away from the protective casing? | = | | | |
| C | Is the well pad in complete contact with the protective casing? | | | | |
| d | Is the well pad in complete contact with the ground surface and | | | | |
| u | stable? (not undermined by erosion, animal burrows, and does not | | | | |
| | move when stepped on) | 1 | | | |
| е | Is the pad surface clean (not covered with sediment or debris)? | | | ·— | |
| | • | | | 7 | |
| 4 Internal ca | | | | | |
| . a | Does the cap prevent entry of foreign material into the well? | | | | |
| b | Is the casing free of kinks or bends, or any obstructions from | | | | |
| _ | foreign objects (such as bailers)? | | | | |
| C | Is the well properly vented for equilibration of air pressure? | -/- - | | | |
| d | Is the survey point clearly marked on the inner casing? Is the depth of the well consistent with the original well log? | | | | |
| e f | Is the casing stable? (or does the pvc move easily when touched | | | · · · · · · | |
| 1 | or can it be taken apart by hand due to lack of grout or use of slip | | | | |
| | couplings in construction) | / | | | |
| | | | | | |
| 5 Sampling: | Groundwater Wells Only: | | | \ <u>/</u> | 1 |
| a | Does well recharge adequately when purged? | | | | Mr oul |
| b | If dedicated sampling equipment installed, is it in good condition | | | 1 | 10/0 |
| _ | and specified in the approved groundwater plan for the facility? | | | | |
| С | Does the well require redevelopment (low flow, turbid)? | | | $\underline{\hspace{1cm}}$ | |
| 6 Based on | your professional judgement, is the well construction / location | | | | |
| | appropriate to 1) achieve the objectives of the Groundwater | | | | |
| | Monitoring Program and 2) comply with the applicable regulatory | (A) | 10/04 | | |
| | requirements? | X (Pr.) | -C1(1) | | |
| 7.0 | | | : | : | |
| / Corrective | actions as needed, by date: | | | | |
| i - | | | | | |

| Site Name | Humanard AP-2 | | | | |
|---------------|---|----------|-------|----------|-----------|
| Permit Num | | | | | |
| Well ID | mw-9 | | | | |
| ેate, field c | | | | | |
| | | yes | no | n/a | |
| 1] | _ocation/Identification | / | | | |
| | | | | | |
| ŀ | Is the well properly identified with the correct well ID? | <u> </u> | | | |
| (| | | / | | |
| | protection from traffic? | | | | |
| (| 1 (3 , | , | | | |
| | nor is well located in obvious drainage flow path) | | | | |
| 21 | Protective Casing | | | | |
| - :- | | | | | |
| ` | secured? | 1 | | | |
| ŀ | | | | | |
| - | | | WAREN | M) 10/04 | |
| (| | <u> </u> | | | |
| | or filled with pea gravel/sand? | / | | | |
| 6 | | 1 | | | |
| _ 1 | | | | | |
| 3 5 | Surface pad | _ | | | |
| ā | , | | | (——— | |
| k | ,,, p | | | | |
| (| | <u>/</u> | | | |
| C | , , | | | | |
| | stable? (not undermined by erosion, animal burrows, and does not | , | | | |
| | move when stepped on) | | | | |
| • | Is the pad surface clean (not covered with sediment or debris)? | _ | | | |
| 4 1 | nternal casing | | | | |
| ā | | / | | | |
| b | | | | | |
| | foreign objects (such as bailers)? | 1 | | | |
| C | | ~ | | - | |
| C | | V | | | |
| ϵ | Is the depth of the well consistent with the original well log? | | _ | | |
| f | Is the casing stable? (or does the pvc move easily when touched | | | | |
| | or can it be taken apart by hand due to lack of grout or use of slip | | | | |
| | couplings in construction) | | | | |
| 5.0 | ampling: Craundwater Welle Only | | | | |
| | <u>sampling: Groundwater Wells Only:</u> Does well recharge adequately when purged? | | | ./ | lc 🗤 |
| a b | | | | | only |
| L | and specified in the approved groundwater plan for the facility? | | | 1 | (Ca) |
| С | Does the well require redevelopment (low flow, turbid)? | | - | | (Dry 1010 |
| C | boes the well require redevelopment (low flow, tarbia): | | | | |
| 6 E | ased on your professional judgement, is the well construction / location | | | | |
| | appropriate to 1) achieve the objectives of the Groundwater | | | | |
| | Monitoring Program and 2) comply with the applicable regulatory | | | / | |
| | requirements? | | | 1 | |
| 7.0 | | | | - | |
| / (| orrective actions as needed, by date: | | | | |
| | | | | | |

| Name | Humed AP-2 | | | | |
|----------------------|---|------|-------|----------|-------|
| mit Number | | - | | | |
| IID | MW-12 | - | | | |
| e, field conditions | 09-23-2019 day clus | | | | |
| 1 Location/I | <u>dentification</u> | yes | no | n/a | |
| а | Is the well visible and accessible? | V | | | |
| b | Is the well properly identified with the correct well ID? | | | | |
| С | Is the well in a high traffic area and does the well require | | | * | |
| | protection from traffic? | 1 | | | |
| d | Is the drainage around the well acceptable? (no standing water, | | | | |
| | nor is well located in obvious drainage flow path) | _ | | | |
| 2 Protective | Casing | | | | |
| а | Is the protective casing free from apparent damage and able to be | | | | |
| | secured? | | | | |
| b | Is the casing free of degradation or deterioration? | ~ | | | |
| С | Does the casing have a functioning weep hole? | | - WWW | 10104 | |
| d | Is the annular space between casings clear of debris and water, | , | | | |
| | or filled with pea gravel/sand? | | | | |
| е | Is the well locked and is the lock in good condition? | | | | |
| 3 Surface pa | | , | | | |
| а | Is the well pad in good condition (not cracked or broken)? | | | | |
| b | Is the well pad sloped away from the protective casing? | | | | |
| С | Is the well pad in complete contact with the protective casing? | | | | |
| d | Is the well pad in complete contact with the ground surface and | | | | |
| | stable? (not undermined by erosion, animal burrows, and does not | , | | | |
| | move when stepped on) | | | | |
| е | Is the pad surface clean (not covered with sediment or debris)? | _ | | | |
| 4 <u>Internal ca</u> | | | | | |
| a | Does the cap prevent entry of foreign material into the well? | | | | |
| b | Is the casing free of kinks or bends, or any obstructions from | , | | | |
| | foreign objects (such as bailers)? | / | | | |
| C | Is the well properly vented for equilibration of air pressure? | | | | |
| d | Is the survey point clearly marked on the inner casing? | | | | |
| e | Is the depth of the well consistent with the original well log? | | ~ | | |
| f | Is the casing stable? (or does the pvc move easily when touched | | | | |
| | or can it be taken apart by hand due to lack of grout or use of slip couplings in construction) | 1 | | | |
| | | | - | 8 | |
| | Groundwater Wells Only: | | | , | |
| a | Does well recharge adequately when purged? | | | <u> </u> | WL |
| b | If dedicated sampling equipment installed, is it in good condition | | | 1/ | only |
| | and specified in the approved groundwater plan for the facility? Does the well require redevelopment (low flow, turbid)? | | - | | WM 10 |
| | | | | | |
| | your professional judgement, is the well construction / location | | | | |
| | appropriate to 1) achieve the objectives of the Groundwater | (6 | 9 | ٠, | (m) |
| | Monitoring Program and 2) comply with the applicable regulatory | / 8. | Pol | . 1000 | roloi |
| | requirements? | ~ | - | | |
| 7 Corrective | actions as needed, by date: | | | | |

| 0'4 - N | A 2 -7 11 | | | | |
|----------------------------------|--|-------------------------|-----|----------|------------------|
| Site Name | AV-L Hammond | _ | | | |
| Permit Number | Mary all- | | | | |
| Well ID Data field conditions | MW-16 | - | | | |
| ate, field conditions | Clear, sunny 160-F (09/23/19) | = | | , | |
| 1.Location/ | Identification | yes | no | n/a | |
| a | Is the well visible and accessible? | × | | | |
| b | Is the well properly identified with the correct well ID? | \Rightarrow | | | |
| C | Is the well in a high traffic area and does the well require | $\stackrel{\sim}{-}$ | | | |
| _ | protection from traffic? | | X | | |
| d | Is the drainage around the well acceptable? (no standing water, | | | | |
| | nor is well located in obvious drainage flow path) | _×_ | | | |
| 2 Protective | e Casing | | | | |
| a | Is the protective casing free from apparent damage and able to be | , | | | |
| | secured? | X | | | |
| b | Is the casing free of degradation or deterioration? | -X | · - | - | |
| С | Does the casing have a functioning weep hole? | $\frac{1}{X}$ | S | | |
| d | Is the annular space between casings clear of debris and water, | | | | |
| | or filled with pea gravel/sand? | X | | | |
| е | Is the well locked and is the lock in good condition? | X | | | |
| 3 Surface p | pad | | | | |
| а | Is the well pad in good condition (not cracked or broken)? | X | | | |
| b | Is the well pad sloped away from the protective casing? | X | | | |
| С | Is the well pad in complete contact with the protective casing? | X | | | |
| d | Is the well pad in complete contact with the ground surface and | | 3 | | |
| | stable? (not undermined by erosion, animal burrows, and does not | | | | |
| | move when stepped on) | | | | |
| е | Is the pad surface clean (not covered with sediment or debris)? | | X | | minor regetation |
| 4 Internal c | asing | | | | 9,000 |
| а | Does the cap prevent entry of foreign material into the well? | X | | | |
| b | Is the casing free of kinks or bends, or any obstructions from | | | | |
| | foreign objects (such as bailers)? | X | | | |
| С | Is the well properly vented for equilibration of air pressure? | 7 | | | |
| d | Is the survey point clearly marked on the inner casing? | $\overline{\mathbf{x}}$ | | | |
| е | Is the depth of the well consistent with the original well log? | _X_ | | 0 | |
| f | Is the casing stable? (or does the pvc move easily when touched | | | | |
| | or can it be taken apart by hand due to lack of grout or use of slip | N. C | | | |
| | couplings in construction) | <u>X</u> | | | |
| 5 Sampling: | : Groundwater Wells Only: | | | | (|
| а | Does well recharge adequately when purged? | | | X | WL |
| b | If dedicated sampling equipment installed, is it in good condition | | | | only |
| | and specified in the approved groundwater plan for the facility? | | | <u>×</u> | orig |
| С | Does the well require redevelopment (low flow, turbid)? | | | × | |
| 6 Based on | your professional judgement, is the well construction / location | | | | |
| | appropriate to 1) achieve the objectives of the Groundwater | | | | |
| | Monitoring Program and 2) comply with the applicable regulatory | | | | |
| | requirements? | X | | | |
| 7 Corrective | actions as needed, by date: | | | ******* | |
| , 5511661146 | actions as necessary vale. | | | | |

| Site Nan Permit N | | AP-2 Hammond | _ | | | |
|----------------------|-----------------|---|----------------------|------|-------------|--------------|
| Nell ID | varriber | MW-I7- | - | | | |
| | ld conditions | 1001021 | = | | | |
| 110, 110 | na conditione | Clear + Sunny + 60° F (07/103/19) | yes | no | n/a | |
| | 1 Location/ | Identification | yes | 110 | 11/a | |
| | a | Is the well visible and accessible? | X | | | |
| | b | Is the well properly identified with the correct well ID? | <u>×</u> | 3-11 | | |
| | C | Is the well in a high traffic area and does the well require | | | _ | |
| | C | protection from traffic? | | × | | |
| | d | Is the drainage around the well acceptable? (no standing water, | | | | |
| | u | nor is well located in obvious drainage flow path) | ~ | | | |
| | | nor is well located in obvious drainage now patin) | | | - | |
| | 2 Protective | Casing | | | | |
| | а | Is the protective casing free from apparent damage and able to be | | | | |
| | | secured? | X | | | |
| | b | Is the casing free of degradation or deterioration? | X | | - | |
| | С | Does the casing have a functioning weep hole? | X | | | |
| | d | Is the annular space between casings clear of debris and water, | | | | |
| | | or filled with pea gravel/sand? | X | | | |
| | е | Is the well locked and is the lock in good condition? | X | | | |
| | | | <u> </u> | S | _ | |
| | 3 Surface p | | | | | |
| | а | Is the well pad in good condition (not cracked or broken)? | | | | |
| | b | Is the well pad sloped away from the protective casing? | × | | | |
| | С | Is the well pad in complete contact with the protective casing? | * | | | |
| | d | Is the well pad in complete contact with the ground surface and | | | | |
| | | stable? (not undermined by erosion, animal burrows, and does not | A | | | |
| | | move when stepped on) | X | | | f |
| | е | Is the pad surface clean (not covered with sediment or debris)? | | * | | miner vegeta |
| | A Transport ver | SOCIAL SOCIAL | | | | growth |
| | 4 Internal ca | | × | | | |
| | a | Does the cap prevent entry of foreign material into the well? | \sim | | | |
| | b | Is the casing free of kinks or bends, or any obstructions from | ~ | | | |
| | | foreign objects (such as bailers)? | \sim | | | |
| | С | Is the well properly vented for equilibration of air pressure? | $\underline{\times}$ | | | |
| | d | Is the survey point clearly marked on the inner casing? | _X_ | | | |
| | е | Is the depth of the well consistent with the original well log? | | | | |
| | f | Is the casing stable? (or does the pvc move easily when touched | | | | |
| | | or can it be taken apart by hand due to lack of grout or use of slip | J | | | |
| | | couplings in construction) | <u>~</u> | | | |
| | 5 Sampling | Groundwater Wells Only: | | | | |
| | | Does well recharge adequately when purged? | | | V- | |
| | a b | If dedicated sampling equipment installed, is it in good condition | | | \triangle | WL |
| | D | | | | × | WL only |
| | | and specified in the approved groundwater plan for the facility? Does the well require redevelopment (low flow, turbid)? | | | | |
| | С | boes the well require redevelopment (low flow, turbid)? | | | | |
| | 6 Based on | your professional judgement, is the well construction / location | | | | |
| E: | | appropriate to 1) achieve the objectives of the Groundwater | | | | |
| | | Monitoring Program and 2) comply with the applicable regulatory | | | | |
| | | requirements? | X | | | |
| | | | | | | |
| | 7 Corrective | actions as needed, by date: | | | | |
| | | | | | | |

Groundwater Monitoring Well Integrity Form Site Name Permit Number MW-18 Well ID 09/23/19 Pate, field conditions Clear ves n/a no 1 Location/Identification Is the well visible and accessible? а Is the well properly identified with the correct well ID? b Is the well in a high traffic area and does the well require С protection from traffic? Is the drainage around the well acceptable? (no standing water, d nor is well located in obvious drainage flow path) 2 Protective Casing Is the protective casing free from apparent damage and able to be а Is the casing free of degradation or deterioration? b Does the casing have a functioning weep hole? С d Is the annular space between casings clear of debris and water, or filled with pea gravel/sand? Is the well locked and is the lock in good condition? е 3 Surface pad Is the well pad in good condition (not cracked or broken)? а Is the well pad sloped away from the protective casing? b С Is the well pad in complete contact with the protective casing? d Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on) Is the pad surface clean (not covered with sediment or debris)? е 4 Internal casing а Does the cap prevent entry of foreign material into the well? Is the casing free of kinks or bends, or any obstructions from b foreign objects (such as bailers)? Is the well properly vented for equilibration of air pressure? C Is the survey point clearly marked on the inner casing? d Is the depth of the well consistent with the original well log? е Is the casing stable? (or does the pvc move easily when touched f or can it be taken apart by hand due to lack of grout or use of slip couplings in construction) 5 Sampling: Groundwater Wells Only: Does well recharge adequately when purged? а b If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?

Does the well require redevelopment (low flow, turbid)?

appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory

6 Based on your professional judgement, is the well construction / location

requirements?

7 Corrective actions as needed, by date:

С

| Intification Intification Intification Interest well visible and accessible? In the well properly identified with the correct well ID? In the well in a high traffic area and does the well require rotection from traffic? In the drainage around the well acceptable? (no standing water, for is well located in obvious drainage flow path) In the protective casing free from apparent damage and able to be recured? In the casing free of degradation or deterioration? In the casing have a functioning weep hole? In the annular space between casings clear of debris and water, filled with pea gravel/sand? In the well locked and is the lock in good condition? In the well pad in good condition (not cracked or broken)? In the well pad in complete contact with the protective casing? | yes | no | n/a | |
|---|--|--|---|--|
| entification Interest the well visible and accessible? In the well properly identified with the correct well ID? In the well in a high traffic area and does the well require rotection from traffic? In the drainage around the well acceptable? (no standing water, for is well located in obvious drainage flow path) In the protective casing free from apparent damage and able to be recured? In the casing free of degradation or deterioration? In the annular space between casings clear of debris and water, filled with pea gravel/sand? In the well locked and is the lock in good condition? The well pad in good condition (not cracked or broken)? In the well pad in complete contact with the protective casing? The well pad in complete contact with the protective casing? | yes V V V V | no | n/a | |
| entification Interest the well visible and accessible? In the well properly identified with the correct well ID? In the well in a high traffic area and does the well require rotection from traffic? In the drainage around the well acceptable? (no standing water, for is well located in obvious drainage flow path) asing In the protective casing free from apparent damage and able to be ecured? In the casing free of degradation or deterioration? In the casing have a functioning weep hole? In the annular space between casings clear of debris and water, filled with pea gravel/sand? In the well locked and is the lock in good condition? The well pad in good condition (not cracked or broken)? In the well pad sloped away from the protective casing? In the well pad in complete contact with the protective casing? | yes J J J J J J J J J J J J J | no | n/a | |
| s the well visible and accessible? If the well properly identified with the correct well ID? If the well in a high traffic area and does the well require rotection from traffic? If the drainage around the well acceptable? (no standing water, for is well located in obvious drainage flow path) It is protective casing free from apparent damage and able to be recured? If the casing free of degradation or deterioration? If the annular space between casings clear of debris and water, if filled with pea gravel/sand? If the well locked and is the lock in good condition? If the well pad in good condition (not cracked or broken)? If the well pad sloped away from the protective casing? If the well pad in complete contact with the protective casing? | yes / / / / / / / / / / / / / / / / / / | | nva | |
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| asing the protective casing free from apparent damage and able to be ecured? the casing free of degradation or deterioration? oes the casing have a functioning weep hole? the annular space between casings clear of debris and water, filled with pea gravel/sand? the well locked and is the lock in good condition? the well pad in good condition (not cracked or broken)? the well pad sloped away from the protective casing? the well pad in complete contact with the protective casing? | | = = = | = | |
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| the protective casing free from apparent damage and able to be ecured? the casing free of degradation or deterioration? oes the casing have a functioning weep hole? the annular space between casings clear of debris and water, filled with pea gravel/sand? the well locked and is the lock in good condition? the well pad in good condition (not cracked or broken)? the well pad sloped away from the protective casing? the well pad in complete contact with the protective casing? | <i>J J J J</i> | <u>=</u> | = | |
| the casing free of degradation or deterioration? oes the casing have a functioning weep hole? the annular space between casings clear of debris and water, r filled with pea gravel/sand? the well locked and is the lock in good condition? the well pad in good condition (not cracked or broken)? the well pad sloped away from the protective casing? the well pad in complete contact with the protective casing? | <i>y y y y y y y y y y</i> | = | | |
| oes the casing have a functioning weep hole? the annular space between casings clear of debris and water, filled with pea gravel/sand? the well locked and is the lock in good condition? the well pad in good condition (not cracked or broken)? the well pad sloped away from the protective casing? the well pad in complete contact with the protective casing? | | <u>=</u> | = | |
| oes the casing have a functioning weep hole? the annular space between casings clear of debris and water, filled with pea gravel/sand? the well locked and is the lock in good condition? the well pad in good condition (not cracked or broken)? the well pad sloped away from the protective casing? the well pad in complete contact with the protective casing? | \(\sigma \) | ======================================= | | |
| the well locked and is the lock in good condition? the well pad in good condition (not cracked or broken)? the well pad sloped away from the protective casing? the well pad in complete contact with the protective casing? | J | = | 3 | |
| the well locked and is the lock in good condition? the well pad in good condition (not cracked or broken)? the well pad sloped away from the protective casing? the well pad in complete contact with the protective casing? | <i>J</i> | _ | - | |
| the well pad in good condition (not cracked or broken)? the well pad sloped away from the protective casing? the well pad in complete contact with the protective casing? | <i>J</i> | | | |
| the well pad sloped away from the protective casing? the well pad in complete contact with the protective casing? | J | | | |
| the well pad sloped away from the protective casing? the well pad in complete contact with the protective casing? | 7 | | | |
| the well pad sloped away from the protective casing? the well pad in complete contact with the protective casing? | J | | | |
| the well pad in complete contact with the protective casing? | | | ·—— | |
| | | | | |
| the well pad in complete contact with the ground surface and | | | \longrightarrow | |
| able? (not undermined by erosion, animal burrows, and does not | | | | |
| ove when stepped on) | | | | |
| the pad surface clean (not covered with sediment or debris)? | V | | | |
| ng | | | | |
| pes the cap prevent entry of foreign material into the well? | 1 | | | |
| the casing free of kinks or bends, or any obstructions from | | | - | |
| reign objects (such as bailers)? | 1 | | | |
| the well properly vented for equilibration of air pressure? | 1/ | | | |
| the survey point clearly marked on the inner casing? | V | | | |
| the depth of the well consistent with the original well log? | V | | | |
| the casing stable? (or does the pvc move easily when touched | | | | |
| | , | | | |
| ouplings in construction) | _ | | | |
| roundwater Wells Only: | | | | |
| | | | | not |
| dedicated sampling equipment installed, is it in good condition | | | | Sampl |
| d specified in the approved groundwater plan for the facility? | | | V | MW. |
| pes the well require redevelopment (low flow, turbid)? | | | | WL |
| r professional judgement, is the well construction / location | | | | |
| | | | | |
| | (iP) |) | | 100 |
| Onitoring Program and 2) comply with the applicable regulatory | 110 | *1 | San (h | 24 |
| | | - | | (C) |
| | the survey point clearly marked on the inner casing? the depth of the well consistent with the original well log? the casing stable? (or does the pvc move easily when touched can it be taken apart by hand due to lack of grout or use of slip ouplings in construction) roundwater Wells Only: Des well recharge adequately when purged? dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility? | the survey point clearly marked on the inner casing? the depth of the well consistent with the original well log? the casing stable? (or does the pvc move easily when touched can it be taken apart by hand due to lack of grout or use of slip ouplings in construction) roundwater Wells Only: Des well recharge adequately when purged? Dededicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility? Des the well require redevelopment (low flow, turbid)? The professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater conitoring Program and 2) comply with the applicable regulatory equirements? | the survey point clearly marked on the inner casing? the depth of the well consistent with the original well log? the casing stable? (or does the pvc move easily when touched can it be taken apart by hand due to lack of grout or use of slip ouplings in construction) roundwater Wells Only: Des well recharge adequately when purged? Dededicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility? Des the well require redevelopment (low flow, turbid)? The professional judgement, is the well construction / location propriate to 1) achieve the objectives of the Groundwater conitoring Program and 2) comply with the applicable regulatory | the survey point clearly marked on the inner casing? the depth of the well consistent with the original well log? the casing stable? (or does the pvc move easily when touched can it be taken apart by hand due to lack of grout or use of slip ouplings in construction) roundwater Wells Only: Des well recharge adequately when purged? Dededicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility? Des the well require redevelopment (low flow, turbid)? Dur professional judgement, is the well construction / location propriate to 1) achieve the objectives of the Groundwater conitoring Program and 2) comply with the applicable regulatory |

| Site Name | Hammond PP-2 | | | | |
|-----------------------|---|--------------|-----|--------------|-----------|
| Permit Number | | | | | |
| Well ID | HGWC-1/8 | | | | |
| ate, field conditions | 04-23-2019 | | | . 1 | |
| 1 Location/le | dentification | yes | no | n/a | |
| a | Is the well visible and accessible? | V | | | |
| b | Is the well properly identified with the correct well ID? | | - | | |
| C | Is the well in a high traffic area and does the well require | | | | |
| v | protection from traffic? | \checkmark | | | |
| d | Is the drainage around the well acceptable? (no standing water, | | - | | |
| | nor is well located in obvious drainage flow path) | V | | | |
| 2 Protective | Casing | | | | |
| a | Is the protective casing free from apparent damage and able to be | | | | |
| | secured? | V | | | |
| b | Is the casing free of degradation or deterioration? | | WW. | 2174 | |
| С | Does the casing have a functioning weep hole? | 1 | | 0101 | |
| d | Is the annular space between casings clear of debris and water, | | | | |
| | or filled with pea gravel/sand? | V | | | |
| е | Is the well locked and is the lock in good condition? | J | | | |
| 3 Surface pa | ad | | | | |
| a | Is the well pad in good condition (not cracked or broken)? | 1 | | | |
| b | Is the well pad sloped away from the protective casing? | 7 | | | |
| С | Is the well pad in complete contact with the protective casing? | 1 | - | | |
| d | Is the well pad in complete contact with the ground surface and | | | | |
| | stable? (not undermined by erosion, animal burrows, and does not | _ | | | |
| | move when stepped on) | 1 | | | |
| е | Is the pad surface clean (not covered with sediment or debris)? | | | - | |
| 4 Internal ca | sing | | | | |
| | Does the cap prevent entry of foreign material into the well? | 1 | | | |
| b | Is the casing free of kinks or bends, or any obstructions from | | S | - | |
| | foreign objects (such as bailers)? | \checkmark | | | |
| | Is the well properly vented for equilibration of air pressure? | / | | | |
| | Is the survey point clearly marked on the inner casing? | | | | |
| | Is the depth of the well consistent with the original well log? | | | | |
| | Is the casing stable? (or does the pvc move easily when touched | | | | |
| | or can it be taken apart by hand due to lack of grout or use of slip couplings in construction) | 1 | | | |
| | , | | | | |
| | Groundwater Wells Only: | | | | |
| | Does well recharge adequately when purged? | | | | WL onl |
| | If dedicated sampling equipment installed, is it in good condition | | | ./ | (MM) 10 a |
| | and specified in the approved groundwater plan for the facility? Does the well require redevelopment (low flow, turbid)? | | | - | |
| C | boes the well require redevelopment (low now, turbid)? | | | | |
| | our professional judgement, is the well construction / location | | | | |
| | appropriate to 1) achieve the objectives of the Groundwater | | | | |
| | Monitoring Program and 2) comply with the applicable regulatory | 10 | £., | DO VE | 7 |
| | requirements? | 1 10 | P-I | <u> </u> | U1-1 |
| 7 Corrective | actions as needed, by date: | | | | |
| | | | | | |

| Site Name | Hammond AP-2 | | | |
|-----------------------|--|--------------|---------|------------|
| Permit Number | -77-47710000 | | | |
| Well ID | MW-21d | | | |
| nate, field condition | ns 09-23-2019 - 09-25-2019 | | | |
| 1 Locatio | n/Identification | yes | no | n/a |
| a | Is the well visible and accessible? | / | | |
| b | Is the well properly identified with the correct well ID? | | - | |
| С | Is the well in a high traffic area and does the well require | | | - |
| | protection from traffic? | V | | |
| d | Is the drainage around the well acceptable? (no standing water, | | | - |
| | nor is well located in obvious drainage flow path) | <u></u> | | |
| 2 Protecti | ive Casing | | | |
| a | Is the protective casing free from apparent damage and able to be | | | |
| | secured? | V | | |
| b | Is the casing free of degradation or deterioration? | | | |
| С | Does the casing have a functioning weep hole? | X(| 50 W WE | 10/04 |
| d | Is the annular space between casings clear of debris and water, | | 904 | |
| | or filled with pea gravel/sand? | | | |
| е | Is the well locked and is the lock in good condition? | | | ·—— |
| 3 Surface | pad | | | |
| а | Is the well pad in good condition (not cracked or broken)? | | | |
| b | Is the well pad sloped away from the protective casing? | / | | - |
| С | Is the well pad in complete contact with the protective casing? | | | |
| d | Is the well pad in complete contact with the ground surface and | | | |
| | stable? (not undermined by erosion, animal burrows, and does not | , | | |
| | move when stepped on) | | | |
| е | Is the pad surface clean (not covered with sediment or debris)? | | | |
| 4 Internal | casing | | | |
| а | Does the cap prevent entry of foreign material into the well? | / | | |
| b | Is the casing free of kinks or bends, or any obstructions from | | :==== | |
| | foreign objects (such as bailers)? | | | v <u> </u> |
| С | Is the well properly vented for equilibration of air pressure? | \checkmark | | |
| d | Is the survey point clearly marked on the inner casing? | | | |
| е | Is the depth of the well consistent with the original well log? | / | | |
| f | Is the casing stable? (or does the pvc move easily when touched | | | |
| | or can it be taken apart by hand due to lack of grout or use of slip | | | |
| | couplings in construction) | | - | |
| 5 <u>Samplin</u> | g: Groundwater Wells Only: | ß | 2 | (6A) . |
| а | Does well recharge adequately when purged? | | 0104 | 1010 A |
| b | If dedicated sampling equipment installed, is it in good condition | | | |
| | and specified in the approved groundwater plan for the facility? | | | |
| С | Does the well require redevelopment (low flow, turbid)? | | 1000 | 10/011 |
| 6 Based o | on your professional judgement, is the well construction / location | | | |
| | appropriate to 1) achieve the objectives of the Groundwater | | | |
| | Monitoring Program and 2) comply with the applicable regulatory | 1 | | N. |
| | requirements? | | | 10/04 |
| 7 Correcti | ve actions as needed, by date: | | | |
| | | | | |

| Site Name | AP-2 Hammond | | | |
|------------------------|--|-------------|----------|-----------|
| Permit Number | | • ; | | |
| Well ID | Mw22 | • | | |
| Pate, field conditions | 9/27/19 , clear, sunny 75°F | | | |
| | | yes | no | n/a |
| 1 Location/I | dentification | , | | |
| a | Is the well visible and accessible? | × | | |
| b | Is the well properly identified with the correct well ID? | | | (|
| С | Is the well in a high traffic area and does the well require | | | |
| | protection from traffic? | | × | |
| d | Is the drainage around the well acceptable? (no standing water, | | | 4 |
| | nor is well located in obvious drainage flow path) | _X_ | | |
| 2 Protective | Casing | | | |
| a | Is the protective casing free from apparent damage and able to be | | | |
| a | secured? | X | | |
| b | Is the casing free of degradation or deterioration? | ~ | | |
| c | Does the casing have a functioning weep hole? | | | - |
| d | Is the annular space between casings clear of debris and water, | | - | |
| - | or filled with pea gravel/sand? | × | | |
| е | Is the well locked and is the lock in good condition? | X | | ==== |
| . 🖘 🤞 | | | 3 | |
| 3 Surface p | | | | |
| a | Is the well pad in good condition (not cracked or broken)? | _×_ | | |
| b | Is the well pad sloped away from the protective casing? | _X_ | | |
| C | Is the well pad in complete contact with the protective casing? | <u>×</u> | | - |
| d | Is the well pad in complete contact with the ground surface and | | | |
| | stable? (not undermined by erosion, animal burrows, and does not move when stepped on) | ~ | | |
| е | Is the pad surface clean (not covered with sediment or debris)? | <u> </u> | | |
| C | is the pad surface clean (not covered with sediment of dephis)? | <u>×</u> | | |
| 4 Internal ca | asing | | | |
| а | Does the cap prevent entry of foreign material into the well? | X | | |
| b | Is the casing free of kinks or bends, or any obstructions from | | · | |
| | foreign objects (such as bailers)? | <u>×</u> | | |
| С | Is the well properly vented for equilibration of air pressure? | × | | |
| d | Is the survey point clearly marked on the inner casing? | _×_ | | |
| e | Is the depth of the well consistent with the original well log? | | \times | |
| f | Is the casing stable? (or does the pvc move easily when touched | | | |
| | or can it be taken apart by hand due to lack of grout or use of slip couplings in construction) | X | | |
| | couplings in construction) | | | |
| 5 Sampling: | Groundwater Wells Only: | | | 2257004.4 |
| а | Does well recharge adequately when purged? | | X | (NM |
| b | If dedicated sampling equipment installed, is it in good condition | | | |
| | and specified in the approved groundwater plan for the facility? | X | | |
| С | Does the well require redevelopment (low flow, turbid)? | * | × | |
| 6 Rosed on | your professional judgement, is the well sensitive / lessition | | | =====3 |
| o baseu on | your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater | | | |
| | Monitoring Program and 2) comply with the applicable regulatory | | | |
| | requirements? | ~ | | |
| | | ~ | - | |
| 7 Corrective | actions as needed, by date: | | | |

| Site Name | Hummind AP-2 | | | |
|-----------------------|--|--------------|-----|---------------|
| Permit Number | | • | | |
| Well ID | MW 23A | • | | |
| ate, field conditions | | | | |
| | 11 00 0 | yes | no | n/a |
| | Identification | , | | |
| a | Is the well visible and accessible? | | | - |
| b | Is the well properly identified with the correct well ID? | | | 4 |
| С | Is the well in a high traffic area and does the well require | ./ | | |
| -1 | protection from traffic? | | | - |
| d | Is the drainage around the well acceptable? (no standing water, | ./ | | |
| | nor is well located in obvious drainage flow path) | | | |
| 2 Protective | e Casing | | | |
| а | Is the protective casing free from apparent damage and able to be | | | |
| | secured? | | | |
| b | Is the casing free of degradation or deterioration? | | | |
| С | Does the casing have a functioning weep hole? | | | |
| d | Is the annular space between casings clear of debris and water, | , | | |
| | or filled with pea gravel/sand? | | | |
| е | Is the well locked and is the lock in good condition? | | | |
| 3 Surface p | ad | | | |
| a | Is the well pad in good condition (not cracked or broken)? | / | | |
| b | Is the well pad sloped away from the protective casing? | | | - |
| С | Is the well pad in complete contact with the protective casing? | | | ·—— |
| d | Is the well pad in complete contact with the ground surface and | | | |
| | stable? (not undermined by erosion, animal burrows, and does not | , | | |
| | move when stepped on) | | | |
| е | Is the pad surface clean (not covered with sediment or debris)? | <u></u> | | |
| 4 Internal ca | asing | | | |
| a | Does the cap prevent entry of foreign material into the well? | V | | |
| b | Is the casing free of kinks or bends, or any obstructions from | | | X |
| | foreign objects (such as bailers)? | 1 | | |
| С | Is the well properly vented for equilibration of air pressure? | 1 | | n |
| d | Is the survey point clearly marked on the inner casing? | - | === | |
| е | Is the depth of the well consistent with the original well log? | 1 | | |
| f | Is the casing stable? (or does the pvc move easily when touched | | | |
| | or can it be taken apart by hand due to lack of grout or use of slip | 4 | | |
| | couplings in construction) | | | (|
| 5 Sampling | Groundwater Wells Only: | | | 2/20 |
| a | Does well recharge adequately when purged? | / | | 10/04 |
| b | If dedicated sampling equipment installed, is it in good condition | | | |
| | and specified in the approved groundwater plan for the facility? | | | / |
| С | Does the well require redevelopment (low flow, turbid)? | 10 | | 10/01 |
| 6 Recod on | your professional judgement is the well construction / leastion | 10/01 | | |
| O Daseu OII | your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater | | | |
| | Monitoring Program and 2) comply with the applicable regulatory | 1 | | 1a |
| | requirements? | / | | A COLOR |
| | | | | Tola. |
| 7 Corrective | e actions as needed, by date: | | | |

APPENDIX C

Alternate Source Demonstration – Cobalt

Prepared for



Georgia Power Company 241 Ralph McGill Blvd NE Atlanta, Georgia 30308

ALTERNATE SOURCE DEMONSTRATION - COBALT GEORGIA POWER COMPANY PLANT HAMMOND ASH POND 2

Prepared by



engineers | scientists | innovators

1255 Roberts Boulevard, Suite 200 Kennesaw, Georgia 30144

Project Number GW6581B

January 2020



ALTERNATE SOURCE DEMONSTRATION

Plant Hammond Ash Pond 2 (AP-2)

January 14, 2020

Herwig Goldemund, Ph.D.

Senior Scientist

Whitney Law, P.E.

Project Manager

Certification Statement

Alternate Source Demonstration Plant Hammond Ash Pond 2 January 14, 2020

I hereby certify that the facts used to prepare this Alternate Source Demonstration for Georgia Power Company – Plant Hammond Ash Pond 2 are accurate pursuant to the requirements stipulated in 40 CFR 257.95(g)(3)(ii) and Georgia regulations stipulated in Rule 391-3-4-.10(6) of the Georgia Administrative Code, which incorporates 40 CFR 257.95(g)(3)(ii) by reference.

Seal and Signature

| Seal and Signature | Seal and Signature | Seal and Signature | Seal and Signature | Seal and Signature | Seal and Signature | Seal and Signature | January 14, 2020 | Date | Dat



TABLE OF CONTENTS

| 1. | INT | RODUC | CTION | 1 |
|----|-----|---------|--|----|
| | 1.1 | Purpos | se | 1 |
| | 1.2 | Summ | ary of ASD | 1 |
| | 1.3 | Site De | escription | 2 |
| | | 1.3.1 | Operations | 2 |
| | | 1.3.2 | Geology and Hydrogeology | 2 |
| | 1.4 | Groun | dwater Monitoring and Basis of Statistically Significant Level | 4 |
| | 1.5 | Subsec | quent Field Investigation Activities | 5 |
| | | 1.5.1 | Evaluation of Pore Water | 5 |
| | | 1.5.2 | Evaluation of Aquifer Solids | 5 |
| 2. | ALT | TERNAT | ΓΕ SOURCE DEMONSTRATION | 6 |
| | 2.1 | Natura | lly-Occurring Cobalt | 6 |
| | 2.2 | Mobili | zation Mechanism of Naturally-Occurring Cobalt | 7 |
| | 2.3 | Compa | arison of CCR Pore Water and Groundwater Outside AP-2 | 8 |
| 3. | CO | NCLUSI | ONS | 9 |
| 4 | REF | ERENC | `FS | 10 |



LIST OF TABLES

Table 1 Select Groundwater and CCR Pore Water CharacteristicsTable 2 Metals Concentrations in Solid Samples

LIST OF FIGURES

Figure 1 Site Location Map
Figure 2 Well and Soil Boring Location Map
Figure 3 Relationship Between pH and Cobalt Concentrations

LIST OF APPENDICES

Appendix A Site Geologic Map
Appendix B Boring and Well Construction Logs
Appendix C Laboratory Analytical Reports for Solid Samples

LIST OF ACRONYMS

AP ash pond
ASD Alternate Source Demonstration
CCR Coal Combustion Residual
CFR Code of Federal Regulations

Co cobalt Fe iron

GPC Georgia Power Company

GWPS groundwater protection standard

mg/kg milligram per kilogram mg/L milligram per liter

Mn manganese

SSI statistically significant increase SSL statistically significant level

s.u. standard units

1. INTRODUCTION

1.1 Purpose

This document presents an alternate source demonstration (ASD) for the statistically significant level (SSL) of cobalt (Co) detected in compliance well HGWC-18 above the site-specific groundwater protection standard (GWPS). Well HGWC-18 is associated with the CCR unit Ash Pond 2 (AP-2) located at Georgia Power Company (GPC) Plant Hammond (Site). The Co SSL was identified based on statistical evaluations of the groundwater quality data for samples obtained during assessment monitoring activities conducted during 2018 and 2019. This ASD has been prepared pursuant to regulations in Title 40 Code of Federal Regulations (CFR) Part 257 Subpart D [the Federal Coal Combustion Residuals (CCR) Rule], specifically 40 CFR 257.95(g)(3)(ii), which allows the owner or operator to "demonstrate that a source other than the CCR unit caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality." Moreover, this ASD also serves as an ASD under the Georgia regulations per Rule 391-3-4-.10(6) of the Georgia Administrative Code, which incorporates 40 CFR 257.95(g)(3)(ii) by reference.

1.2 Summary of ASD

Based on review of available AP-2 data, the Co SSL reported for monitoring well HGWC-18 is not associated with a release from AP-2 but is instead associated with natural variation in the groundwater quality due to mobilization of naturally-occurring Co present in the Floyd shale of the undifferentiated Mississippian/Devonian geologic unit underlying the northern portion of AP-2 as a consequence of naturally lower groundwater pH at this well. This ASD provides the following lines of evidence in support of this conclusion.

- Both historical literature and site-specific data collected from solids within the aquifer matrix indicate the presence of naturally-occurring Co in the Floyd shale observed in the northern portions of AP-2;
- The naturally-occurring Co is expected to be mobilized when pH conditions are more acidic, which is likely caused by naturally-occurring pyritic minerals observed in the Floyd shale in vicinity of AP-2; and

1

• The highest Co concentrations in groundwater are detected in monitoring well HGWC-18, which has a low groundwater pH (around pH 4.5). HGWC-18 is downgradient of a CCR pore water piezometer (i.e., PMW-04) with alkaline pH (pH > 8.5) and no greater than estimated (i.e., J-flagged) Co concentrations that are approximately 200-300 times lower when compared to HGWC-18; this indicates that both the elevated Co as well as the acidic groundwater pH are not related to a release from AP-2.

1.3 <u>Site Description</u>

1.3.1 Operations

Plant Hammond is a four-unit, coal-fired electric generating facility located in Floyd County, Georgia, approximately 10 miles west of Rome, Georgia. The Site 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**).

AP-2 is a 21-acre surface impoundment located at Plant Hammond. AP-2 is located near the center of the Plant as shown on **Figure 1**. AP-2 was used as a dewatering facility for fly ash and bottom ash. When the plant was operating, dewatered ash was excavated and transported to the nearby Huffaker Road Landfill facility, a permitted solid waste disposal location owned and operated by GPC. GPC will close AP-2 through removal of the CCR material from the CCR unit.

1.3.2 Geology and Hydrogeology

1.3.2.1 Geology

The Plant Hammond site is located in the Valley and Ridge Physiographic Province (Valley and Ridge) 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. The topography of the valleys and ridges reflects the underlying geology of the variably eroded folded layers of alternating bedrock units. Ridges are composed of relatively erosion-resistant rocks such as sandstone, conglomerate, or chert whereas valley floors are underlain by more-easily eroded rocks such as limestone, dolomite, and shale.

Geologic mapping performed at the Site by Petrologic Solutions, Inc. (Petrologic) under the direction of Golder (Golder, 2018) indicates the Site is underlain primarily by terrace alluvium, colluvium, residuum, partially weathered shale or shaley limestone bedrock,



and unweathered shale or shaley limestone bedrock. The majority of the bedrock underlying the Site is from either the middle or lower units of the Cambrian Conasauga Formation (Ccls or Ccsl, respectively). The extent of the two units underlying the Site is illustrated on a geologic map prepared by Petrologic and Golder and provided in **Appendix A**.

Faults in the Valley and Ridge are thrust faults, where sheets of limestone, sandstone, and shale have been pushed northwestward on top of each other for distances of tens of miles. The bedrock geology of the Conasauga Formation at the Site is effectively bisected by the Turnip Mountain Fault, as shown on the geologic map in **Appendix A**. North of the plant is the Rome Fault. Based on field borings and knowledge of the regional geology, Petrologic's investigation proposed that the Rome Fault dips at a shallow angle beneath the north-central portions of the Site, uplifting the middle and lower units of the Conasauga Formations.

As indicated on the geologic map, AP-2 is predominantly underlain with the lower unit of the Conasauga Formation. Bedrock from this unit is characterized by brown to gray shale with dolostone fragments (Golder, 2018). However, borings advanced in the northern portions of AP-2 during the Petrologic mapping investigation contained shale not consistent with the Conasauga formation. The borings were located slightly southeast of the intersection of the Rome and Turnip Mountain Faults depicted on the Site geologic map. The black color and fissile nature of the encountered shale was more consistent with shales found in the younger undifferentiated Devonian and Mississippian Floyd units (Golder, 2018). Wells MW-15, MW-16, MW-17, and MW-18 were installed in these boreholes and screened within the partially weathered shale; well locations are denoted on Petrologic's geologic map (Appendix A). Well MW-15 was subsequently renamed to compliance well HGWC-18. Well HGWA-6, which was installed approximately 14 months after the installation of wells MW-15, MW-16, MW-17, and MW-18, was also screened within the Floyd shale based on comparison of the boring logs for these five wells. Associated boring and well construction logs are provided in Appendix B.

It is also important to consider the spatial extent of the different shales associated with the lower Conasauga and Mississippian Floyd units. The weathering of different parent material with variable geochemical characteristics may yield residual soils that also display different geochemical characteristics within the groundwater samples collected from the same CCR unit. Based on this, the geochemical field parameters and groundwater quality reported for a bedrock-screened well located in the northern portion of AP-2 may be different for that reported for a bedrock-screened well located along the southern portion of AP-2. The certified AP-2 compliance monitoring well network



sampled semiannually includes 11 wells, of which six monitor conditions upgradient of AP-2 and are considered background wells (**Figure 2**). Of the five downgradient wells, only HGWC-18 is located in the northern portion of AP-2 and is screened within partially weathered Floyd shale. The remaining four (HGWC-14, HGWC-15, HGWC-16, and HGWC-17) are screened within the alluvium or residuum. Boring and well construction logs are provided in **Appendix B**. The fact that HGWC-18 is the only downgradient compliance well screened within the Floyd shale and reports Co groundwater concentrations nearly an order of magnitude higher than the derived SSL, provides supporting evidence that the Co SSL originates from a natural bedrock source.

1.3.2.2 Hydrogeology

The uppermost aquifer at AP-2 is a regional groundwater aquifer that occurs in the residuum and the weathered and fractured bedrock. Groundwater recharge is by precipitation falling onto bedrock outcrop areas and then percolating through lower lithologic units to the bedrock. The uppermost aquifer is considered as 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 residuum soil types and horizontal conductivity values, the movement of groundwater in the soil can be characterized as low-to moderate permeability, porous media flow. The shallow bedrock groundwater flow in the underlying bedrock is characterized as fracture flow (Geosyntec, 2019).

1.4 Groundwater Monitoring and Basis of Statistically Significant Level

CCR compliance groundwater monitoring-related activities have been performed for AP-2 since May 2016 pursuant to detection monitoring and assessment monitoring programs required by 40 CFR § 257.94 and 40 CFR § 257.95, respectively. GPC initiated the assessment monitoring program in January 2018 after identifying statistically significant increases (SSIs) of Appendix III parameter groundwater concentrations over background concentrations. Pursuant to 40 CFR § 257.95, samples were collected from the compliance monitoring well network, depicted on **Figure 2**, during 2018 and 2019 and analyzed for Appendix IV parameters. A SSL of Co was consistently identified within the 2018 and 2019 data for HGWC-18.

GPC initiated an Assessment of Corrective Measures on February 12, 2019. Pursuant to 40 CFR § 257.96, groundwater in the vicinity of AP-2 continues to be monitored during the remedy selection phase in accordance with the established assessment monitoring program. As part of the assessment program, three additional groundwater monitoring



wells were installed in 2018 to provide additional data to characterize flow conditions downgradient of AP-2 and to horizontally and vertically delineate the SSL of Co. Well MW-22 was installed for horizontal delineation and wells MW-21D and MW-23D were installed for vertical delineation. The locations of these wells are shown on **Figure 2**. Supporting boring and well construction logs are provided in **Appendix B**.

1.5 Subsequent Field Investigation Activities

1.5.1 Evaluation of Pore Water

Two temporary piezometers (PMW-03 and PMW-04) were installed in December 2018 within AP-2 and screened within the CCR materials. CCR pore water samples from these wells were collected to provide data to assess Co concentrations within AP-2 relative to groundwater conditions external to the unit. Temporary piezometers PMW-03 and PMW-04 were sampled in December 2018, March, April, and September 2019. CCR pore water sample results are representative of source conditions.

1.5.2 Evaluation of Aquifer Solids

Solid materials from soil and rock borings DPT-1 through DPT-4, DPT-6, MW-21D and MW-23D were collected and retained during previous field investigations and well installation activities. Samples were collected from target depth intervals and submitted for analysis to determine Co concentrations within the native geologic formation. Samples submitted for analysis included materials collected above the water table (if available) as well as from depth intervals coinciding with the screened intervals of adjacent and/or nearby wells. In natural geologic settings, Co tends to be associated with manganese (Mn) and iron (Fe) oxides. Historical geologic investigations have found Cobearing Mn-oxides in nearby locations (e.g., Pierce, 1944). To verify the occurrence of Mn and Fe oxides in the native formation, these metals were analyzed in addition to Co. The results are presented on **Table 2**; the laboratory report associated with these samples is provided in **Appendix C**. Interpretation of these data are presented in Section 2.



2. ALTERNATE SOURCE DEMONSTRATION

The following subsections analyze lines of evidence that the SSL of Co in groundwater monitoring well HGWC-18 is associated with natural variation in the groundwater quality due to mobilization of naturally-occurring Co as a consequence of lower groundwater pH.

2.1 Naturally-Occurring Cobalt

Cobalt is found naturally in soils and rocks at various concentrations depending on the geologic setting and host rock, which is corroborated by both historical technical reports and site-specific samples. Rose et al. (1979) report 19 milligrams per kilogram (mg/kg) as the average Co concentration for shales. Also, Co is reported to occur in various size deposits within the Floyd shale (Pierce, 1944) underlying large areas of Floyd County. Pierce also reports deposits of Mn and Fe oxide minerals with associated Co within the southern part of Floyd County, which is near where the Site is located. Aquifer solid samples collected at AP-2 confirm the presence of Co within the Floyd shale. The aquifer solid data collected at AP-2 are presented in **Table 2**; the data also illustrate that Co concentrations strongly correlate with Fe and Mn concentrations.

Pyritic minerals observed in the Floyd shale along bedding/slickensided surfaces at outcrops in vicinity of the Site suggest the Floyd shale is acting as a natural source of metals. Dissolved concentrations of naturally-occurring metals (i.e., desorption of Co) are commonly controlled by oxidation of the pyritic minerals, especially in mine settings, and the resulting decrease in groundwater pH. Under acidic conditions, like those reported in well HGWC-18, Co can desorb from these oxides.

As discussed in Section 1.5.2, aquifer solid samples were submitted from locations DPT-1 through DPT-4, DPT-6, MW-21D and MW-23D (**Figure 2**) and analyzed for Co, Mn, and Fe. Co concentrations vary from 1.2 mg/kg to 86 mg/kg (**Table 2**), which is consistent with the Rose et al. (1979) literature values for Co concentrations in natural formations. The similarity between the magnitude of Co concentrations observed in the field and that reported for a published geologic investigation supports the argument that the Co observed in the groundwater sample from HGWC-18 is more likely from a natural occurring source rather than the CCR unit. Had the site-specific data set been more disparate to published values (e.g., 1-2 orders of magnitude difference), it would have been far less likely that that the Co concentrations in well HGWC-18 originated from a natural source.



The variability observed in the aquifer solids samples collected at the Site (i.e., 1.2 to 86 mg/kg) indicates that certain pockets within the Floyd shale may contain higher concentrations of naturally occurring Co as evidenced by the elevated concentration in the deeper sample at DPT-04 (86 mg/kg). The results of the aquifer solid samples demonstrate that there is naturally-occurring Co within soils and bedrock at AP-2, which corroborates the boring logs. Further, it demonstrates that Co concentrations documented in scientific reports for the area are representative of the conditions at the Site. The naturally-occurring Co observed in the aquifer solids can contribute to higher dissolved Co concentrations in groundwater under certain geochemical conditions, mainly through a lower pH.

2.2 <u>Mobilization Mechanism of Naturally-Occurring Cobalt</u>

The naturally-occurring Co of the aquifer matrix near HWGW-18 is likely mobilized by natural acidic conditions within groundwater, believed due to the oxidation of pyritic minerals. Pyrite (FeS₂) is an iron sulfide that oxidizes to ferrous iron (Fe²⁺) and sulfate (SO₄), releasing hydrogen ions, which lowers the pH of groundwater. The presence of pyrite in vicinity of HGWC-18 has been both observed directly within AP-2 boring logs or suggested by laboratory analytical data reported for the aquifer solid samples and historical groundwater data.

Pyrite was observed within the HGWA-6 boring core during the December 2015 well installation; the well is located approximately 500 feet west and slightly south of HGWC-18 (**Figure 2**). Based on the HGWA-6 boring log description, the well is screened within the Floyd shale. The HGWA-6 log description for the screen interval is similar to the log descriptions noted for wells located along the northern portion of AP-2. Pyrite was also observed in the boring core of well HGWA-5, which is co-located with HGWA-6 but screened at a shallower depth. The boring logs are provided in **Appendix B**. Pyritic minerals have also been observed within multiple borings advanced within the Floyd shale at the nearby (less than 5 miles) Huffaker Road Landfill facility (SCS, 2002). An ASD was previously prepared for the Huffaker Road facility attributing the oxidation of the pyritic minerals to create lower groundwater pH conditions in localized areas which resulted in the mobilization of pH sensitive metals (Co, nickel, and zinc) (Geosyntec, 2018).

Additional evidence that pyritic minerals are present and have oxidized is the elevated Fe concentrations reported within the aquifer solids (**Table 2**) and an average sulfate groundwater concentration of 1,020 milligrams per liter (mg/L) for samples collected from HGWC-18 (Geosyntec, 2019). Pyrite forms Fe and sulfate under oxidizing conditions.



Pore water conditions within AP-2 upgradient of HGWC-18 (i.e., in piezometer PM-04) are alkaline and therefore CCR pore water is not the source of acidic groundwater downgradient of AP-2 in this location.

Figure 3 illustrates the relationship between pH and Co concentrations derived from site-specific samples obtained from compliance wells, delineation wells, and CCR pore water piezometers. The data present a robust statistical relationship between pH and Co concentrations ($R^2 = 0.74$), with Co concentrations increasing as pH values decrease. Note that groundwater results from monitoring well HGWC-14 appear to be an exception in that the pH is low, but the Co concentrations in groundwater are also relatively low. Well HGWC-14 is screened in alluvium and not in the Floyd shale, which appears to be absent on the southern side of AP-2.

2.3 Comparison of CCR Pore Water and Groundwater Outside AP-2

Since CCR pore water upgradient of HGWC-18 (i.e., PMW-04) is alkaline, it cannot be the source of acidity in this well. The pH of CCR pore water within the northern portion of AP-2, represented by temporary piezometer PMW-04, varied between 7.96 standard units (s.u.) and 8.76 s.u. during the four sampling events of this well (see **Table 1**). This data is representative of pore water conditions upgradient of groundwater well HGWC-18, which has exhibited the lowest groundwater pH conditions (i.e., around 4.5 s.u.) coupled with the highest Co concentrations in groundwater (between 0.14 mg/L and 0.22 mg/L). Cobalt concentrations in pore water at PMW-04 remained relatively constant between a non-detection and estimated value 0.00082 mg/L, which is approximately 200-300 times lower compared to outside groundwater monitoring well HGWC-18. Therefore, CCR pore water in this area of AP-2 cannot be the source of groundwater acidity or Co concentrations outside of AP-2.



3. CONCLUSIONS

The following lines of evidence support the conclusion that the Co SSLs reported for monitoring well HGWC-18 are attributed to natural variation in the groundwater quality due to mobilization of naturally-occurring Co as a consequence of lower groundwater pH at these wells.

• Naturally-Occurring Co:

- O Both historical literature as well as site-specific data collected from solids within the aquifer matrix indicate the presence of naturally-occurring Co in the geologic formations of this area; specifically, the Floyd shale in which well HGWC-18 is screened, has been shown to contain Co-bearing Mn oxides.
- Mobilization Mechanism of Naturally-Occurring Co:
 - The naturally-occurring Co is expected to be mobilized when pH conditions are more acidic; this correlation is supported by the site-specific data obtained from AP-2 compliance wells, delineation wells, and CCR pore water wells; acidic groundwater conditions at HGWC-18 are not related to CCR pore water conditions upgradient of this well, as defined by PMW-04, and is believed related to pyrite oxidation within the Floyd shale.
- Comparison of CCR Pore Water and Groundwater Outside of AP-2:
 - The highest Co concentrations in groundwater are detected in monitoring well HGWC-18, which has a low groundwater pH (around pH 4.5). HGWC-18 is downgradient of a CCR pore water piezometer (i.e., PMW-04) with alkaline pH (pH > 8.5 s.u.) and estimated Co concentrations that are approximately 200-300 times lower compared to HGWC-18; this indicates that both the elevated Co as well as the acidic groundwater pH are not related to a release from AP-2.

4. REFERENCES

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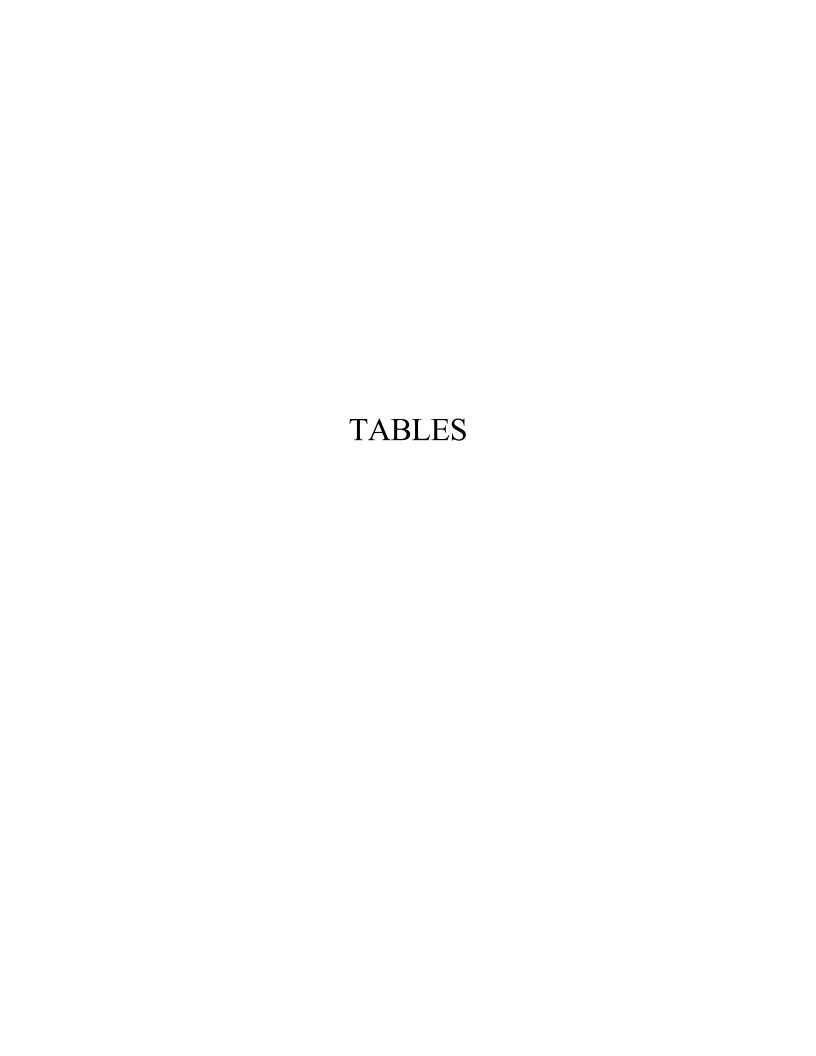


Table 1Select Groundwater and CCR Pore Water Characteristics
Plant Hammond AP-2, Floyd County, Georgia

| Sample | mple HGWC-14 | | HGWC-15 | | HGWC-16 | | HGWC-17 | | HGWC-18 | | MW-21D | | MW-22 | | MW-23D | | PMW-03 | | PMW-04 | |
|-------------------|--------------|------|--------------|------|----------------|------|---------|------|-------------|------|----------------|------|--------|------|----------------|------|--------|------|----------------|------|
| Event Date | Cobalt | pН | Cobalt | pН | Cobalt | pН | Cobalt | pН | Cobalt | pН | Cobalt | pН | Cobalt | pН | Cobalt | pН | Cobalt | pН | Cobalt | pН |
| May-2016 | ND | 4.56 | ND (0.042 J) | 6.17 | ND | 7.15 | 0.017 | 6.40 | ND (0.17 J) | 4.83 | | | | | | | | | | |
| Jul-2016 | 0.023 | 4.49 | 0.039 | 6.17 | ND | 7.10 | 0.015 | 6.09 | 0.17 | 4.58 | | | | | | | | | | |
| Sep-2016 | 0.025 | 4.54 | 0.045 | 6.22 | ND | 7.29 | 0.015 | 6.35 | 0.18 | 4.51 | | | | | | | | | | |
| Oct-2016 | 0.025 | 4.63 | 0.056 | 5.97 | ND | 7.03 | 0.014 | 6.23 | 0.19 | 4.53 | | | | | | | | | | |
| Dec-2016 | 0.027 | 4.60 | 0.054 | 5.87 | ND | 6.85 | 0.014 | 6.23 | 0.21 | 4.56 | | | | | | | | | | |
| Jan-2017 | 0.029 | 4.80 | 0.055 | 6.05 | ND | 7.07 | 0.015 | 6.24 | 0.20 | 4.61 | | | - | | | | | | | |
| Mar-2017 | 0.031 | 4.57 | 0.072 | 5.79 | ND | 7.15 | 0.017 | 6.25 | 0.22 | 4.63 | | | | | | | | | | |
| May-2017 | 0.028 | 4.61 | 0.045 | 6.01 | ND | 7.11 | 0.015 | 6.27 | 0.21 | 4.69 | | | | | | | | | | |
| Apr-2018 | 0.025 | 4.50 | 0.032 | 5.98 | ND | 7.07 | 0.016 | 6.22 | 0.19 | 4.54 | | | - | | | | | | | |
| Jun-2018 | 0.027 | 4.49 | 0.032 | 6.12 | ND | 7.00 | 0.018 | 6.22 | 0.19 | 4.57 | | | - | | | | | | | |
| Oct-2018 | 0.023 | 4.67 | 0.051 | 5.92 | ND | 6.94 | 0.016 | 6.23 | 0.19 | 4.41 | | | | | | | | | | |
| Dec-2018 | | | | | | | - | | | | | | - | | | | 0.020 | 6.08 | ND (0.00064 J) | 7.96 |
| Mar-2019 | 0.025 | 4.66 | 0.038 | 5.71 | ND | 7.09 | 0.017 | 6.32 | 0.16 | 4.39 | ND | 6.81 | 0.028 | 5.95 | ND (0.0013 J) | 6.68 | 0.17 | 4.15 | ND (0.00059 J) | 8.63 |
| Apr-2019 | 0.021 | 4.67 | 0.035 | 5.66 | ND (0.00028 J) | 6.94 | 0.016 | 6.26 | 0.14 | 4.50 | ND (0.00034 J) | 6.70 | 0.022 | 5.96 | ND (0.0012 J) | 6.70 | 0.14 | 3.78 | ND (0.00082 J) | 8.75 |
| Sep-2019 | 0.026 | 4.77 | 0.022 | 6.33 | ND | 6.92 | 0.015 | 6.28 | 0.18 | 4.54 | ND | 6.54 | 0.035 | 5.81 | ND (0.00098 J) | 6.64 | 0.053 | 5.01 | ND | 8.76 |

1 of 1

Notes:

-- = No sample collected during the event

CCR = coal combustion residual

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

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

- (1) Cobalt is reported in units of milligrams per liter (mg/L); pH reported as s.u. (standard units).
- (2) Cobalt was analyzed by EPA Method 6020B. The pH value presented was recorded at the time of sample collection in the field.
- (3) The April 2018 event was the first sampling event conducted under the assessment monitoring phase.

January 2020

Table 2
Metals Concentrations in Solid Samples
Plant Hammond AP-2, Floyd County, Georgia

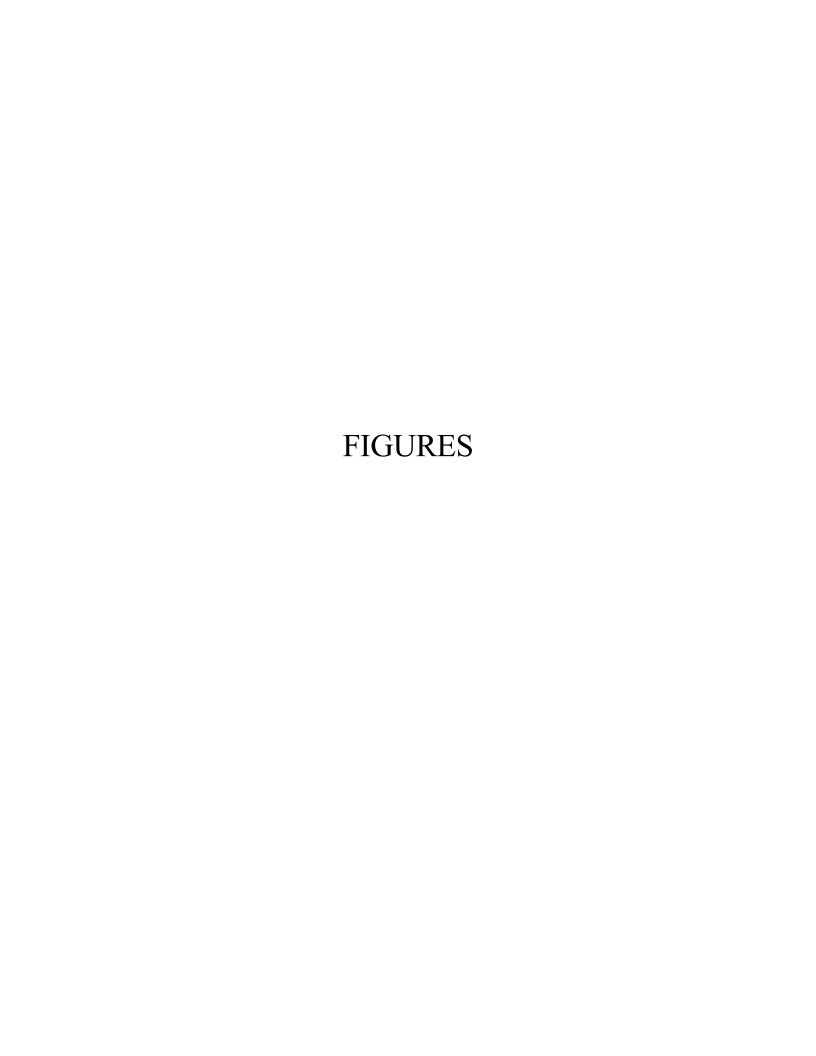
| Sample Location: | DPT-01 | | DPT-02 | | DP | Γ-03 | DP | Γ-04 | DP | Γ-06 | MW-21D | MW-23D |
|------------------------|--------|--------|--------|--------|-------|--------|-------|--------|--------|--------|--------|--------|
| Sample Depth (ft bgs): | 10.5 | 30 | 7 | 25 | 11 | 19 | 11.5 | 20 | 3 | 9 | 35-45 | 50-60 |
| Cobalt | 13 | 14 | 8.9 | 11 | 1.8 | 5.7 | 1.2 | 86 | 3.1 | 8.9 | 9.7 | 2.1 |
| Iron | 30,000 | 31,000 | 19,000 | 21,000 | 4,200 | 26,000 | 7,100 | 90,000 | 20,000 | 22,000 | 30,000 | 5,400 |
| Manganese | 470 | 630 | 130 | 1300 | 6.9 | 51 | 19 | 2,600 | 61 | 110 | 510 | 720 |

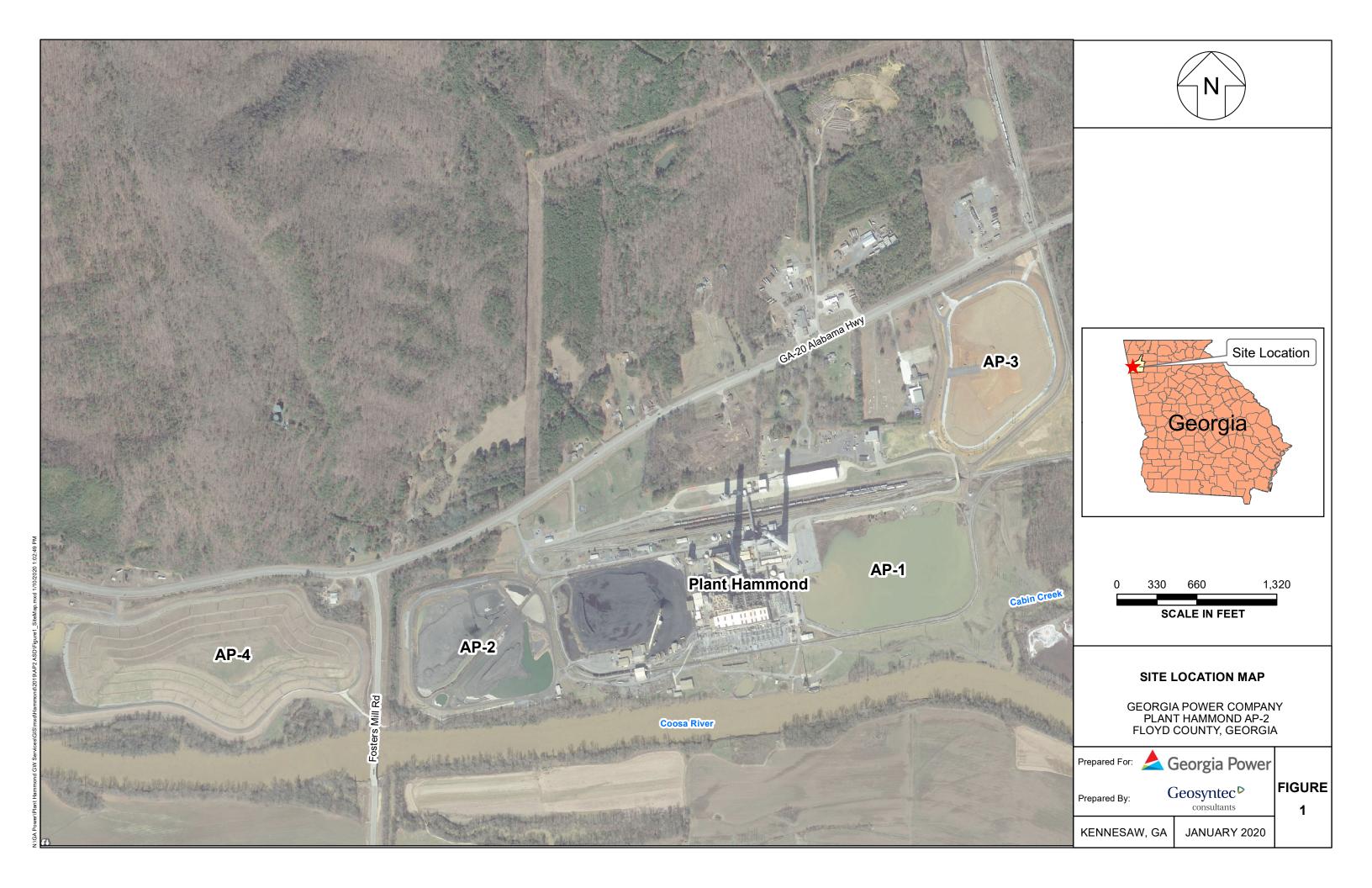
Notes:

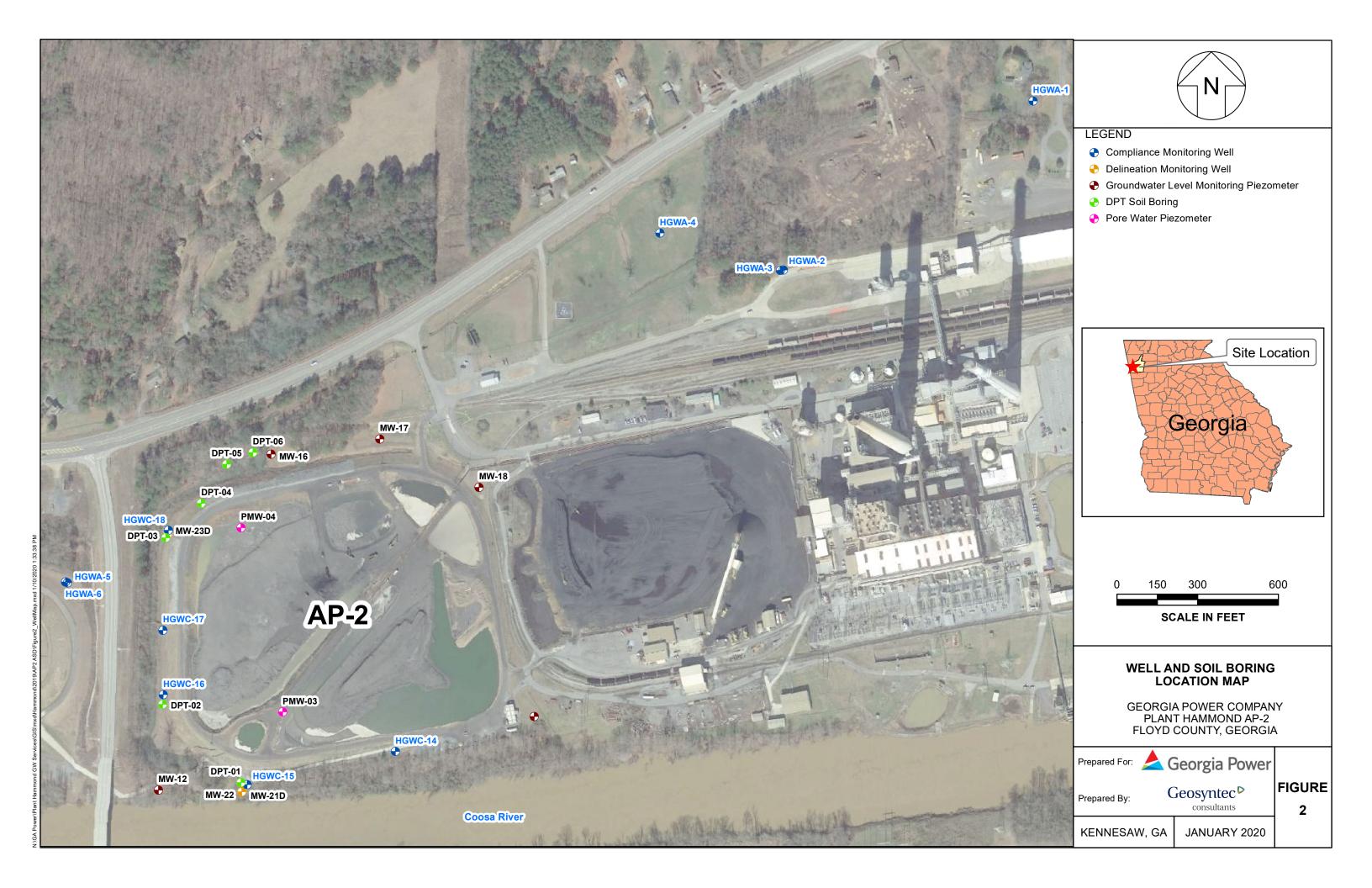
ft bgs = feet below ground surface

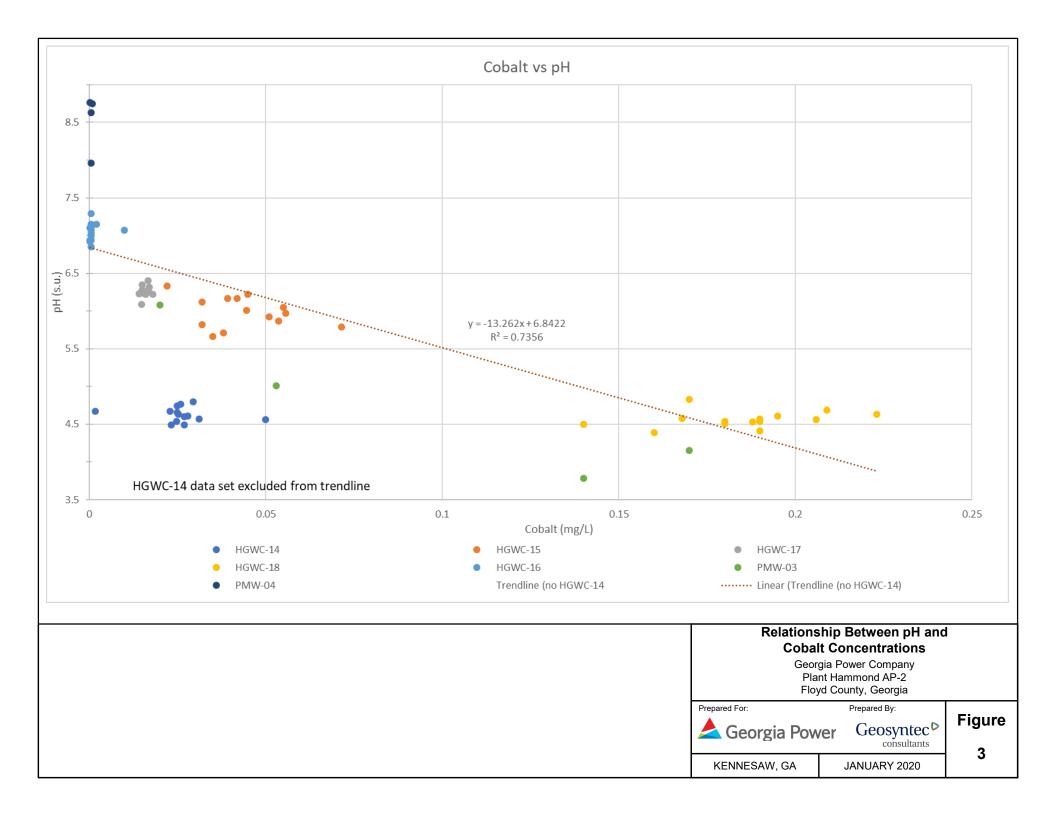
- (1) Metals are reported in units of milligrams per kilogram (mg/Kg).
- (2) Metals were analyzed by EPA Method 6020B.

1 of 1 January 2020



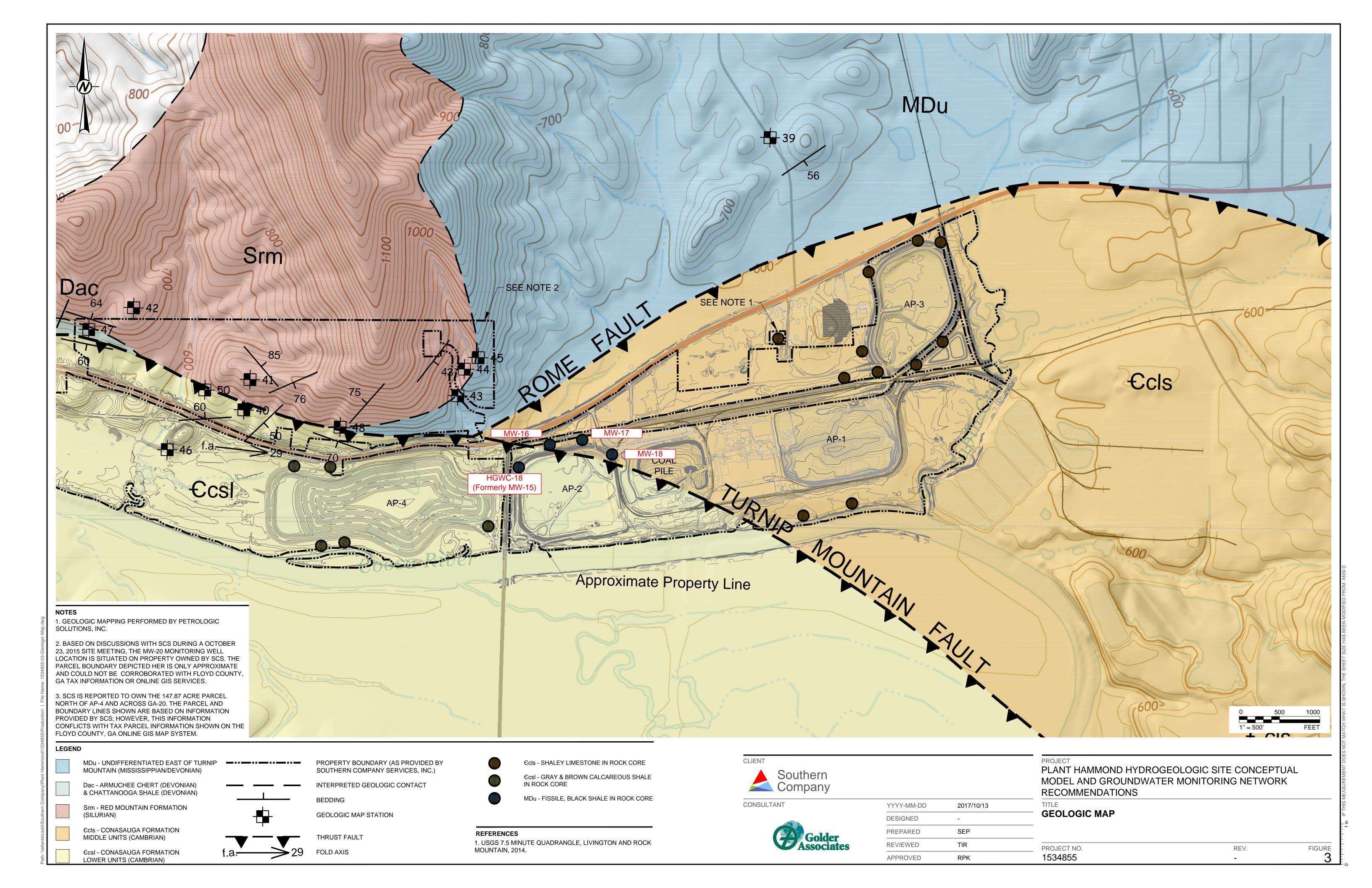






APPENDIX A

Site Geologic Map



APPENDIX B

Boring and Well Construction Logs



2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 7/13/15 10:23 - S.:WORKGROUPS/APC GENERAL SERVICE COMPLEXICIVIL TECH SUPPORTIDRILLING/PROJECTS/GA-HAMMOND/HAMMOND ASH POND PIEZUPDATED HAMMOND PZ BORING L.

LOG OF TEST BORING

BORING AP02-MW16 PAGE 1 OF 1 ECS37736

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| 0 0 0 0 | | | | | | | 10.0 | (33) | | |
| □ _V | 2.5 | | | | 561.8 | | | | | |
| · | Shale | | | | | | | | Auger refusal at 10.9 ft. | |
| | black | k, steep bedding | g dip, fissle, low-angle fold | I, few thin | | | | | | |
| | white | veins | - | | | RC | 10.9- | 98 | | |
| | _ | | | | | -1 | 14.9 | (90) | | |
| | | | | | | | | | | |
| - 12 | hlasi | | n din finala lavv anala fala | l fa 4h: | | | | | | |
| - | - black white | | g dip, fissle, low-angle fold | i, rew thin | | | | | | |
| | - | | | | | | | | | |
| | _ | | | | | | 1 | | | |
| - | 7 | | | | | RC -2 | 14.9- 19.9 | 102 (30) | | |
| | | | | | | | | | | |
| | _ | | | | | | | | | |
| | <u> </u> | | | | 552.8 | | | | | |
| | | Bottom o | f borehole at 19.9 feet. | | | | | | | |



2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 7/13/15 10:23 - S.:WORKGROUPS/APC GENERAL SERVICE COMPLEXICIVIL TECH SUPPORTIDRILLING/PROJECTS/GA-HAMMOND/HAMMOND ASH POND PIEZUPDATED HAMMOND PZ BORING L.

LOG OF TEST BORING

BORING AP02-MW17 PAGE 1 OF 1 ECS37736

| | COMPANY |) | ים וכ | OIVIII | J | |
|------------------------------|---|------------|-----------------------|-----------------------|---------------------------|-----------------------------|
| SOUT | ΓHERN COMPANY SERVICES, INC. | PRO | JECT _/ | Ash Pond | Piezometers | |
| | TH SCIENCE AND ENVIRONMENTAL ENGINEERING | LOC | ATION _ | Plant Ha | mmond | |
| DATE S | STARTED 10/28/2014 COMPLETED 10/28/2014 S | SIIDE ELEV | V 584 | 8 | COOPDINATE | S. N.34 252880 E. 85 352108 |
| | ACTOR SCS Field Services EQUIPMENT | | | | = | |
| | D BY _T. Milam LOGGED BY _W. Shaughnessy | | | | | |
| | G DEPTH 25.1 ft. GROUND WATER DEPTH: DUR | | | | | |
| | Well installed. Refer to well data sheet. | | | | | |
| | | | Й | 王 | BLOW | |
| DEPTH (ft) GRAPHIC LOG | STRATA DESCRIPTION | | 두띘 | DEP | (N-VALUE) | COMMENTS |
| DEPTH (ft) GRAPHIC LOG | | | PLE | E | PERCENT | COMMENTO |
| | | | SAMPLE TYPE NUMBER | SAMPLE DEPTH (ft.) | RECOVERY (RQD) | |
| /// | Lean Clay (CL) | ELEV | | 0) | (1102) | |
| /// | | | | | | |
| \// | | | | | | |
| /// | | | | | | |
| | - pale gray-brown, dry, stiff, low to medium plasticity, | | 00 | | 5-5-8 | |
| 2 | silty, with yellow-red mottling | | SS -1 | 3.5-5.0 | (13) | |
| | | | | | | |
| \// | 1 | | | | | |
| [/// | $ar{ar{ar{	au}}}$ | | | | | |
| [/// | | | | | | |
| /// | - pale brown, dry, very stiff, low to medium plasticity, with brown yellow mottling, coarse sub-rounded to well | | V ss | 8.5- | 5-8-10 | |
| ₽/// | rounded gravel | I - | -2 | 10.0 | (18) | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| \// | | | | | | |
| | - yellow-brown, dry, very hard, silty, low recovery | | SS -3 | 13.5- 15.0 | 5-18-35 (53) | |
| 12 | | | A -3 | 13.0 | (33) | |
| \// | | | | | | |
| | | 567.6 | 6 | | | |
| | Silty Gravel (GM) | | | | | |
| | - dark gray to black, very moist to wet, very dense, | | | 10.5 | 22 44 40 | |
| 8 20 | partially weathered shale | | SS -4 | 18.5- 20.0 | 33-41-40 (81) | |
| | <u>-¥-</u> 1 | | | | | |
| Jo 101 | | | | | | |
|) Pl. | | | | | | |
| | | | | | | |
| | - dark gray to black, dry to very moist, very dense, | | SS -5 | 23.5- | 21-50/2" | |
| 22/2 | partially weathered shale | 559.5 | | 24.2 | (100+) | |
| | Bottom of borehole at 25.1 feet. | | | | | |

2013 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE GDT - 7/13/15 10:23 - S/WORKGROUPS/APC GENERAL SERVICE COMPLEXICIVIL TECH SUPPORTUDRILLING/PROJECTS/GA-HAMMOND/HAMMOND ASH POND PIEZUPDATED HAMMOND PZ BORING L/

BORING AP02-MW18 PAGE 1 OF 1

ECS37736 LOG OF TEST BORING **PROJECT** Ash Pond Piezometers SOUTHERN COMPANY SERVICES, INC. EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING **LOCATION** Plant Hammond DATE STARTED 10/28/2014 COMPLETED 10/29/2014 SURF. ELEV. 590.6 COORDINATES: N:34.252398 E:-85.350970 **EQUIPMENT** CME 550 **METHOD** Hollow Stem Auger; Hollow Stem Auger CONTRACTOR SCS Field Services DRILLED BY T. Milam LOGGED BY _W. Shaughnessy __ CHECKED BY _L. Millet **ANGLE BEARING** BORING DEPTH 29.2 ft. GROUND WATER DEPTH: DURING 10 ft. COMP. DELAYED 9.6 ft. after 24 hrs. NOTES Well installed. Refer to well data sheet. SAMPLE DEPTH (ft.) **BLOW** SAMPLE TYPE NUMBER COUNTS Œ GRAPHIC (N-VALUE) LOG STRATA DESCRIPTION **COMMENTS** DEPTH **PERCENT RECOVERY** (RQD) ELE\ Fill (SC) - olive brown, dry, medium dense, with black mottling, 5-7-12 3.5-5.0 coal sand (19)- dark olive brown to black, very moist to wet, very loose, SS 8.5-1-1-3 🔀 some gravel, fine coal or ash -2 10.0 (4) 578.6 Lean Clay (CL) - yellow-brown, damp, very stiff, with gray and yellow-red 5-7-12 SS 13.5mottling, some fine well-rounded gravel -3 15.0 (19)- yellow-brown, damp, very hard, with gray and yellowred mottling, some fine well-rounded gravel 571.6 SS 18.5-25-50/1" Silty Gravel (GM) -4 19.1 (100+)20 black, wet SS 23.5-32-50/2" - black, wet, very dense, angular gravel, weathered 24 2 (100+)shale - black, dry to very moist, very dense, sandy, angular gravel, sheared (irregular) fabric, weathered shale 37-50/2' 28.5-(100+)292

Bottom of borehole at 29.2 feet.

BORING MW20 PAGE 1 OF 1

SOUTHERN

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE GDT - 7/13/15 10:24 - S.WORKGROUPS/APC GENERAL SERVICE COMPLEXICIVIL TECH SUPPORT/DRILLING/PROJECTS/GA-HAMMOND/HAMMOND ASH POND PIEZUPDATED HAMMOND PZ BORING LI

LOG OF TEST BORING

ECS37736 PROJECT Ash Pond Piezometers SOUTHERN COMPANY SERVICES, INC. EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING **LOCATION** Plant Hammond DATE STARTED 12/3/2014 COMPLETED 12/3/2014 SURF. ELEV. 592.6 COORDINATES: N:34.256407 E:-85.344210 **EQUIPMENT** CME 550 **METHOD** Hollow Stem Auger; HQ Rock Core CONTRACTOR SCS Field Services LOGGED BY W. Shaughnessy CHECKED BY L. Millet DRILLED BY T. Milam ANGLE **BEARING** BORING DEPTH 29.7 ft. ___ GROUND WATER DEPTH: DURING _____ COMP. ___ DELAYED 17.1 ft. after 24 hrs. NOTES Well installed. Refer to well data sheet. SAMPLE DEPTH (ft.) **BLOW** SAMPLE TYPE NUMBER COUNTS £ GRAPHIC (N-VALUE) STRATA DESCRIPTION **COMMENTS** DEPTH **PERCENT RECOVERY** (RQD) ELEV Clayey Gravel (GC) - brown and light brown, dry, dense SS -1 7-13-18 3.5-5.0 (31)586.6 Silty Clay (CL) - pale gray-brown, dry, very stiff, with red and yellow-7-10-12 SS 8.5-10.0 (22)- brown, dry, stiff, with gray mottling 6-6-6 SS 13.5--3 15.0 (12)574.1 Auger refusal at 18.5 ft. SHALEY LIMESTONE RC 18.7-95 25.2 (23)- gray and dark gray, not to highly weathered, shale seams less than 1/2 inch, shear/fracture zone fabric, near vertical bedding, water staining RC 25.2-98 29.7 (9)Bottom of borehole at 29.7 feet.

WELL: MW20 PAGE 1 OF 1

HGWA-1 **RECORD OF SOUTHERN** WELL CONSTRUCTION PROJECT Ash Pond Piezometers SOUTHERN COMPANY SERVICES, INC. EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING **LOCATION** Plant Hammond **DATE STARTED** 12/3/2014 **COMPLETED** 12/3/2014 **SURF. ELEV.** 592.6 **COORDINATES:** N:34.256407 E:-85.344210 CONTRACTOR SCS Field Services **EQUIPMENT** CME 550 METHOD Hollow Stem Auger; HQ Rock Core DRILLED BY T. Milam LOGGED BY W. Shaughnessy CHECKED BY L. Millet ANGLE **BEARING** BORING DEPTH 29.7 ft. GROUND WATER DEPTH: DURING COMP. DELAYED 17.1 ft. after 24 hrs. NOTES Well installed. Refer to well data sheet. **BOREHOLE COMMENTS WELL DATA** DATA DEPTH Surface: protective aluminum cover with bollards; 4-foot square concrete pad ELEV. Strata Surface Seal: concrete 590.6 (2.0)Well: 2" OD PVC (SCH 40) 586.6 -Annular Fill: Cement-Bentonite Grout (2 - 94lbs. bags, 22 gal.) 582.7 (9.9)←Annular Seal: 3/8 bentonite pellets (1 - 50lbs. bucket) 578.0 (14.6)Filter: #1A silica filter sand (2 - 50lbs. bags) 574.1 573.4 (19.2)-Screen: 10 ft. 0.010" slot pre-pack 563.4 562.9 Sump:0.40 ft. 563.0 Backfill: Silica Sand

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE. GDT - 7/8/15 13:11 - S.:WORKGROUPS!APC GENERAL SERVICE COMPLEXICIVIL TECH SUPPORTIDRILLING!PROJECTSIGA-HAMMOND!HAMMOND ASH POND PIEZUPDATED HAMMOND PZ BORINI

PROJECT: SCS Hammond PROJECT NUMBER: 1545812 DRILLED DEPTH: 27.00 ft LOCATION: Rome, GA

RECORD OF BOREHOLE

DRILL RIG: Pro Sonic 150
DATE STARTED: 12/2/15
DATE COMPLETED: 12/2/15

DATE COMPLETED: 12/2/15

DATE COMPLETED: 12/2/15

DATE COMPLETED: 12/2/15

DATE COMPLETED: 12/2/15

DATE COMPLETED: 12/2/15

DATE COMPLETED: 12/2/15

SHEET 1 of 1

DEPTH W.L.: 8.19 (bgs) ELEVATION W.L.: (amsl) DATE W.L.: 12/2/15 TIME W.L.: 11:10

| | z | SOIL PROFILE | | | | S | AMPLE | S | | |
|-----------|--------------------|---|------|----------------|------------------------------------|------------|-------|-----|--|---|
| (#) | ELEVATION (ft) | DESCRIPTION | nscs | GRAPHIC LOG | ELEV. DEPTH (ft) | SAMPLE NO. | TYPE | REC | MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES | WELL CONSTRUCTION DETAILS |
| 0 - | 585 | 0.00 - 3.00 CLAY; light brown/grey silty clay, trace organic material, soft | CL | | 582.23 | S | | | Portland Type I/ Type – II/ Gel mix | WELL CASING Interval: -3'-15' Material: Schedule 40 PVC Diameter: 6" Joint Type: Screw/Flush |
| 5 - | - - 580 - | 3.00 - 7.00 SILTY CLAY; grey/orange/light brown silty clay, mottled, stiff to very stiff, some black streaking from 3'-4', moist | CL | | 3.00 | | | | Portland Type I/ Type — II/ Gel mix - 3/8" Bentonite — Pellets | WELL SCREEN Interval: 15'-25' Material: Schedule 40 PVC Diameter: 2' Slot Size: 0.010" End Cap: Schedule 40 PVC |
| + | - | 7.00 - 8.00 CLAY; light brown/orange/grey sandy, gravelly clay, mottled, moist | CL | | 7.00 577.23 | | | | Bentonite – Pellets | FILTER PACK Interval: 12.5'-25' |
| 10 - | - - 575 | 8.00 - 12.00 SANDY GRAVEL; orange/light brown sandy gravel, coarse grained, sub-angular gravel, | GP | | 8.00 | | | | - | Type: #1 sand/ Prepack Filt FILTER PACK SEAL Interval: 3'-12.5' Type: 3/8" Bentonite Pellets ANNULUS SEAL |
| - | - - | 12.00 - 17.00 light brown/orange sandy gravel, coarse grain, loosely compacted, moist | | | 573.23 12.00 | | | | | Interval: 0'-3' Type: Portland Type I/Type II/Gel Mix WELL COMPLETION Pad: 4'x4'x4" |
| 15 — | 570 | | | | 568.23 | | | | | Protective Casing: Anodize Aluminum DRILLING METHODS Soil Drill: 6-inch diameter Sonic |
| - | - - | 17.00 - 18.00 GRAVELLY CLAY; orange/light brown gravelly clay, sub-angular gravel, moist 18.00 - 24.00 SANDY GRAVEL; orange/light brown sandy gravel, coarse grained, | CLG | | 17.00 567.23 18.00 | | | | #1 sand | Rock Drill: 6-inch diameter Sonic |
| 20 — | 565 | trace clay lenses, wet | GP | | 561.23 | | | | screen = = | |
| 25 — - | - 560 - | 24.00 - 26.00 SILT; orange/light brown layered silt, soft, wet 26.00 - 27.00 | ML | | 24.00 559.23 26.00 558.23 | | | | BACKFILL - | |
| - | - | grey silt with trace limestone shale and clay, foliated, soft, wet Boring completed at 27.00 ft | | | 556.23 | | | | - - | |
| 30 — | - 555 - - | | | | | | | | - - - | |
| 35 — | - - 550 - | | | | | | | | - - - | |
| 10 - | - - 545 - | | | | | | | | - - - - | |
| 15 — | - - - | | | | | | | | | |

LOG SCALE: 1 in = 5.5 ft DRILLING COMPANY: Cascade DRILLER: Tom Ardito

GA INSPECTOR: James Mullooly CHECKED BY: Rachel P. Kirkman, P.G.



PROJECT: SCS Hammond PROJECT NUMBER: 1545812 DRILLED DEPTH: 42.00 ft LOCATION: Rome, GA

RECORD OF BOREHOLE

DRILL RIG: Pro Sonic 150
DATE STARTED: 12/1/15
DATE COMPLETED: 12/2/15

HGWA-3/ APA-3D

NORTHING: 1,549,793.93
EASTING: 1,939,833.46
GS ELEVATION: 585.19
TOC ELEVATION: 588.06 ft

SHEET 1 of 1

DEPTH W.L.: 2.68 (bgs) ELEVATION W.L.: (amsl) DATE W.L.: 12/2/15 TIME W.L.: 07:30

| | _ | SOIL PROFILE | | | | S | AMPLE | S | | |
|---------------------------|----------------------|--|----------|----------------|------------------------------------|------------|-------|-----|---|---|
| DEPIH (ft) | ELEVATION (ft) | DESCRIPTION | nscs | GRAPHIC LOG | ELEV. DEPTH (ft) | SAMPLE NO. | TYPE | REC | MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES | WELL CONSTRUCTION DETAILS |
| 0 — | - 585 - - - | 0.00 - 5.00 SANDY CLAY; grey/brown/orange mottled sandy clay, fine grained, medium density, stiff, moist | CLS | | | | | | , , , , , , , , , , , , , , , , , , , | WELL CASING Interval: Material: Schedule 40 PVC Diameter: 6" Joint Type: Screw/Flush WELL SCREEN Interval: 32'-42' |
| 5 — - - | — 580 - - | 5.00 - 13.00 CLAYEY GRAVEL; orange/brown clayey gravel with some sand, poorly sorted and angular pieces, gravel becomes more rounded at 9 feet, medium density compaction | | | 580.19 5.00 | | | | | Material: Schedule 40 PVC Diameter: 2' Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 29'-42' Type: #1 sand/ Prepack Filt |
| 10 — - - | - 575 - - | | GC | | 572.19 | | | | | FILTER PACK SEAL Interval: 27'-29' Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-27' Type: Portland Type I/Type II/Gel Mix |
| - 15 — | - - 570 - | 13.00 - 14.00 wet around 13.5 feet 14.00 - 17.00 SANDY GRAVEL; brown/grey poorly sorted, well rounded sandy gravel, wet | GC GP | | 13.00 571.19 14.00 | | | | Portland Type I/ Type – II/ Gel mix | WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodize Aluminum DRILLING METHODS |
| - - 20 — | - - - - 565 | 17.00 - 25.00 orange/brown sandy gravel, well rounded, poorly sorted, wet | | | 568.19 | | | | | Soil Drill: 6-inch diameter Sonic Rock Drill: 6-inch diameter Sonic |
| - - 25 — | - - - 560 | 25.00 - 26.00 some larger rock fragments and coarse grained sand 26.00 - 31.00 | | | 560.19 25.00 559.19 26.00 | | | | Portland Type I/ Type — II/ Gel mix 3/8" Bentonite — Pellets | |
| - - 30 - | - - - - 555 | 20.00 - 31.00 CLAY; brown/grey sandy gravel, changes to grey weathered limestone and clay, medium density, firm, moist | CL | | | | | | 3/8" Bentonite – Pellets | |
| | - - | 31.00 - 37.00 TRANSITIONALLY WEATHERED ROCK; transitionally weathered limestone and trace clay, angular rock fragments, clay is mottled light and dark grey, wet | TWR | | 31.00 | | | | | |
| 35 — | 550 | 37.00 - 42.00 transitionally weathered dark grey shaly limestone, poorly sorted and angular, some gravel, bottom 3 inches are solid limestone, wet (saturated) | | | 548.19 37.00 | | | | #1 sand | |
| 40 — - - | 545 - | Boring completed at 42.00 ft | | | 543.19 | | | | | |

LOG SCALE: 1 in = 5.5 ft DRILLING COMPANY: Cascade DRILLER: Tom Ardito

GA INSPECTOR: James Mullooly CHECKED BY: Rachel P. Kirkman, P.G.



BORING MW19 PAGE 1 OF 1

SOUTHERN

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE GDT - 7/13/15 10:24 - S.WORKGROUPS/APC GENERAL SERVICE COMPLEXICIVIL TECH SUPPORT/DRILLING/PROJECTS/GA-HAMMOND/HAMMOND ASH POND PIEZUPDATED HAMMOND PZ BORING LI

LOG OF TEST BORING

ECS37736 **PROJECT** Ash Pond Piezometers SOUTHERN COMPANY SERVICES, INC. EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING **LOCATION** Plant Hammond DATE STARTED 12/3/2014 COMPLETED 12/3/2014 SURF. ELEV. 585.6 COORDINATES: N:34.255014 E:-85.348781 **EQUIPMENT** CME 550 METHOD Hollow Stem Auger; Hollow Stem Auger CONTRACTOR SCS Field Services **BEARING** DRILLED BY T. Milam LOGGED BY _W. Shaughnessy CHECKED BY _L. Millet **ANGLE BORING DEPTH** 24 ft. GROUND WATER DEPTH: DURING 15 ft. COMP. DELAYED 4.5 ft. after 24 hrs. NOTES Well installed. Refer to well data sheet. SAMPLE DEPTH (ft.) **BLOW** SAMPLE TYPE NUMBER COUNTS Œ GRAPHIC (N-VALUE) LOG STRATA DESCRIPTION **COMMENTS** DEPTH **PERCENT RECOVERY** (RQD) ELE\ Lean Clay (CL) - pale brown-gray, damp, stiff, with red and yellow-brown SS 4-6-9 3.5-5.0 mottling (15)- pale brown-gray, damp, stiff, sandy, with red and SS 8.5-4-5-6 vellow-brown mottling 10.0 (11)573.6 Silty Gravel (GM) - yellow-brown, wet, medium dense, sandy, coarse well-SS 13.5-7-12-14 Φ, rounded quartz gravel, some clay 15.0 (26)000 yellow-brown, wet, very loose, sandy, coarse well-SS 18.5-2-2-2 rounded quartz gravel, some clay Pd 20.0(4) 563.6 Clayey Sand (SC) pale brown, wet, very dense, some partially weathered bedrock (angular gravel) SS 23.5-50/1 561.6 23.6 (100+)Auger refusal at 24 ft. Bottom of borehole at 24.0 feet.

HGWA-4

SOUTHERN

RECORD OF

WELL: MW19 PAGE 1 OF 1 ECS37736

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE. GDT - 7/8/15 13:11 - S.:WORKGROUPS!APC GENERAL SERVICE COMPLEXICIVIL TECH SUPPORTIDRILLING!PROJECTSIGA-HAMMOND!HAMMOND ASH POND PIEZUPDATED HAMMOND PZ BORINI WELL CONSTRUCTION PROJECT Ash Pond Piezometers SOUTHERN COMPANY SERVICES, INC. EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING **LOCATION** Plant Hammond **DATE STARTED** 12/3/2014 **COMPLETED** 12/3/2014 **SURF. ELEV.** 585.6 **COORDINATES:** N:34.255014 E:-85.348781 CONTRACTOR SCS Field Services **EQUIPMENT** CME 550 METHOD Hollow Stem Auger; Hollow Stem Auger **DRILLED BY** T. Milam LOGGED BY W. Shaughnessy CHECKED BY L. Millet ANGLE BORING DEPTH 24 ft. GROUND WATER DEPTH: DURING 15 ft. COMP. DELAYED 4.5 ft. after 24 hrs. NOTES Well installed. Refer to well data sheet. **BOREHOLE COMMENTS WELL DATA** Œ DATA DEPTH Surface: protective aluminum cover with bollards; 4-foot square concrete pad ELEV. Strata Surface Seal: concrete 583.6 (2.0)Well: 2" OD PVC (SCH 40) -Annular Fill: Cement-Bentonite Grout (2 - 94lbs. bags, 22 gal.) 576.7 (8.9)-Annular Seal: 3/8 bentonite pellets (1 - 50lbs. bucket) 574.6 (11.0)<u>573.6</u> -Filter: #1A silica filter sand (5 - 50lbs. bags) 572.9 (12.7)-Screen: 10 ft. 0.010" slot pre-pack 563.6 Sump:0.40 ft. (22.7)Backfill:caved material 561.6 562.5 (23.1)

PROJECT: SCS Hammond PROJECT NUMBER: 1545812 DRILLED DEPTH: 26.00 ft LOCATION: Rome, GA

RECORD OF BOREHOLE

DRILL RIG: Pro Sonic 150
DATE STARTED: 12/10/15
DATE COMPLETED: 12/10/15

DATE COMPLETED: 12/10/15

DATE COMPLETED: 12/10/15

DATE COMPLETED: 12/10/15

DATE COMPLETED: 12/10/15

DATE COMPLETED: 12/10/15

DATE COMPLETED: 12/10/15

SHEET 1 of 1

DEPTH W.L.: 2.3' (bgs) ELEVATION W.L.: (amsl) DATE W.L.: 12/10/15 TIME W.L.: 13:05

| | z | SOIL PROFILE | | | | | AMPLE | S | | |
|--------------------|---------------------------|---|----------|----------------|---------------------------|------------|-------|---------------------|---|---|
| (tj. | ELEVATION (ft) | DESCRIPTION | nscs | GRAPHIC LOG | ELEV. DEPTH (ft) | SAMPLE NO. | TYPE | REC | MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES | WELL CONSTRUCTION DETAILS |
| 0 - | — 580 - - | 0.00 - 2.00 CLAY; dark brown/grey clay with some fine to medium sand, trace organic material, trace gravel, non-plastic, very soft, moist W>PL 2.00 - 7.00 yellow orangish red clay, trace fine sand, moderate plasticity, soft to firm, moist, W=PL | CL | | 578.37 2.00 | | | | Portland Type I/ Type — III/ Gel mix 3/8" Bentonite — Pellets | WELL CASING Interval: -3'-15' Material: Schedule 40 PVC Diameter: 6" Joint Type: Screw/Flush WELL SCREEN |
| 5 — | - 575 - | | | | 573.37 | | | | Portland Type I/ Type — II/ Gel mix 3/8" Bentonite — Pellets - | Interval: 14.8'-24.8' Material: Schedule 40 PV(Diameter: 2' Slot Size: 0.010" End Cap: Schedule 40 PV FILTER PACK |
| 10 — | - - - 570 | 7.00 - 16.50 reddish orange and blue grey mottled clay with trace fine sand and gravel, non to low plasticity, very stiff to hard, dry to moist | | | 7.00 | | | | 3/8" — — — — — — — — — — — — — — — — — — — | Interval: 11.5-26' Type: #1 sand/ Prepack Fi FILTER PACK SEAL Interval: 9.5'-11.5' Type: 3/8" Bentonite Pellet |
| - | - - - | | | | | | | | Pellets - | ANNULUS SEAL Interval: 0'-9.5' Type: Portland Type I/Type II/Gel Mix WELL COMPLETION |
| 5 — | - 565 - | , 16.50 - 17.00 | SM | | 563.87 563.37 | | | | | Pad: 4'x4'x4" Protective Casing: Anodiz Aluminum DRILLING METHODS Soil Drill: 6-inch diameter |
| 0 — | - - - - 560 | SILTY SAND; orange brown silty sand, sandy silt, non-plastic, lose, soft, uniform grading, moist 17.00 - 19.00 SILTY CLAY; orange/yellow/dark grey silt and clay, trace gravel, non-plastic, very soft, wet, W>PL SHELBY TUBE: 17'-19' 19.00 - 22.50 | CL-ML | | 17.00 561.37 19.00 | | HS | <u>2.00</u> 2.00 | #1 sand | Sonic Rock Drill: 6-inch diameter Sonic |
| 5 — | - - - - - 555 | SAND; alluvium, dark grey sand with some pebbles and cobbles, rounded to sub-rounded, loose, soft, moist to wet 22.50 - 23.00 CLAY; hard, dark grey clay, non-plastic, dry to moist, W <pl -="" 23.00="" 26.00="" black="" contain="" dark="" dry,="" fine="" fragments="" grey="" hard,="" pyrite,="" rock="" sand,="" shale="" silt;="" stiff="" td="" to="" trace="" very="" w<pl<="" with=""><td>CL ML</td><td></td><td>557.87 557.37 23.00</td><td></td><td></td><td></td><td></td><td></td></pl> | CL ML | | 557.87 557.37 23.00 | | | | | |
| - | - - - | Boring completed at 26.00 ft | | | 554.37 | | | | | |
| - | 550 | | | | | | | | - - - | |
| 5 - | - - 545 - - | | | | | | | | - - - | |
| - - 0 - - | - - 540 - | | | | | | | | - - - | |
| - | - - | | | | | | | | - - - | |

LOG SCALE: 1 in = 5.5 ft DRILLING COMPANY: Cascade DRILLER: Tom Ardito

GA INSPECTOR: Michael Boatman CHECKED BY: Rachel P. Kirkman, P.G.



PROJECT: SCS Hammond PROJECT NUMBER: 1545812 DRILLED DEPTH: 47.30 ft LOCATION: Rome, GA

RECORD OF BOREHOLE

DRILL RIG: Pro Sonic 150
DATE STARTED: 12/10/15
DATE COMPLETED: 12/11/15

DATE COMPLETED: 12/11/15

DATE COMPLETED: 12/11/15

HGWA-6/ APA-5D

NORTHING: 1,548,635.66
EASTING: 1,937,177.39
GS ELEVATION: 580.50
TOC ELEVATION: 583.72 ft

SHEET 1 of 2 DEPTH W.L.: 3.10' (bgs) ELEVATION W.L.: (amsl) DATE W.L.: 12/11/15 TIME W.L.: 07:50

| | z | SOIL PROFILE | | | | S | AMPLE | S | | |
|---------------------|----------------------------|---|------------------|----------------|----------------------------------|------------|-------|-----|---|--|
| DEPTH (ft) | ELEVATION (ft) | DESCRIPTION | nscs | GRAPHIC LOG | ELEV. DEPTH (ft) | SAMPLE NO. | TYPE | REC | MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES | WELL CONSTRUCTION DETAILS |
| 0 — | 580 | 0.00 - 2.00 CLAY; dark brown/grey clay with some fine to medium sand, trace organic material, trace gravel, very soft, non-plastic, moist, W>PL 2.00 - 7.00 yellow/orange/red clay, trace fine sand, moderate plasticity, soft to firm, moist, W=PL | CL | | 578.5 2.00 | | | | Portland Type I/ Type – | WELL CASING Interval: -3'-37' Material: Schedule 40 PVC Diameter: 6" Joint Type: Screw/Flush WELL SCREEN |
| 5 — | _ 575 _ | 7.00 - 16.50 reddish orange and blue grey mottled clay, trace fine sand and | | | 573.5 7.00 | | | | | Interval: 37.3'-47.3' Material: Schedule 40 PVC Diameter: 2' Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 34'-47.3' Type: #1 sand/ Prepack Filter |
| 10 — | _ _ _ 570 _ _ | gravel, non to low plasticity, very stiff to hard, dry to moist, W <pl< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>- - - - -</td><td>FILTER PACK SEAL Interval: 32'-34' Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-3' Type: Portland Type I/Type II/Gel Mix</td></pl<> | | | | | | | - - - - - | FILTER PACK SEAL Interval: 32'-34' Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-3' Type: Portland Type I/Type II/Gel Mix |
| - 15 | _ _ _ 565 | | | | 564 | | | | - | WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum DRILLING METHODS |
| 20 — | | 16.50 - 17.00 SILTY SAND; orange brown silty sand, non-plastic, loose soft, uniform grading, moist 17.00 - 19.00 SAND and CLAY; orange/yellow/dark grey sand and clay, trace gravel, non plastic, very soft, wet, W>PL 19.00 - 22.50 SANDY GRAVEL; alluvium, dark grey sand with some pebbles and cobbles, rounded to sub-rounded, loose, soft, moist to wet | SM CLS GPS | | 563.5 17.00 561.5 19.00 | | | | Portland Type I/ Type — II/ Gel mix | Soil Drill: 6-inch diameter Sonic Rock Drill: 6-inch diameter Sonic |
| 25 — | | 22.50 - 23.00 CLAY; dark grey clay, hard, dry to moist, W <pl -="" 23.00="" 27.00="" and="" black="" contains="" dark="" dry,="" fine="" fragments="" gravel,="" gravel;="" grey="" hard,="" pyrite,="" rock="" sand="" shale,="" silt="" some="" stiff="" td="" to="" trace="" very="" w<pl<="" with=""><td>CL GP-GN</td><td></td><td>557.5 23.00</td><td></td><td></td><td></td><td></td><td></td></pl> | CL GP-GN | | 557.5 23.00 | | | | | |
| 30 — | - - - - - 550 | 27.00 - 31.00 TRANSITIONALLY WEATHERED ROCK; broken shale, dark grey to black silt with trace fine sand, dry, non-plastic, loose, W <pl -="" 31.00="" 37.00<="" td=""><td>TWR</td><td></td><td>27.00 549.5 31.00</td><td></td><td></td><td></td><td>I DXXXI DXXXI</td><td></td></pl> | TWR | | 27.00 549.5 31.00 | | | | I DXXXI DXXXI | |
| - - - 35 - | - - - - - | broken shale, dark grey to black silt with trace fine sand, dry, non-plastic, loose, W <pl< td=""><td></td><td></td><td>31.00</td><td></td><td></td><td></td><td>3/8" Bentonite — - Pellets</td><td></td></pl<> | | | 31.00 | | | | 3/8" Bentonite — - Pellets | |
| 40 — | 545 540 | 37.00 - 47.00 broken shale, dark grey to black silt with trace fine sand, more rock fragments (30-40%), dry, non-plastic, loose, W <pl< td=""><td></td><td></td><td>543.5 37.00</td><td></td><td></td><td></td><td>#1 sand —</td><td></td></pl<> | | | 543.5 37.00 | | | | #1 sand — | |
| - - 45 — | - - - | Log continued on next page | | | | | | | 0.010" slot | |

LOG SCALE: 1 in = 5.5 ft DRILLING COMPANY: Cascade DRILLER: Tom Ardito

GA INSPECTOR: Michael Boatman CHECKED BY: Rachel P. Kirkman, P.G.



PROJECT: SCS Hammond PROJECT NUMBER: 1545812 DRILLED DEPTH: 47.30 ft LOCATION: Rome, GA

RECORD OF BOREHOLE

DRILL RIG: Pro Sonic 150
DATE STARTED: 12/10/15
DATE COMPLETED: 12/11/15

DATE COMPLETED: 12/11/15

DATE COMPLETED: 12/11/15

HGWA-6/ APA-5D

NORTHING: 1,548,635.66
EASTING: 1,937,177.39
GS ELEVATION: 580.50
TOC ELEVATION: 583.72 ft

SHEET 2 of 2

DEPTH W.L.: 3.10' (bgs) ELEVATION W.L.: (amsl) DATE W.L.: 12/11/15 TIME W.L.: 07:50

| | | SOIL DDOCILE | | | | | AMPLE | | | |
|---------------|-------------------|--|------|----------------|----------------|------------|---------|--------|---|--|
| _ | NO | SOIL PROFILE | | | | | AIVIPLE | :5 | | |
| DEPTH (ft) | ELEVATION (ft) | DESCRIPTION | nscs | GRAPHIC LOG | DEPTH (ft) | SAMPLE NO. | TYPE | REC | MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES | WELL CONSTRUCTION DETAILS |
| 45 — – | — 535 — | 37.00 - 47.00 broken shale, dark grey to black silt with trace fine sand, more rock fragments (30-40%), dry, non-plastic, loose, W <pl (continued)="" 47.30="" at="" boring="" completed="" ft<="" td=""><td></td><td></td><td>533.5 47.00</td><td></td><td></td><td></td><td></td><td>WELL CASING Interval: -3'-37' Material: Schedule 40 PV Diameter: 6" Joint Type: Screw/Flush</td></pl> | | | 533.5 47.00 | | | | | WELL CASING Interval: -3'-37' Material: Schedule 40 PV Diameter: 6" Joint Type: Screw/Flush |
| 50 — | - - 530 | ŭ , | | | | | | | - - - | WELL SCREEN Interval: 37.3'-47.3' Material: Schedule 40 PV Diameter: 2' Slot Size: 0.010" End Cap: Schedule 40 PV |
| - | - | | | | | | | | - - | FILTER PACK Interval: 34'-47.3' Type: #1 sand/ Prepack F |
| - 55 — | - 525 | | | | | | | | _ | FILTER PACK SEAL Interval: 32'-34' Type: 3/8" Bentonite Pell |
| _ | - - | | | | | | | | - | ANNULUS SEAL Interval: 0'-3' Type: Portland Type I/Ty II/Gel Mix |
| 60 — | - | | | | | | | | - - | WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodi Aluminum |
| _ | 520 | | | | | | | | _ _ _ | DRILLING METHODS Soil Drill: 6-inch diameter Sonic Rock Drill: 6-inch diamete |
| _ | - | | | | | | | | _ | Sonic |
| 65 — | _ 515 | | | | | | | | _ | |
| | - | | | | | | | | _ | |
| - | _ | | | | | | | | - | |
| 70 | _ | | | | | | | | = | |
| 70 — – | — 510 | | | | | | | | _ | |
| - | | | | | | | | | - | |
| - | - | | | | | | | | = | |
| 75 — | - | | | | | | | | _ | |
| _ | 505 | | | | | | | | = | |
| - | - | | | | | | | | _ | |
| | _ | | | | | | | | = | |
| 80 — | - | | | | | | | | _ | |
| - | 500 | | | | | | | | - | |
| - | _ | | | | | | | | _ | |
| | - | | | | | | | | _ | |
| 85 — | - 405 | | | | | | | | _ | |
| = | — 495 – | | | | | | | | = | |
| - | - | | | | | | | | - | |
| | - | | | | | | | | | |
| 90 — | - | | | | | | | | _ | |
| LOC | SCA | LE: 1 in = 5.5 ft | (| GA INS | SPECT | OR: | Micha | ael Bo | oatman | |
| DRI | LLING | COMPANY: Cascade | | | | | achel | P. Ki | rkman, P.G. | Golder |
| ואט | LLEK: | Tom Ardito | | JATE: | 9/29/1 | 1 | | | | ASSOCIAL |



BORING AP02-MW10 PAGE 1 OF 2 ECS37736

G OF TEST RORING

| SOI SOI | UTHERN LOG OF | TE | ST R |)BINI | HGWC- | 14 BORING AP02-MW10 PAGE 1 OF 2 ECS37736 |
|--|---|--------|-----------------------|--------------------|------------------------------|--|
| SOUT EART | COMPANY THERN COMPANY SERVICES, INC. H SCIENCE AND ENVIRONMENTAL ENGINEERING | PRO | JECT A | sh Pond | Piezometers | |
| DATE ST | TARTED 10/16/2014 COMPLETED 10/16/2014 SUR ACTOR SCS Field Services EQUIPMENT Cl D BY T. Milam LOGGED BY W. Shaughnessy | ME 550 | METH | IOD Ho | ollow Stem Auge | er; Hollow Stem Auger |
| BORING NOTES | GEPTH 40.4 ft. GROUND WATER DEPTH: DURING Well installed. Refer to well data sheet. | | | | | |
| DEPTH (ft) GRAPHIC LOG | STRATA DESCRIPTION | | SAMPLE TYPE NUMBER | .Е DЕРТН (ft.) | BLOW COUNTS (N-VALUE) | COMMENTS |
| GRAPHI CRAPHI LOG | | ELEV | SAMP | SAMPLE DE (ft.) | PERCENT RECOVERY (RQD) | |
| | Fill (CL) | | | | | |
| 2 | - dark brown and brown, dry, hard, clay and gravel | | SS -1 | 3.5-5.0 | 2-13-21 (34) | |
| SOUT EART DATE ST CONTRA BORING NOTES OF COMPANY OF CONTRA BORING NOTES OF COMPANY OF CONTRA BORING NOTES OF COMPANY OF CONTRA BORING NOTES OF CONTRA BORING NOTES OF CONTRA BORING NOTES OF CONTRA BORING NOTES OF CONTRA BORING NOTES | - dry, stiff, gravel, low recovery | | SS -2 | 8.5- 10.0 | 7-6-8 (14) | |
| 25 20 15 | - brown, very moist, very hard, clay with gravel, some sand | | SS -3 | 13.5- 14.6 | 42-50 (100+) | |
| | Silt (ML) | 578.5 | 5 | | | |
| 20 | - dark green and gray, damp, stiff, clayey, with black mottles | | SS -4 | 18.5- 20.0 | 6-5-7 (12) | |
| | Fat Clay (CH) <u>▼</u> | 573.5 | 5 | | | |
| 25 | - brown, damp, medium stiff, medium to high plasticity, some silt | | SS -5 | 23.5- 25.0 | 3-3-5 (8) | |
| | | | | | | |

BORING AP02-MW10 PAGE 2 OF 2 ECS37736

LOG OF TEST BORING

| SOUTH | ERRY COMITMY SERVICES, INC. | | | | G | PAGE 2 OF ECS3773 |
|-------|---|----------|----------|-----------------------|------------------------------|----------------------|
| EARTH | ERN COMPANY SERVICES, INC. | PROJEC | | | | |
| PHIC | | LOCATION | | | Piezometers mmond | |
| | STRATA DESCRIPTION | TVBE | NUMBER | SAMPLE DEPTH (ft.) | BLOW COUNTS (N-VALUE) | COMMENTS |
| | | ELEV. | NUN | SAMPLE (f | PERCENT RECOVERY (RQD) | |
| | Fat Clay (CH)(Con't) - brown, wet, very stiff, medium to high plasticity, some silt, free water present | X | SS -6 | 28.5- 30.0 | 10-15-13 (28) | |
| | | | | | | |
| | - brown-yellow, wet, stiff, with pale gray-brown mottles, free water present | X | SS -7 | 33.5- 35.0 | 3-4-5 (9) | |
| | | | | | | |
| | - brown-yellow, very moist, very stiff, pale gray-brown mottles Clayey Sand (SC) | 556.5 | SS -8 | 38.5- 40.0 | 4-7-10 (17) | |
| | gray, very moist to wet, fine grain Bottom of borehole at 40.4 feet. | 555.1 | | | | |
| | | | | | | |

RECORD OF

| SOUTHERN A | RECORD OF | C-14 V | VELL: AP02-MW1 PAGE 1 OF ECS377 |
|--------------------|---|---------------------------|---------------------------------------|
| SOUTHERN COMPA | DDO IECT Ash Bond Biozonia | eters | |
| ONTRACTOR SCS F | /2014 COMPLETED 10/16/2014 SURF. ELEV. 595.5 COORD ield Services EQUIPMENT CME 550 METHOD Hollow Ster | n Auger; Hollow St | em Auger |
| ORING DEPTH 40.4 f | LOGGED BY W. Shaughnessy CHECKED BY L. Millet t. GROUND WATER DEPTH: DURING 30 ft. COMP. Refer to well data sheet. | | |
| DEPTH (#) | WELL DATA Surface: ■ protective aluminum cover with bollards; 4-foot square concrete pad | | COMMENTS |
| LEV. Strata | protective aurillium cover with bollards, 4-100t square concrete pad | ELEV. (DEPTH) | |
| | Surface Seal: concrete | 593.5 (2.0) | |
| 110 | Well: 2" OD PVC (SCH 40) | | |
| 20.00 | Annular Fill: Cement-Bentonite Grout (4 - 94lbs. bags, 44 gal.) | | |
| 73.5 | | 569.6 | |
| | Annular Seal: 3/8 bentonite pellets (1 - 50lbs. bucket) | (25.9) 567.4 (28.1) | |
| 30 | Filter: #1A silica filter sand (5.5 - 50lbs. bags) | 565.5 (30.0) | |
| 35 | Screen: 10 ft. 0.010" slot pre-pack | | |
| 56.5 | | | |

ASH POND PIEZ\UPDATED HAMMOND PZ BORING L

HGWC-15

BORING AP02-MW11 PAGE 1 OF 1 ECS37736

LOG OF TEST BORING

PROJECT Ash Pond Piezometers SOUTHERN COMPANY SERVICES, INC. EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING **LOCATION** Plant Hammond

DATE STARTED 10/20/2014 COMPLETED 10/20/2014 SURF. ELEV. 579.7 COORDINATES: N:34.249333 E:-85.353779

CONTRACTOR SCS Field Services **EQUIPMENT** CME 550 METHOD Hollow Stem Auger; Hollow Stem Auger DRILLED BY T. Milam LOGGED BY _W. Shaughnessy __ CHECKED BY _L. Millet ANGLE **BEARING**

| BORING NOTES | DEPTH 35.2 ft. GROUND WATER DEPTH: DURING Well installed. Refer to well data sheet. | 15 ft. | COMP | | DE | ELAYED _14 ft. after 24 hrs. |
|--|---|--------|-----------------------|-----------------------|---|------------------------------|
| BORING NOTES TO THE PROPERTY OF THE PROPERTY O | STRATA DESCRIPTION | | SAMPLE TYPE NUMBER | SAMPLE DEPTH (ft.) | BLOW COUNTS (N-VALUE) PERCENT RECOVERY (RQD) | COMMENTS |
| | Silty Clay (CL) | ELEV. | | 0, | , , | |
| 3 | - brown, dry, stiff | | SS -1 | 3.5-5.0 | 3-5-7 (12) | |
| | - brown, dry, medium stiff | | SS -2 | 8.5- 10.0 | 3-4-4 (8) | |
| | ▼ - brown, very moist, soft | 563.7 | SS -3 | 13.5- 15.0 | 2-2-2 (4) | |
| | Fat Clay (CH) - brown, very moist, stiff, medium to high plasticity, silty | | SS -4 | 18.5- 20.0 | 2-5-5 (10) | |
| | - brown, wet, medium stiff, medium to high plasticity, silty, free water present | | SS -5 | 23.5- 25.0 | 1-2-3 (5) | |
| | - brown, very moist to wet, medium stiff, medium to high plasticity | | SS -6 | 28.5- 30.0 | 2-3-3 (6) | |
| | Elastic Silt (MH) | 547.7 | | | | |
| | - gray, wet, medium stiff, medium to high plasticity, clayey | 544.5 | SS -7 | 33.5- 35.0 | WH-4-4 (8) | |



RECORD OF

HGWC-15

WELL: AP02-MW11

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE. GDT - 7/8/15 13:11 - S.;WORKGROUPSAPC GENERAL SERVICE COMPLEXICIVIL TECH SUPPORTIDRILLING/PROJECTS/GA-HAMMOND/HAMMOND ASH POND PIEZUPDATED HAMMOND PZ BORINI WELL CONSTRUCTION **PROJECT** Ash Pond Piezometers SOUTHERN COMPANY SERVICES, INC. EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING **LOCATION** Plant Hammond **DATE STARTED** 10/20/2014 **COMPLETED** 10/20/2014 **SURF. ELEV.** 579.7 **COORDINATES:** N:34.249333 E:-85.353779 CONTRACTOR SCS Field Services **EQUIPMENT** CME 550 METHOD Hollow Stem Auger; Hollow Stem Auger **DRILLED BY** T. Milam LOGGED BY _W. Shaughnessy CHECKED BY _L. Millet ANGLE _ BORING DEPTH 35.2 ft. GROUND WATER DEPTH: DURING 15 ft. COMP. DELAYED 14 ft. after 24 hrs. NOTES Well installed. Refer to well data sheet. **BOREHOLE COMMENTS WELL DATA** DATA DEPTH Surface: protective aluminum cover with bollards; 4-foot square concrete pad ELEV. Strata Surface Seal: concrete 577.7 (2.0)Well: 2" OD PVC (SCH 40) -Annular Fill: Cement-Bentonite Grout (3 - 94lbs. bags, 33 gal.) 563.7 559.9 (19.8)-Annular Seal: 3/8 bentonite pellets (1 - 50lbs. bucket) 557.8 (21.9)←Filter: #1A silica filter sand (5.5 - 50lbs. bags) 554.9 (24.8)-Screen: 10 ft. 0.010" slot pre-pack 547.7 544.9 Sump:0.40 ft

BORING AP02-MW13 PAGE 1 OF 1 ECS37736

SOUTHERN

LOG OF TEST BORING

| | SOL | UTHERN 📤 LOG OF | TES | ST B(| , | HGWC-16 | BORING AP02-MV PAGE 1 ECS: |
|--|----------------|--|-------|-----------------------|-----------------------|--|----------------------------------|
| | SOUT | COMPANY THERN COMPANY SERVICES, INC. | PRO | JECT A | sh Pond | Piezometers | |
| | | H SCIENCE AND ENVIRONMENTAL ENGINEERING | | ation _i | | | |
| | | TARTED 10/21/2014 COMPLETED 10/21/2014 SURFACTOR SCS Field Services EQUIPMENT CI | | | | | |
| DI | RILLED | DBY T. Milam LOGGED BY W. Shaughnessy | CHECK | KED BY | L. Millet | Al | NGLE BEARING |
| | | DEPTH 35 ft. GROUND WATER DEPTH: DURING Well installed. Refer to well data sheet. | | | OMP | DE | ELAYED 7.7 ft. after 24 hrs. |
| DEPTH (#) | GRAPHIC LOG | STRATA DESCRIPTION | | SAMPLE TYPE NUMBER | SAMPLE DEPTH (ft.) | BLOW COUNTS (N-VALUE) PERCENT RECOVERY | COMMENTS |
| | | Fill (CL) | ELEV. | S | <i>/</i> S | (RQD) | |
| | | | | | | | |
| 2 | | red-brown, damp, medium stiff, with pale brown mottles, some gravel | | SS -1 | 3.5-5.0 | 2-2-3 (5) | |
| | | _ | | | | | |
| | | <u>▼</u> - red-brown, damp, soft, with pale brown mottles, some | | ▼ ss | 8.5- | 2-2-2 | |
| 9 | | gravel, low recovery | | _2 | 10.0 | (4) | |
| | | Clayey Sand (SC) | 566.4 | | | | |
| 15 | | - brown-gray, very moist, very loose, fine to coarse | | SS -3 | 13.5- 15.0 | WH-1-1 (2) | |
| | | - | | | | | |
| | | Lean Clay (CL) | 560.4 | | | | |
| 50 | | - gray, damp, medium stiff, low to medium plasticity | | SS -4 | 18.5- 20.0 | 3-3-5 (8) | |
| | | | | | | | |
| 25 | | - gray-brown, damp, stiff, interbedded with clayey SAND (SC), wet, fine to coarse grained, some well rounded | | SS -5 | 23.5- 25.0 | 5-6-4 (10) | |
| | | fine gravel | | | 20.0 | (10) | |
| | | Electic Cilt (MLI) | 550.4 | | | | |
| 20 20 20 20 20 20 20 20 20 20 20 20 20 | | Elastic Silt (MH) - dark gray to black, wet, very stiff, clayey, weathered shale (boulder), dry, gray, strong HCl reaction (carbonate) at bottom of sample | | SS -6 | 28.5- 30.0 | 9-6-14 (20) | |
| | | Clayey Gravel (GC) | 545.4 | ▼ ss | 33.5- | 17-50/4" | |
| 35 | 5/6 | - dark brown and gray, very moist to wet, very dense, with sand and gravel (well rounded), strong HCl reaction (carbonate gravel) | 543.4 | _ | 34.3 | (100+) | |

Bottom of borehole at 35.0 feet.



RECORD OF WELL CONSTRUCTION

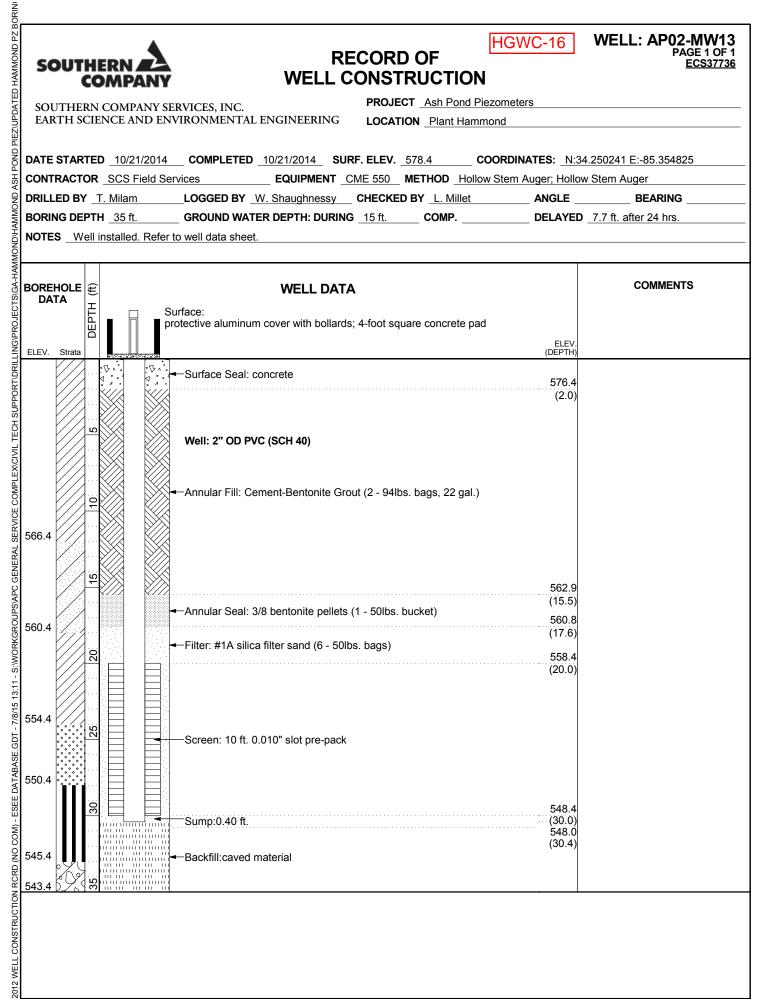
WELL: AP02-MW13

SOUTHERN COMPANY SERVICES, INC. EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING PROJECT Ash Pond Piezometers

LOCATION Plant Hammond

HGWC-16

| DATE STARTED 10/21/2014 | COMPLETED <u>10/21/2014</u> | SURF. ELEV. <u>578.4</u> | COORDINATES: N:34 | .250241 E:-85.354825 |
|--------------------------------|------------------------------------|--------------------------|---------------------------|-----------------------|
| CONTRACTOR SCS Field Serv | rices EQUIPMEI | NT CME 550 METHOD | Hollow Stem Auger; Hollow | Stem Auger |
| DRILLED BY T. Milam | LOGGED BY W. Shaughnes | ssy CHECKED BY L. Mil | let ANGLE | BEARING |
| BORING DEPTH 35 ft. | GROUND WATER DEPTH: DU | JRING 15 ft. COMP. | DELAYED | 7.7 ft. after 24 hrs. |
| NOTES Well installed. Refer to | well data sheet. | | | |



BORING AP02-MW14 PAGE 1 OF 1 ECS37736

LOG OF TEST BORING

| Jang L | | | | | | | | | | | |
|--|--|---|----------------|-----------------------|-----------------------|------------------------------|---|--|--|--|--|
| GENERAL SERVICE COMPLEXICIVIL TECH SUPPORTIDRILLINGIPROJECTSIGA-HAMMONDIHAMMOND ASH POND PIEZUPDATED HAMMOND PZ BORING LI | so | UTHERN A LOG OF | TES | ST B <i>(</i> |)RIN | HGWC-17 | 7 BORING AP02-MW14 PAGE 1 OF 1 ECS37736 | | | | |
| HAMM | COMPANY | | | | | | | | | | |
| DATED | SOUTHERN COMPANY SERVICES, INC. EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING LOCATION Plant Hammond | | | | | | | | | | |
| JEZNUP | DATE S | STARTED 10/22/2014 COMPLETED 10/22/2014 SURE | FLE | V 582 6 | | COORDINATE | FS: N:34 250901 F:-85 354837 | | | | |
| | DATE STARTED 10/22/2014 COMPLETED 10/22/2014 SURF. ELEV. 582.6 COORDINATES: N:34.250901 E:-85.354837 CONTRACTOR SCS Field Services EQUIPMENT CME 550 METHOD Hollow Stem Auger; Hollow Stem Auger | | | | | | | | | | |
| AD ASH | | D BY _T. MilamLOGGED BY _W. Shaughnessy _ C G DEPTH _25 ft GROUND WATER DEPTH: DURING _ | | | | | | | | | |
| AMMO! | | Well installed. Refer to well data sheet. | 1011. | | OIVII | | 10.5 It. alter 24 III3. | | | | |
| MOND/ | | | | PE | РТН | BLOW COUNTS | | | | | |
| CTS\GA-HAMM DEPTH (#) | GRAPHIC | STRATA DESCRIPTION | | LE TY MBER | E DEI | (N-VALUE) | COMMENTS | | | | |
| OJECTS/(| GR. | | ELEV | SAMPLE TYPE NUMBER | SAMPLE DEPTH (ft.) | PERCENT RECOVERY (RQD) | | | | | |
| -ING/PR | | Lean Clay (CL) | ELEV | | | | | | | | |
| TDRILL | | | | | | | | | | | |
| SUPPOR | | | | | | | | | | | |
| TECH | | - pale gray-brown, dry, stiff, with red and yellow-brown mottling (fill) | | SS -1 | 3.5-5.0 | 5-6-9 (15) | | | | | |
| X/CIVIL | | | | | | (- / | | | | | |
| COMPLE | | | | | | | | | | | |
| SVICE C | | | | | | | | | | | |
| RAL SEI | | - red-yellow, dry, stiff, low to medium plasticity, with distinct gray mottling | | ss | 8.5- | 3-5-8 | | | | | |
| | | | | -2 | 10.0 | (13) | | | | | |
| JPS/AP(| | Clayey Sand (SC) | 571.6 | <u> </u> | | | | | | | |
| KGROI | | | | | | | | | | | |
| S:\WOF | | \underline{Y} - pale brown, very moist to wet, medium dense, fine | | V ss | 13.5- | 3-5-5 | | | | | |
| 10:23 | 2// | grain, with gray mottling | | SS -3 | 15.0 | (10) | | | | | |
| - 7/13/1 | | | | | | | | | | | |
| E.GDT. | | | | | | | | | | | |
| ATABAS | | - pale brown, wet, medium dense, with red-yellow | | V 00 | 40.5 | 0.40.40 | | | | | |
| E2012D/ | 3// | mottling | | SS -4 | 18.5- 20.0 | 6-10-13 (23) | | | | | |
| S-ESE | | | | | | | | | | | |
| NG LOG | 0,00 | | | | | | | | | | |
| 2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 7/13/15 10:23 - S:\WORKGROUPS\APC 10:23 - S:\WORKGROUPS\APC 10:23 - S:\WORKGROUPS\APC 10:23 - S:\WORKGROUPS\APC 10:20 - | | | FF0 - | | 20.5 | 47.50/4" | | | | | |
| H ENGI | \$ 5 5 5 \$ 5 5 5 | - pale brown, wet, very dense, fine to coarse grain, with red-yellow mottling, coarse well-rounded gravel | 558.6 557.6 | 5 | 23.5- 24.3 | 17-50/4" (100+) | | | | | |
| HECTEC . | ₹iåå.° | - dark gray and dark red, claystone and shale, no HCl reaction, possible boulder | 001.0 | 1 | ! | | <u> </u> | | | | |
| 2012 G | | Bottom of borehole at 25.0 feet. | | | | | | | | | |



RECORD OF

HGWC-17

WELL: AP02-MW14

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE. GDT - 7/8/15 13:11 - S.:WORKGROUPS!APC GENERAL SERVICE COMPLEXICIVIL TECH SUPPORTIDRILLING!PROJECTSIGA-HAMMOND!HAMMOND ASH POND PIEZUPDATED HAMMOND PZ BORINI WELL CONSTRUCTION **PROJECT** Ash Pond Piezometers SOUTHERN COMPANY SERVICES, INC. EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING **LOCATION** Plant Hammond DATE STARTED 10/22/2014 COMPLETED 10/22/2014 SURF. ELEV. 582.6 COORDINATES: N:34.250901 E:-85.354837 **EQUIPMENT** CME 550 **METHOD** Hollow Stem Auger; Hollow Stem Auger CONTRACTOR SCS Field Services **DRILLED BY** T. Milam LOGGED BY W. Shaughnessy CHECKED BY L. Millet ANGLE BORING DEPTH 25 ft. GROUND WATER DEPTH: DURING 15 ft. COMP. DELAYED 13.9 ft. after 24 hrs. NOTES Well installed. Refer to well data sheet. **BOREHOLE COMMENTS WELL DATA** Œ DATA DEPTH Surface: protective aluminum cover with bollards; 4-foot square concrete pad ELEV. Strata Surface Seal: concrete 580.6 (2.0)Well: 2" OD PVC (SCH 40) -Annular Fill: Cement-Bentonite Grout (2 - 94lbs. bags, 22 gal.) 573.6 (9.0)<u>571.6</u> -Annular Seal: 3/8 bentonite pellets (1 - 50lbs. bucket) 570.5 (12.1)Filter: #1A silica filter sand (6 - 50lbs. bags) 568.0 (14.6)-Screen: 10 ft. 0.010" slot pre-pack 558.6 558.0

Sump: 0.40 ft

SERVICE COMPLEXICIVIL TECH SUPPORTUBILLING/PROJECTS/GA-HAMMOND/HAMMOND ASH POND PIEZUPDATED HAMMOND PZ BORING L

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE GDT - 7/13/15 10:23 - S:WORKGROUPS/APC GENERAL

HGWC-18

(100+)

BORING AP02-MW15 PAGE 1 OF 1

ECS37736

LOG OF TEST BORING

PROJECT Ash Pond Piezometers SOUTHERN COMPANY SERVICES, INC.

EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING **LOCATION** Plant Hammond DATE STARTED _10/22/2014 __ COMPLETED _10/22/2014 _ SURF. ELEV. _582.5 COORDINATES: N:34.251920 E:-85.354784 **EQUIPMENT** CME 550 **METHOD** Hollow Stem Auger; Hollow Stem Auger CONTRACTOR SCS Field Services LOGGED BY _W. Shaughnessy _ CHECKED BY _L. Millet DRILLED BY T. Milam **ANGLE BEARING** BORING DEPTH 25 ft. **GROUND WATER DEPTH: DURING** 15 ft. COMP. DELAYED 11.5 ft. after 24 hrs. NOTES Well installed. Refer to well data sheet. SAMPLE DEPTH (ft.) **BLOW** SAMPLE TYPE NUMBER COUNTS £ GRAPHIC (N-VALUE) LOG STRATA DESCRIPTION COMMENTS DEPTH **PERCENT RECOVERY** (RQD) ELE\ Gravelly Lean Clay (CL) - yellow-brown, dry, stiff, with red mottling SS 4-5-5 3.5-5.0 (10)574.5 Silt (ML) - yellow-brown, dry, hard, low recovery 13-19-31 SS 8.5--2 10.0 (50) 571.5 ▼ Well-graded Gravelly Sand (SW) - yellow-brown, very moist, dense, fine to coarse grain, 13.5-14-19-19 with red-yellow mottling, coarse well-rounded gravel 15.0 (38)564.5 Partially Weathered Rock (PWR) - black to dark gray, very hard, shale, fissle, irregular SS 23-41-43 18.5and inclined bedding, no HCl reaction 20.0 (84)20 - black to dark gray, very hard, shale, fissle, irregular SS 23.5-19-31-54/4" and inclined bedding, no HCl reaction 24.8

Bottom of borehole at 25.0 feet.



2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE. GDT - 7/8/15 13:11 - S.;WORKGROUPSAPC GENERAL SERVICE COMPLEXICIVIL TECH SUPPORTIDRILLING/PROJECTS/GA-HAMMOND/HAMMOND ASH POND PIEZUPDATED HAMMOND PZ BORINI

RECORD OF WELL CONSTRUCTION

WELL: AP02-MW15

HGWC-18

AGE 1 OF 1 ECS37736

PROJECT Ash Pond Piezometers SOUTHERN COMPANY SERVICES, INC. EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING **LOCATION** Plant Hammond DATE STARTED 10/22/2014 COMPLETED 10/22/2014 SURF. ELEV. 582.5 COORDINATES: N:34.251920 E:-85.354784 **EQUIPMENT** CME 550 **METHOD** Hollow Stem Auger; Hollow Stem Auger CONTRACTOR SCS Field Services **DRILLED BY** T. Milam LOGGED BY W. Shaughnessy CHECKED BY L. Millet ANGLE BORING DEPTH 25 ft. GROUND WATER DEPTH: DURING _15 ft. ____ COMP. ____ DELAYED 11.5 ft. after 24 hrs. NOTES Well installed. Refer to well data sheet. **BOREHOLE COMMENTS WELL DATA** DATA DEPTH Surface: protective aluminum cover with bollards; 4-foot square concrete pad ELEV. Strata Surface Seal: concrete 580.5 (2.0)Well: 2" OD PVC (SCH 40) -Annular Fill: Cement-Bentonite Grout (3 - 94lbs. bags, 33 gal.) <u>574.5</u> 572.2 <u>571.5</u> (10.3)Annular Seal: 3/8 bentonite pellets (1 - 50lbs. bucket) 570.1 (12.4)Filter: #1A silica filter sand (5.5 - 50lbs. bags) 568.0 (14.5)564.5 2 -Screen: 10 ft. 0.010" slot pre-pack 558.0 Sump:0.40 ft. Backfill:Silica Sand

Geosyntec[▶] **MONITORING WELL MW-21D** PAGE 1 OF 2 1255 Roberts Boulevard Kennesaw, GA 30144 CLIENT Southern Company Services **PROJECT NAME** Plant Hammond Well Installation PROJECT NUMBER GW6581B **PROJECT LOCATION** Plant Hammond **COMPLETED** _11/19/18 **NORTHING** 1548814.63 ft **EASTING** 1937556.86ft DATE STARTED 11/19/18 **BORING DIAMETER** 6 in **GROUND ELEVATION** 578.89 ft **DRILLER** Cascade Drilling DRILLING METHOD Sonic TOP OF CASING ELEVATION 581.49 ft SAMPLING METHOD 4" core 6" overide GEOPHYSICAL CONTRACTOR Geosyntec Consultants RIG TYPE Geoprobe 8140LC CHECKED BY J. Ivanowski LOGGED BY N.Tilahun ELEVATION (ft msl) **GAMMA** MATERIAL DESCRIPTION CONSTRUCTION GRAPHIC LOG DEPTH (ft) DIAGRAM RUN (cps) 100 Hydro excavation (0-10') - No sample 575 5 Bentonite grout ACP GINT LIBRARY.GLB 10 10-11': No recovery GRAVELLY SAND, Yellowish brown, trace silt and clay, fine to coarse sand, well graded, some subangular to rounded gravel, loose, wet. PLANT HAMMOND WITH GAMMA PLANT HAMMOND NOVEMBER 2018 WELL INSTALL.GPJ Schedule 40 PVC 2" PARTIALLY WEATHERED ROCK (PWR), Black, thinly bedded shale rock fragments, hard, moist. 560 Bentonite SHALE, Black, fine grained, hard, thinly bedded to massive, slightly uncoated 3/8" to moderately weathered and fractured. chips 555 25 25 550

(Continued Next Page)

MONITORING WELL MW-22 Geosyntec D PAGE 1 OF 2 Geosyntec Consultants 1255 Roberts Boulevard Kennesaw, GA 30144 PROJECT NAME Plant Hammond Well Installation CLIENT Southern Company Services PROJECT NUMBER GW6581B **PROJECT LOCATION** Plant Hammond **COMPLETED** _11/15/18 **EASTING** 1937832.07 ft DATE STARTED 11/15/18 NORTHING _ 1547856.03 ft **DRILLER** Cascade Drilling **GROUND ELEVATION** 576.09 ft **BORING DIAMETER** 6 in DRILLING METHOD Sonic TOP OF CASING ELEVATION 578.67 ft SAMPLING METHOD 4" core 6" overide GEOPHYSICAL CONTRACTOR Geosyntec Consultants RIG TYPE Geoprobe 8140LC LOGGED BY N.Tilahun CHECKED BY J. Ivanowski CONSTRUCTION ELEVATION (ft msl) GRAPHIC LOG DIAGRAM DEPTH (ft) RUN **GAMMA** MATERIAL DESCRIPTION (cps) 100 Hydro excavation (0-10') - No sample 5 Bentonite 10 10-13.5': No recovery grout CLAY, Yellowish brown, trace silt, medium to high plasticity, moist, soft. Schedule 40 15 PVC 2" 20 CLAY, Yellowish brown, trace silt, medium to high plasticity, moist, Bentonite 3/8" chips 20/40 Silica Sand 0.010 slot size 2" Pre Pack, U-Pack Screen

(Continued Next Page)

ACP GINT LIBRARY.GLB

PLANT HAMMOND WITH GAMMA PLANT HAMMOND NOVEMBER 2018 WELL INSTALL.GPJ

| Geosyn consul | tants Geosyntec Consultants 1255 Roberts Boulevard | MONITORING | PAGE 2 OF 2 |
|------------------------------|---|---|---|
| CLIENT South | hern Company Services | PROJECT NAME Plant Hammond Well Installation | on |
| PROJECT NUM | MBER GW6581B | PROJECT LOCATION Plant Hammond | |
| DEPTH (ft) (ft msl) (ft msl) | GAMMA (cps) | MATERIAL DESCRIPTION | CONSTRUCTION DIAGRAM |
| | | CLAY, Yellowish brown, trace silt, medium to high plasticity, moist, soft. | |
| | M-M | CLAY, Dark brown, trace silt and fine sand, non plastic to low plasticity, soft, moist, slightly laminated. | |
| 35 — | V/// : : : : : | Bottom of borehole at 35.0 feet. | <u> </u> |
| 540 40 535 | | | |
| 45 — | | | |
| 530 | | | |
| 525 | | | |
| 55 520 | | | |
| 60 515 | | | |

MONITORING WELL MW-23D Geosyntec D PAGE 1 OF 2 Geosyntec Consultants 1255 Roberts Boulevard Kennesaw, GA 30144 PROJECT NAME Plant Hammond Well Installation CLIENT Southern Company Services PROJECT NUMBER GW6581B **PROJECT LOCATION** Plant Hammond **COMPLETED** _11/15/18 **NORTHING** 1547877.73 ft **EASTING** 1937844.17ft DATE STARTED 11/15/18 BORING DIAMETER 6 in **GROUND ELEVATION** 581.21 ft **DRILLER** Cascade Drilling DRILLING METHOD Sonic TOP OF CASING ELEVATION 584 ft SAMPLING METHOD 4" core 6" overide GEOPHYSICAL CONTRACTOR Geosyntec Consultants RIG TYPE Geoprobe 8140LC LOGGED BY N.Tilahun CHECKED BY J. Ivanowski CONSTRUCTION ELEVATION (ft msl) GRAPHIC LOG DIAGRAM DEPTH (ft) RUN **GAMMA REMARKS** MATERIAL DESCRIPTION (cps) 100 Hydro excavation (0-10') - No sample 580 5 575 Bentonite ACP GINT LIBRARY.GLB 1/24/19 grout 10 10-13': No recovery SILTY CLAY, Dark brown, low plasticity, trace fine PLANT HAMMOND WITH GAMMA PLANT HAMMOND NOVEMBER 2018 WELL INSTALL.GPJ sand, soft, moist. Schedule 40 CLAY, Yellowish brown, medium to high plasticity, PVC 2" trace silt, moist, soft. 565 CLAY, Yellowish brown, medium to high plasticity, trace silt, moist, soft. Bentonite uncoated 3/8" chips 555

(Continued Next Page)

Geosyntec[▶] **MONITORING WELL MW-23D** PAGE 2 OF 2 consultants Geosyntec Consultants 1255 Roberts Boulevard Kennesaw, GA 30144 PROJECT NAME Plant Hammond Well Installation CLIENT Southern Company Services PROJECT NUMBER GW6581B **PROJECT LOCATION** Plant Hammond CONSTRUCTION ELEVATION (ft msl) DIAGRAM DEPTH (ft) GRAPHIC LOG RUN **GAMMA REMARKS** MATERIAL DESCRIPTION (cps) CLAY, Greenish to brownish grey, medium to high plasticity, trace silt, trace fine sand, trace 550 subrounded gravel, moist to wet, soft. 35 PARTIALLY WEATHERD ROCK (PWR), Rock fragments up to 4 inch in size, dry to wet where open void encountered. Void between 38.5 and 39.5' 40 SHALE, Pale to dark grey, some claystone fragments, white calcite veins, thinly bedded, highly weathered, fine gravel to boulder sized broken pieces of rock. ACP GINT LIBRARY.GLB 1/24/19 40': Hard drilling. 45 535 Bentonite 3/8" chips PLANT HAMMOND WITH GAMMA PLANT HAMMOND NOVEMBER 2018 WELL INSTALL.GPJ 20/40 Silica Sand 50 -50 SHALE, Pale to dark grey, some claystone fragments, white calcite veins, thinly bedded, 530 highly weathered, fine gravel to boulder sized broken pieces of rock. 50': Hard drilling, 0.010 slot size 55 -55 full returns. 2" Pre Pack, U-Pack 525 Screen 60 60 Bottom of borehole at 60.0 feet.

| | Ge | Geosyntec Consultants Geosyntec Consultants | | | | | | PIEZOM | ETEF | R AP2-PMW-03 PAGE 1 OF 1 | | | |
|---|---|---|-----------------------|------------|---|----------------|---|---|--|-----------------------------|--|--|--|
| | engineers | gineers scientists innovators | | | | | | | | | | | |
| | | CLIENT Southern Company Services | | | | | | | | | | | |
| | PROJECT NUMBER GW6581B DATE STARTED 12/13/18 COMPLETED 12/13/18 | | | | | COMPL | ETED 12/12/19 | PROJECT LOCATION Plant Hammond | | | | | |
| | | | | | Engineering Services | | EIED <u>12/13/18</u> | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | SAMPLING METHOD Split Spoon RIG TYPE Marsh Master | | | | | | | LOGGED BY C. Hug CHECKED BY J. Whitm | | | | | |
| ł | | | | | | | | | | | | | |
| | DEPTH (ft) | L | SAMPLE IYPE NUMBER | RECOVERY % | REMARKS | GRAPHIC LOG | Mz | ATERIAL DESCRIPTION | CONSTRUCTION DIAGRAM Casing Top 605.13 (ft) | | | | |
| ŀ | 0 | | ,, | _ | | , | SAND/CDAVELLY SAN | ND, Dark grey, black, fine to medium grained, | | 000.10 (II) | | | |
| | | łΧ | SS | 100 | | · 0 | subangular to angular, a | ash, dry to moist. Grass roots on surface. | | | | | |
| ŀ | | $\langle \cdot \rangle$ | | | | 11111 | FILL SAND with GRA | VEL, Dark grey to black, fine to coarse graine | 599.2 | | | | |
| ŀ | | X | SS | 29 | | | angular, ash. Gravel is f | fine grained, angular, ash. | u, | | | | |
| | | $\langle \cdot \rangle$ | | | | | FLY and BOTTOM ASH | | 597.2 | | | | |
| | 5 | ΙX | SS | 58 | | | ASH | redominantly fine grained, angular, ash. FLY | | | | | |
| | | | | | Band of orange clay at 5 From 5.5': Trace of fine | 595.2 | | | | | | | |
| 19 | | Ŋ | SS | 13 | WL = 595.88 ft | | CLAY, Orange, red, low to medium plasticity, with some fine grained sand and trace of gravel. | | | Linearted 2/0" | | | |
| 4/18/ | | $\langle \rangle$ | | | (12/19/2018) | | FILL | | 593.2 | Uncoated 3/8" bentonite | | | |
| FROM ASHWIN.GLB 4/18/19 | 10 | X | SS | 17 | | 。 。) | SAND and GRAVEL, BI grained gravel, angular, BOTTOM ASH | lack and orange, coarse grained sand and fine ash. | 591.2 | chips chips Schedule 40 | | | |
| A ASH | | V | SS | 75 | | | | /, low plasticity, with some fine sand. FILL 590.7 PVC 2" | | | | | |
| FRON | | $\backslash \! \backslash$ | S | 75 | | | 11': SAND with SILT, B | Black, fine to coarse grained, angular, ash. | | | | | |
| LIBRARY | | \bigvee | SS | 88 | | | BOTTOM ASH 11.8-11.9': Band of orar | | | | | | |
| | | $\backslash \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \!$ | 33 | 00 | | | From 12': SILTY SAND | | | | | | |
| GINT | 15 | V | 22 | 100 | | | | | | | | | |
| ACP | | \mathbb{N} | SS | 100 | | | | | | | | | |
| 3.GPJ | _ | \bigvee | | | | | | | | ■Bentonite 3/8" | | | |
| 3 2018 | | Λ | SS | 100 | | | | chips of orange clay. 583.2 / 582.7 asticity. With some fine grained sand. FILL | | | | | |
| MBEF | | \bigvee | | | | | 17.75' - 17.85': Band of CLAY Orange low plas | | | | | | |
| DECE | 20 | Ň | SS | 79 | | | SILTY SAND, Dark grey | y, fine grained, angular, ash. | | 20/40 Silica | | | |
| AL. | | | | | | | FLY ASH | | | Sand | | | |
| INST, | | X | SS | 100 | | | | | | | | | |
| WELL | | $\langle \rangle$ | | | | | | | | | | | |
| TER | | X | SS | 96 | | | | | | 0.010 slot size | | | |
| EWA | | () | | | | | | | | 2" Pre Pack, U-Pack | | | |
| POR | 25 | X | SS | 100 | | | | | | Screen | | | |
| MONE | | () | | | | | | | | | | | |
| HAMI | | X | SS | 100 | | | | | | Pilot hole backfilled with | | | |
| ANT | | () | | | 28'-30': Driller | | | | | bentonite | | | |
| ASHWINS_LOG_PLANT HAMMOND POREWATER WELL INSTALL_DECEMBER 2018.GPJ ACP GINT | | X | SS | 71 | reports 'hard' ground at the end | | | | 571.5 | chips. | | | |
| JS LC | of spoon. CLAY, Orange brown, low | | | | | | | ow plasticity, with some fine grained sand and | | | | | |
| HWIN | Ž some organic matter. ALL Botton | | | | | | | tom of borehole at 30.0 feet. | J | | | | |
| AS | | | | | | | | | | | | | |

| | | C | syn onsul | | Geosyntec Consultar | nts | | PIEZOME | TER | | PMW-04 PAGE 1 OF 1 | | |
|---|--|----------------|----------------------|-----------------------------|--------------------------------|-------|--|--|---------|------------|---|--|--|
| | | | | | omnony Comitere | | | PROJECT NAME Plant Hammond AP1 and AP2 Porewater Well Installation | | | | | |
| | CLIENT Southern Company Services PROJECT NUMBER GW6581B | | | | | | | PROJECT NAME Plant Hammond AP1 and PROJECT LOCATION Plant Hammond | u APZ P | orewater W | eii instaliation | | |
| | | | | _ | | COMPI | FTFD 12/11/18 | | FASTING | 103783 | 4 79 ft | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | DOMINO | | <u> </u> | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | Whitmer | | | | |
| SAMPLE TYPE (ft) SAMPLE TYPE NUMBER NUMBER CRAPHIC LOG LOG SAMPLE TYPE NUMBER NUMBER REMARKS | | | | | | | MA | CONSTRUCTION Casing | | | | | |
| | 0 | ; | SAN | REC | | 0 | | | | 59 | 95.37 (ft) | | |
| ASHWINS_LOG PLANT HAMMOND POREWATER WELL INSTALL_DECEMBER 2018.GPJ ACP GINT LIBRARY_FROM ASHWIN.GLB 4/18/19 | | | SS SS SS SS | 63 100 67 96 96 | WL = 591.16 ft (12/19/2018) | | SILTY SAND, Dark grey, black, fine grained, angular, ash, wet. FLY ASH With grass roots between 6-7'. | | | - | Bentonite 3/8" chips Schedule 40 PVC 2" | | |
| STALL_DECEMBER 2018 | | | SS | 75 | | 0.00 | GRAVELLY SAND, Blac is fine, subrounded, ash. | k, fine to coarse grained, angular, ash. Gravel BOTTOM ASH | 579.4 | | - 0.010 slot size 2" Pre Pack, U-Pack | | |
| TER WELL IN | SS 83 | | | | | | SILTY SAND, Dark grey, FLY ASH | fine to medium grained, angular, quartz. | 577.4 | | Screen | | |
| OND POREWA | | $\frac{1}{}$ | SS | 79 | | | | | 574.4 | | Pilot hole backfilled with bentonite | | |
| AMM | | $\backslash /$ | 1 | | | | NO RECOVERY (18.0'- | 19.25') | | | chips. | | |
| OG PLANT H | 20 | | SS | 33 | | | some fine, subrounded s | d pale yellow, low to medium plasticity. With sand and black organic matter. ALLUVIUM om of borehole at 20.0 feet. | 573.2 | | | | |
| ASHWINS_L | | | | | | | | | 572.4 | | | | |

APPENDIX C

Laboratory Analytical Reports for Solid Samples

ANALYTICAL REPORT

Eurofins TestAmerica, Canton 4101 Shuffel Street NW North Canton, OH 44720 Tel: (330)497-9396

Laboratory Job ID: 240-111457-1 Client Project/Site: Plant Hammond

For:

Southern Company PO BOX 2641 GSC8 Birmingham, Alabama 35291

Attn: Ms. Lauren Petty

Would borbs

Authorized for release by: 5/7/2019 4:39:39 PM

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

veronica.bortot@testamericainc.com

LINKS

Review your project results through

Total Access

Have a Question?



Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Client: Southern Company Project/Site: Plant Hammond Laboratory Job ID: 240-111457-1

Table of Contents

| Cover Page | 1 |
|------------------------|----|
| Table of Contents | 2 |
| Definitions/Glossary | 3 |
| Case Narrative | |
| Method Summary | 5 |
| Sample Summary | 6 |
| Detection Summary | 7 |
| Client Sample Results | 9 |
| QC Sample Results | 21 |
| QC Association Summary | 22 |
| Lab Chronicle | 24 |
| Certification Summary | 28 |
| Chain of Custody | 29 |

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Definitions/Glossary

Client: Southern Company Job ID: 240-111457-1

Project/Site: Plant Hammond

Qualifiers

| Metais | M | eta | Is |
|--------|---|-----|----|
|--------|---|-----|----|

Qualifier **Qualifier Description**

Sample was prepped or analyzed beyond the specified holding time

Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|--------------|--|
| n | Listed under the "D" column to designate that the result is reported on a dry weight basis |

%R Percent Recovery CFL Contains Free Liquid **CNF** Contains No Free Liquid

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac Dilution Factor

Detection Limit (DoD/DOE) DΙ

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

DLC Decision Level Concentration (Radiochemistry)

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

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

MDL Method Detection Limit ML Minimum Level (Dioxin)

NC Not Calculated

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

PQL Practical Quantitation Limit

QC **Quality Control**

Relative Error Ratio (Radiochemistry) **RER**

RL Reporting Limit or Requested Limit (Radiochemistry)

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

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

Eurofins TestAmerica, Canton

Page 3 of 30

5/7/2019

Case Narrative

Client: Southern Company
Project/Site: Plant Hammond

Job ID: 240-111457-1

Job ID: 240-111457-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative 240-111457-1

Comments

No additional comments.

Receipt

The samples were received on 4/24/2019 10:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.2° C.

Metals

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

General Chemistry

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

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Method Summary

Client: Southern Company Project/Site: Plant Hammond Job ID: 240-111457-1

| Method | Method Description | Protocol | Laboratory |
|---------------|-------------------------------------|----------|------------|
| 6020B | Metals (ICP/MS) | SW846 | TAL CAN |
| Moisture | Percent Moisture | EPA | TAL CAN |
| Part Size Red | Particle Size Reduction Preparation | None | TAL CAN |
| 3050B | Preparation, Metals | SW846 | TAL CAN |
| Part Size Red | Particle Size Reduction Preparation | None | TAL CAN |

Protocol References:

EPA = US Environmental Protection Agency

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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5/7/2019

Sample Summary

Client: Southern Company Project/Site: Plant Hammond

Job ID: 240-111457-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---------------|--------------------|--------|------------------|----------------|
| 240-111457-1 | AP2-DPT01-10.5 | Solid | 10/30/18 13:05 | 04/24/19 10:15 |
| 240-111457-2 | AP2-DPT01-30 | Solid | 10/30/18 14:15 0 | 04/24/19 10:15 |
| 240-111457-3 | AP2-DPT02-7 | Solid | 10/05/18 13:30 0 | 04/24/19 10:15 |
| 240-111457-4 | AP2-DPT02-25 | Solid | 10/05/18 14:00 0 | 04/24/19 10:15 |
| 240-111457-5 | AP2-DPT03-11 | Solid | 10/31/18 11:55 0 | 04/24/19 10:15 |
| 240-111457-6 | AP2-DPT03-19 | Solid | 10/31/18 12:30 0 | 04/24/19 10:15 |
| 240-111457-7 | AP2-DPT04-11.5 | Solid | 10/31/18 08:45 0 | 04/24/19 10:15 |
| 240-111457-8 | AP2-DPT04-20 | Solid | 10/31/18 09:20 0 | 04/24/19 10:15 |
| 240-111457-9 | AP2-DPT06-3 | Solid | 10/31/18 14:05 0 | 04/24/19 10:15 |
| 240-111457-10 | AP2-DPT06-9 | Solid | 10/31/18 15:30 0 | 04/24/19 10:15 |
| 240-111457-11 | MW21D-39-49-190422 | Solid | 04/22/19 09:15 0 | 04/24/19 10:15 |
| 240-111457-12 | MW23D-50-60-190422 | Solid | 04/22/19 09:25 0 | 04/24/19 10:15 |

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Client: Southern Company

Job ID: 240-111457-1

Project/Site: Plant Hammond

Olient Commis ID: ADO DETO4 4

| Client Sample ID: AP2-DPT01-10.5 Lab Sample ID: 240-111457-1 |
|--|
|--|

| Γ | Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|-----------|--------|-----------|------|-------|-------|---------|---|--------|-----------|
| | Aluminum | 21000 | H | 9.4 | 2.8 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| | Cobalt | 13 | Н | 0.19 | 0.049 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| | Iron | 30000 | Н | 19 | 7.5 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| | Manganese | 470 | Н | 0.94 | 0.38 | mg/Kg | 2 | ₩ | 6020B | Total/NA |

Client Sample ID: AP2-DPT01-30

| Analyte | Result 0 | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------|----------|--------------|------|-------|-------|---------|---|--------|-----------|
| Aluminum | 21000 H | | 10 | 3.1 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| Cobalt | 14 H | 4 | 0.20 | 0.053 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| Iron | 31000 H | H | 20 | 8.2 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| Manganese | 630 H | ┨ | 1.0 | 0.41 | mg/Kg | 2 | ₩ | 6020B | Total/NA |

Client Sample ID: AP2-DPT02-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------|--------|-----------|------|-------|-------|---------|---|--------|-----------|
| Aluminum | 15000 | H | 11 | 3.3 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| Cobalt | 8.9 | Н | 0.22 | 0.057 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| Iron | 19000 | Н | 22 | 8.8 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| Manganese | 130 | Н | 1.1 | 0.44 | mg/Kg | 2 | Φ | 6020B | Total/NA |

Client Sample ID: AP2-DPT02-25

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------|--------|-----------|------|-------|-------|---------|----|--------|--------------|
| Aluminum | 18000 | H | 9.5 | 2.9 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| Cobalt | 11 | Н | 0.19 | 0.049 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| Iron | 21000 | Н | 19 | 7.6 | mg/Kg | 2 | ₽ | 6020B | Total/NA |
| Manganese | 1300 | Н | 4.7 | 1.9 | mg/Kg | 10 | ₩. | 6020B | Total/NA |

Client Sample ID: AP2-DPT03-11

| Analyte | Result Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------|------------------|------|-------|-------|---------|---|--------|-----------|
| Aluminum | 6700 | 10 | 3.0 | mg/Kg | 2 | ☼ | 6020B | Total/NA |
| Cobalt | 1.8 | 0.20 | 0.052 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| Iron | 4200 | 20 | 8.1 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| Manganese | 6.9 | 1.0 | 0.41 | mg/Kg | 2 | | 6020B | Total/NA |

Client Sample ID: AP2-DPT03-19

| Analyte | Result Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------|------------------|------|-------|-------|---------|---|--------|-----------|
| Aluminum | 11000 | 9.9 | 3.0 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| Cobalt | 5.7 | 0.20 | 0.052 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| Iron | 26000 | 20 | 8.0 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| Manganese | 51 | 0.99 | 0.40 | mg/Kg | 2 | ₩ | 6020B | Total/NA |

Client Sample ID: AP2-DPT04-11.5

| Analyte | Result Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------|------------------|------|-------|-------|---------|----|--------|-----------|
| Aluminum | 3500 | 8.3 | 2.5 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| Cobalt | 1.2 | 0.17 | 0.043 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| Iron | 7100 | 17 | 6.7 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| Manganese | 19 | 0.83 | 0.33 | mg/Kg | 2 | ₩. | 6020B | Total/NA |

This Detection Summary does not include radiochemical test results.

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5/7/2019

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Lab Sample ID: 240-111457-2

Lab Sample ID: 240-111457-3

Lab Sample ID: 240-111457-4

Lab Sample ID: 240-111457-5

Lab Sample ID: 240-111457-6

Lab Sample ID: 240-111457-7

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Detection Summary

Client: Southern Company Project/Site: Plant Hammond Job ID: 240-111457-1

Lab Sample ID: 240-111457-10

Lab Sample ID: 240-111457-11

Lab Sample ID: 240-111457-12

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Client Sample ID: AP2-DPT04-20

| Client Sam | iple ID: AP2-DP104-20 | | | | Lab Sa | וmpie וט: | 240-111457-8 |
|------------|-----------------------|-----------|-----|-------|---------|-----------|--------------|
| Analyte | Result Qual | lifier RL | MDL | Unit | Dil Fac | D Method | Prep Type |
| Aluminum | 17000 | 13 | 3.8 | ma/Ka | | ₩ 6020B | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------|--------|-----------|------|-------|-------|---------|---|--------|-----------|
| Aluminum | 17000 | | 13 | 3.8 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| Cobalt | 86 | | 0.25 | 0.065 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| Iron | 90000 | | 130 | 50 | mg/Kg | 10 | ₩ | 6020B | Total/NA |
| Manganese | 2600 | | 6.3 | 2.5 | mg/Kg | 10 | ₩ | 6020B | Total/NA |

Client Sample ID: AP2-DPT06-3 Lab Sample ID: 240-111457-9

| Analyte | Result Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------|------------------|------|-------|-------|---------|---|--------|-----------|
| Aluminum | 18000 | 11 | 3.3 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| Cobalt | 3.1 | 0.22 | 0.057 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| Iron | 20000 | 22 | 8.8 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| Manganese | 61 | 1.1 | 0.44 | mg/Kg | 2 | ₽ | 6020B | Total/NA |

Client Sample ID: AP2-DPT06-9

| Analyte | Result Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------|------------------|------|-------|-------|---------|---|--------|-----------|
| Aluminum | 12000 | 11 | 3.5 | mg/Kg | | ☼ | 6020B | Total/NA |
| Cobalt | 8.9 | 0.23 | 0.059 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| Iron | 22000 | 23 | 9.2 | mg/Kg | 2 | ₩ | 6020B | Total/NA |
| Manganese | 110 | 1.1 | 0.46 | mg/Kg | 2 | ₩ | 6020B | Total/NA |

Client Sample ID: MW21D-39-49-190422

| Analyte | Result Qualifier | RL | MDL | Unit | Dil Fac | D Method | Prep Type |
|----------------------|------------------|------|-------|-------|---------|---------------|-----------|
| Aluminum | 7700 | 8.3 | 2.5 | mg/Kg | 2 | 6020B | Total/NA |
| Cobalt | 9.7 | 0.17 | 0.043 | mg/Kg | 2 | 6020B | Total/NA |
| Iron | 30000 | 17 | 6.6 | mg/Kg | 2 | 6020B | Total/NA |
| Manganese | 510 | 0.83 | 0.33 | mg/Kg | 2 | 6020B | Total/NA |
| PSR sample generated | DONE | | | NONE | 1 | Part Size Red | Total/NA |

Client Sample ID: MW23D-50-60-190422

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D Method | Prep Type |
|----------------------|--------|-----------|------|-------|-------|---------|---------------|-----------|
| Aluminum | 3000 | | 7.5 | 2.3 | mg/Kg | 2 | 6020B | Total/NA |
| Cobalt | 2.1 | | 0.15 | 0.039 | mg/Kg | 2 | 6020B | Total/NA |
| Iron | 5400 | | 15 | 6.0 | mg/Kg | 2 | 6020B | Total/NA |
| Manganese | 720 | | 0.75 | 0.30 | mg/Kg | 2 | 6020B | Total/NA |
| PSR sample generated | DONE | | | | NONE | 1 | Part Size Red | Total/NA |

This Detection Summary does not include radiochemical test results.

Client: Southern Company

Job ID: 240-111457-1

Project/Site: Plant Hammond

Client Sample ID: AP2-DPT01-10.5

Date Collected: 10/30/18 13:05 Date Received: 04/24/19 10:15 Lab Sample ID: 240-111457-1

Matrix: Solid

Percent Solids: 80.8

| Method: 6020B - Metals (IC | • | | | | | _ | | | |
|----------------------------|--------|-----------|------|-------|-------|----------|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Aluminum | 21000 | H | 9.4 | 2.8 | mg/Kg | <u>₩</u> | 04/26/19 14:00 | 04/29/19 11:51 | 2 |
| Cobalt | 13 | Н | 0.19 | 0.049 | mg/Kg | ☼ | 04/26/19 14:00 | 04/29/19 11:51 | 2 |
| Iron | 30000 | н | 19 | 7.5 | mg/Kg | ☼ | 04/26/19 14:00 | 04/29/19 11:51 | 2 |
| Manganese | 470 | Н | 0.94 | 0.38 | mg/Kg | ₩ | 04/26/19 14:00 | 04/29/19 11:51 | 2 |
| - General Chemistry | | | | | | | | | |
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
| Percent Solids | 80.8 | | 0.1 | 0.1 | % | | | 04/24/19 17:58 | 1 |
| Percent Moisture | 19.2 | | 0.1 | 0.1 | % | | | 04/24/19 17:58 | 1 |

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Client: Southern Company

Job ID: 240-111457-1

Project/Site: Plant Hammond

Client Sample ID: AP2-DPT01-30

Date Collected: 10/30/18 14:15 Date Received: 04/24/19 10:15 Lab Sample ID: 240-111457-2

Matrix: Solid

Percent Solids: 82.0

| Method: 6020B - Metals (ICP Analyte | • | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-------------------------------------|--------|-----------|------|-------|-------|--------------|----------------|----------------|---------|
| Aluminum | 21000 | | 10 | | mg/Kg | \ | | 04/29/19 12:08 | 2 |
| Cobalt | 14 | н | 0.20 | 0.053 | mg/Kg | ₩ | 04/26/19 14:00 | 04/29/19 12:08 | 2 |
| Iron | 31000 | Н | 20 | 8.2 | mg/Kg | ₩ | 04/26/19 14:00 | 04/29/19 12:08 | 2 |
| Manganese | 630 | H | 1.0 | 0.41 | mg/Kg | | 04/26/19 14:00 | 04/29/19 12:08 | 2 |
| General Chemistry | | | | | | | | | |
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
| Percent Solids | 82.0 | | 0.1 | 0.1 | % | | | 04/24/19 17:58 | 1 |
| Percent Moisture | 18.0 | | 0.1 | 0.1 | % | | | 04/24/19 17:58 | 1 |

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11

Client: Southern Company Job ID: 240-111457-1

Project/Site: Plant Hammond

Client Sample ID: AP2-DPT02-7

Date Collected: 10/05/18 13:30

Lab Sample ID: 240-111457-3 Matrix: Solid

| Date Collected. 10/03/10 13.30 | Watrix. Solid |
|--------------------------------|----------------------|
| Date Received: 04/24/19 10:15 | Percent Solids: 85.0 |
| | |

| Method: 6020B - Metals (ICP/M | IS) | | | | | | | | |
|-------------------------------|--------|-----------|------|-------|-------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Aluminum | 15000 | H | 11 | 3.3 | mg/Kg | ₽ | 04/26/19 14:00 | 04/29/19 12:10 | 2 |
| Cobalt | 8.9 | Н | 0.22 | 0.057 | mg/Kg | ☼ | 04/26/19 14:00 | 04/29/19 12:10 | 2 |
| Iron | 19000 | Н | 22 | 8.8 | mg/Kg | ☼ | 04/26/19 14:00 | 04/29/19 12:10 | 2 |
| Manganese | 130 | Н | 1.1 | 0.44 | mg/Kg | ₩ | 04/26/19 14:00 | 04/29/19 12:10 | 2 |
| General Chemistry | | | | | | | | | |
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
| Percent Solids | 85.0 | | 0.1 | 0.1 | % | | | 04/24/19 17:58 | 1 |
| Percent Moisture | 15.0 | | 0.1 | 0.1 | % | | | 04/24/19 17:58 | 1 |

Client: Southern Company

Job ID: 240-111457-1

Project/Site: Plant Hammond

Client Sample ID: AP2-DPT02-25

Date Collected: 10/05/18 14:00 Date Received: 04/24/19 10:15 Lab Sample ID: 240-111457-4

Matrix: Solid

Percent Solids: 79.3

| Method: 6020B - Metals (ICP/MS |) | | | | | | | | |
|--------------------------------|--------|-----------|------|-------|-------|----------|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Aluminum | 18000 | H | 9.5 | 2.9 | mg/Kg | <u> </u> | 04/26/19 14:00 | 04/29/19 12:12 | 2 |
| Cobalt | 11 | Н | 0.19 | 0.049 | mg/Kg | ☼ | 04/26/19 14:00 | 04/29/19 12:12 | 2 |
| Iron | 21000 | H | 19 | 7.6 | mg/Kg | ☼ | 04/26/19 14:00 | 04/29/19 12:12 | 2 |
| Manganese | 1300 | Н | 4.7 | 1.9 | mg/Kg | ₩ | 04/26/19 14:00 | 04/30/19 12:13 | 10 |
| General Chemistry | | | | | | | | | |
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
| Percent Solids | 79.3 | | 0.1 | 0.1 | % | | | 04/24/19 17:58 | 1 |
| Percent Moisture | 20.7 | | 0.1 | 0.1 | % | | | 04/24/19 17:58 | 1 |

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12

Client: Southern Company

Job ID: 240-111457-1

Project/Site: Plant Hammond

Client Sample ID: AP2-DPT03-11

Date Collected: 10/31/18 11:55 Date Received: 04/24/19 10:15 Lab Sample ID: 240-111457-5

Matrix: Solid

Percent Solids: 87.8

| Method: 6020B - Metals (IC Analyte | • | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------------|--------|-----------|------|------|-------|----------------|----------------|----------------|---------|
| Aluminum | 6700 | | 10 | | mg/Kg | — = | | 04/29/19 12:15 | 2 |
| Cobalt | 1.8 | | 0.20 | | mg/Kg | ☼ | | 04/29/19 12:15 | 2 |
| Iron | 4200 | | 20 | 8.1 | mg/Kg | ☼ | 04/26/19 14:00 | 04/29/19 12:15 | 2 |
| Manganese | 6.9 | | 1.0 | 0.41 | mg/Kg | . | 04/26/19 14:00 | 04/29/19 12:15 | 2 |
| General Chemistry | | | | | | | | | |
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
| Percent Solids | 87.8 | | 0.1 | 0.1 | % | | | 04/24/19 17:58 | 1 |
| Percent Moisture | 12.2 | | 0.1 | 0.1 | % | | | 04/24/19 17:58 | 1 |

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11

Client: Southern Company

Job ID: 240-111457-1

Project/Site: Plant Hammond

Percent Solids

Percent Moisture

Client Sample ID: AP2-DPT03-19

Date Collected: 10/31/18 12:30 Date Received: 04/24/19 10:15 Lab Sample ID: 240-111457-6 Matrix: Solid

Percent Solids: 88.2

04/24/19 17:58

04/24/19 17:58

| Manganese | 51 | 0.99 | 0.40 | ilig/Kg | ** | 04/20/19 14:00 | 04/29/19 12.17 | 2 |
|-------------------------------------|---------------------------|------|------|----------------|----------|----------------------------------|----------------|---------|
| Manganasa | 26000 | 0.99 | | mg/Kg mg/Kg | | 04/26/19 14:00 04/26/19 14:00 | | 2 |
| Cobalt | 5.7 | 0.20 | | mg/Kg | | 04/26/19 14:00 | | 2 |
| Aluminum | 11000 | 9.9 | 3.0 | mg/Kg | <u> </u> | 04/26/19 14:00 | 04/29/19 12:17 | 2 |
| Method: 6020B - Metals (ICI Analyte | P/MS) Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |

0.1

0.1

88.2

11.8

0.1 %

0.1 %

8

46

11

Client: Southern Company

Job ID: 240-111457-1

Project/Site: Plant Hammond

Client Sample ID: AP2-DPT04-11.5

Date Collected: 10/31/18 08:45 Date Received: 04/24/19 10:15 Lab Sample ID: 240-111457-7

Matrix: Solid Percent Solids: 86.6

| ate Received: 04/24/19 10:15 | | | | | | Percent Soil | as: 86.6 |
|---------------------------------|------------------|----|----------|---|----------|--------------|----------|
| Method: 6020B - Metals (ICP/MS) | | | | | | | |
| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |

| zed Dil Fac |
|-------------|
| 12:19 2 |
| 12:19 2 |
| 12:19 2 |
| 12:19 2 |
| 9 |

| General Chemistry Analyte | Result Qualifie | er RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------------|-------|-----|------|---|----------|----------------|---------|
| Percent Solids | 86.6 | 0.1 | 0.1 | % | | | 04/24/19 17:58 | 1 |
| Percent Moisture | 13.4 | 0.1 | 0.1 | % | | | 04/24/19 17:58 | 1 |

Client: Southern Company Job ID: 240-111457-1

Project/Site: Plant Hammond

Client Sample ID: AP2-DPT04-20

Date Collected: 10/31/18 09:20 Date Received: 04/24/19 10:15

Lab Sample ID: 240-111457-8

Matrix: Solid

Percent Solids: 69.5

| Method: 6020B - Metals (IC | P/MS) | | | | | | | |
|----------------------------|------------------|------|-------|-------|----------|----------------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Aluminum | 17000 | 13 | 3.8 | mg/Kg | <u> </u> | 04/26/19 14:00 | 04/29/19 12:22 | 2 |
| Cobalt | 86 | 0.25 | 0.065 | mg/Kg | ☼ | 04/26/19 14:00 | 04/29/19 12:22 | 2 |
| Iron | 90000 | 130 | 50 | mg/Kg | ≎ | 04/26/19 14:00 | 04/29/19 18:42 | 10 |
| Manganese | 2600 | 6.3 | 2.5 | mg/Kg | | 04/26/19 14:00 | 04/29/19 18:42 | 10 |
| General Chemistry | | | | | | | | |
| Analyte | Result Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
| Percent Solids | 69.5 | 0.1 | 0.1 | % | | | 04/24/19 17:58 | 1 |
| Percent Moisture | 30.5 | 0.1 | 0.1 | % | | | 04/24/19 17:58 | 1 |

Client: Southern Company

Job ID: 240-111457-1

Project/Site: Plant Hammond

Client Sample ID: AP2-DPT06-3

Date Collected: 10/31/18 14:05 Date Received: 04/24/19 10:15 Lab Sample ID: 240-111457-9

Matrix: Solid

Percent Solids: 85.9

| Method: 6020B - Metals (IC Analyte | P/MS) Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------------------------------------|-------------------------|------|-------|-------|----------|----------------|----------------|---------|
| Aluminum | 18000 | | 3.3 | mg/Kg | <u> </u> | 04/26/19 14:00 | 04/29/19 12:29 | 2 |
| Cobalt | 3.1 | 0.22 | 0.057 | mg/Kg | ☼ | 04/26/19 14:00 | 04/29/19 12:29 | 2 |
| Iron | 20000 | 22 | 8.8 | mg/Kg | ☼ | 04/26/19 14:00 | 04/29/19 12:29 | 2 |
| Manganese | 61 | 1.1 | 0.44 | mg/Kg | \$ | 04/26/19 14:00 | 04/29/19 12:29 | 2 |
| General Chemistry Analyte | Result Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
| Percent Solids | <u>85.9</u> | 0.1 | 0.1 | % | | | 04/24/19 17:58 | 1 |
| Percent Moisture | 14.1 | 0.1 | 0.1 | % | | | 04/24/19 17:58 | 1 |

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12

Client: Southern Company

Job ID: 240-111457-1

Project/Site: Plant Hammond

Percent Solids

Percent Moisture

Client Sample ID: AP2-DPT06-9

Date Collected: 10/31/18 15:30 Date Received: 04/24/19 10:15 **Lab Sample ID: 240-111457-10**

Matrix: Solid

Percent Solids: 80.3

04/24/19 17:58

04/24/19 17:58

| Method: 6020B - Metals (IC | P/MS) | | | | | | | |
|----------------------------|------------------|------|-------|-------|--------------|----------------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Aluminum | 12000 | 11 | 3.5 | mg/Kg | <u> </u> | 04/26/19 14:00 | 04/29/19 12:31 | 2 |
| Cobalt | 8.9 | 0.23 | 0.059 | mg/Kg | ☼ | 04/26/19 14:00 | 04/29/19 12:31 | 2 |
| Iron | 22000 | 23 | 9.2 | mg/Kg | ☼ | 04/26/19 14:00 | 04/29/19 12:31 | 2 |
| Manganese | 110 | 1.1 | 0.46 | mg/Kg | . | 04/26/19 14:00 | 04/29/19 12:31 | 2 |
| General Chemistry | | | | | | | | |
| Analyte | Result Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |

0.1

0.1

80.3

19.7

0.1 %

0.1 %

8

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10

11

Client: Southern Company Job ID: 240-111457-1 Project/Site: Plant Hammond

Client Sample ID: MW21D-39-49-190422

Lab Sample ID: 240-111457-11 Date Collected: 04/22/19 09:15

Matrix: Solid Date Received: 04/24/19 10:15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------------------|----------------|-------------|---------|-------|-------|---|----------------|----------------|---------|
| Aluminum | 7700 | | 8.3 | 2.5 | mg/Kg | | 04/26/19 14:00 | 04/29/19 12:34 | 2 |
| Cobalt | 9.7 | | 0.17 | 0.043 | mg/Kg | | 04/26/19 14:00 | 04/29/19 12:34 | 2 |
| Iron | 30000 | | 17 | 6.6 | mg/Kg | | 04/26/19 14:00 | 04/29/19 12:34 | 2 |
| Manganese | 510 | | 0.83 | 0.33 | mg/Kg | | 04/26/19 14:00 | 04/29/19 12:34 | 2 |
| General Chemistry | | | | | | | | | |
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
| Percent Solids | 98.4 | | 0.1 | 0.1 | % | | | 04/29/19 18:01 | 1 |
| Percent Moisture | 1.6 | | 0.1 | 0.1 | % | | | 04/29/19 18:01 | 1 |
| - Method: Part Size Red - Par | ticle Size Red | uction Prep | aration | | | | | | |
| Analyte | | Qualifier | NONE | NONE | Unit | D | Prepared | Analyzed | Dil Fac |
| | | | | | | | | | |

Client: Southern Company Job ID: 240-111457-1

Project/Site: Plant Hammond

Client Sample ID: MW23D-50-60-190422

DONE

Lab Sample ID: 240-111457-12 Date Collected: 04/22/19 09:25 **Matrix: Solid**

Date Received: 04/24/19 10:15

PSR sample generated

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-------------------|--------|-----------|------|-------|-------|---|----------------|----------------|---------|
| Aluminum | 3000 | | 7.5 | 2.3 | mg/Kg | | 04/26/19 14:00 | 04/29/19 12:36 | 2 |
| Cobalt | 2.1 | | 0.15 | 0.039 | mg/Kg | | 04/26/19 14:00 | 04/29/19 12:36 | 2 |
| Iron | 5400 | | 15 | 6.0 | mg/Kg | | 04/26/19 14:00 | 04/29/19 12:36 | 2 |
| Manganese | 720 | | 0.75 | 0.30 | mg/Kg | | 04/26/19 14:00 | 04/29/19 12:36 | 2 |
| General Chemistry | | | | | | | | | |
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
| | 99.7 | | 0.1 | 0.1 | % | | | 04/29/19 18:01 | 1 |
| Percent Solids | 33.1 | | | | | | | | |

NONE

04/25/19 07:20

QC Sample Results

Client: Southern Company Job ID: 240-111457-1 Project/Site: Plant Hammond

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 240-378473/1-A ^2

Matrix: Solid

Analysis Batch: 378827

| Client San | nple | ID: | Metho | d l | Blank |
|------------|------|-----|-------|-----|-------|
| | | | | | |

Prep Type: Total/NA

Prep Batch: 378473

| | MR | MR | | | | | | | |
|-----------|--------|-----------|------|-------|-------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Aluminum | ND | | 10 | 3.0 | mg/Kg | | 04/26/19 14:00 | 04/29/19 11:47 | 2 |
| Cobalt | ND | | 0.20 | 0.052 | mg/Kg | | 04/26/19 14:00 | 04/29/19 11:47 | 2 |
| Iron | ND | | 20 | 8.0 | mg/Kg | | 04/26/19 14:00 | 04/29/19 11:47 | 2 |
| Manganese | ND | | 1.0 | 0.40 | mg/Kg | | 04/26/19 14:00 | 04/29/19 11:47 | 2 |

Method: Moisture - Percent Moisture

14.1

Lab Sample ID: 240-111457-9 DU

Matrix: Solid

Percent Moisture

| Analysis Bataly 070445 | | | | | | | • • • • • • | • |
|------------------------|--------|-----------|----------|-----------|------|---|-----------------|-------|
| Analysis Batch: 378115 | | | | | | | | |
| | Sample | Sample | DU | DU | | | | RPD |
| Analyte | Result | Qualifier | Result | Qualifier | Unit | D | RPD | Limit |
| Percent Solids | 85.9 | | 84.5 | | % | | 2 | 20 |

15.5

%

9

Client Sample ID: AP2-DPT06-3 Prep Type: Total/NA

QC Association Summary

Client: Southern Company

Project/Site: Plant Hammond

Metals

Processed Batch: 378172

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|--------------------|-----------|--------|---------------|------------|
| 240-111457-11 | MW21D-39-49-190422 | Total/NA | Solid | Part Size Red | |
| 240-111457-12 | MW23D-50-60-190422 | Total/NA | Solid | Part Size Red | |

Prep Batch: 378473

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-----------------------|--------------------|-----------|--------|--------|------------|
| 240-111457-1 | AP2-DPT01-10.5 | Total/NA | Solid | 3050B | _ |
| 240-111457-2 | AP2-DPT01-30 | Total/NA | Solid | 3050B | |
| 240-111457-3 | AP2-DPT02-7 | Total/NA | Solid | 3050B | |
| 240-111457-4 | AP2-DPT02-25 | Total/NA | Solid | 3050B | |
| 240-111457-5 | AP2-DPT03-11 | Total/NA | Solid | 3050B | |
| 240-111457-6 | AP2-DPT03-19 | Total/NA | Solid | 3050B | |
| 240-111457-7 | AP2-DPT04-11.5 | Total/NA | Solid | 3050B | |
| 240-111457-8 | AP2-DPT04-20 | Total/NA | Solid | 3050B | |
| 240-111457-9 | AP2-DPT06-3 | Total/NA | Solid | 3050B | |
| 240-111457-10 | AP2-DPT06-9 | Total/NA | Solid | 3050B | |
| 240-111457-11 | MW21D-39-49-190422 | Total/NA | Solid | 3050B | 378172 |
| 240-111457-12 | MW23D-50-60-190422 | Total/NA | Solid | 3050B | 378172 |
| MB 240-378473/1-A ^2 | Method Blank | Total/NA | Solid | 3050B | |
| LCS 240-378473/3-A ^2 | Lab Control Sample | Total/NA | Solid | 3050B | |
| 240-111457-1 MS | AP2-DPT01-10.5 | Total/NA | Solid | 3050B | |
| 240-111457-1 MSD | AP2-DPT01-10.5 | Total/NA | Solid | 3050B | |

Analysis Batch: 378827

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-----------------------|--------------------|-----------|--------|--------|------------|
| 240-111457-1 | AP2-DPT01-10.5 | Total/NA | Solid | 6020B | 378473 |
| 240-111457-2 | AP2-DPT01-30 | Total/NA | Solid | 6020B | 378473 |
| 240-111457-3 | AP2-DPT02-7 | Total/NA | Solid | 6020B | 378473 |
| 240-111457-4 | AP2-DPT02-25 | Total/NA | Solid | 6020B | 378473 |
| 240-111457-5 | AP2-DPT03-11 | Total/NA | Solid | 6020B | 378473 |
| 240-111457-6 | AP2-DPT03-19 | Total/NA | Solid | 6020B | 378473 |
| 240-111457-7 | AP2-DPT04-11.5 | Total/NA | Solid | 6020B | 378473 |
| 240-111457-8 | AP2-DPT04-20 | Total/NA | Solid | 6020B | 378473 |
| 240-111457-8 | AP2-DPT04-20 | Total/NA | Solid | 6020B | 378473 |
| 240-111457-9 | AP2-DPT06-3 | Total/NA | Solid | 6020B | 378473 |
| 240-111457-10 | AP2-DPT06-9 | Total/NA | Solid | 6020B | 378473 |
| 240-111457-11 | MW21D-39-49-190422 | Total/NA | Solid | 6020B | 378473 |
| 240-111457-12 | MW23D-50-60-190422 | Total/NA | Solid | 6020B | 378473 |
| MB 240-378473/1-A ^2 | Method Blank | Total/NA | Solid | 6020B | 378473 |
| LCS 240-378473/3-A ^2 | Lab Control Sample | Total/NA | Solid | 6020B | 378473 |
| 240-111457-1 MS | AP2-DPT01-10.5 | Total/NA | Solid | 6020B | 378473 |
| 240-111457-1 MSD | AP2-DPT01-10.5 | Total/NA | Solid | 6020B | 378473 |

Analysis Batch: 379049

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|--------|------------|
| 240-111457-4 | AP2-DPT02-25 | Total/NA | Solid | 6020B | 378473 |

General Chemistry

Analysis Batch: 378115

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|----------|------------|
| 240-111457-1 | AP2-DPT01-10.5 | Total/NA | Solid | Moisture | <u> </u> |

Eurofins TestAmerica, Canton

Page 22 of 30 5/7/2019

Job ID: 240-111457-1

QC Association Summary

Client: Southern Company
Project/Site: Plant Hammond
Job ID: 240-111457-1

General Chemistry (Continued)

Analysis Batch: 378115 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-----------------|------------------|-----------|--------|----------|------------|
| 240-111457-2 | AP2-DPT01-30 | Total/NA | Solid | Moisture | |
| 240-111457-3 | AP2-DPT02-7 | Total/NA | Solid | Moisture | |
| 240-111457-4 | AP2-DPT02-25 | Total/NA | Solid | Moisture | |
| 240-111457-5 | AP2-DPT03-11 | Total/NA | Solid | Moisture | |
| 240-111457-6 | AP2-DPT03-19 | Total/NA | Solid | Moisture | |
| 240-111457-7 | AP2-DPT04-11.5 | Total/NA | Solid | Moisture | |
| 240-111457-8 | AP2-DPT04-20 | Total/NA | Solid | Moisture | |
| 240-111457-9 | AP2-DPT06-3 | Total/NA | Solid | Moisture | |
| 240-111457-10 | AP2-DPT06-9 | Total/NA | Solid | Moisture | |
| 240-111457-9 DU | AP2-DPT06-3 | Total/NA | Solid | Moisture | |

Analysis Batch: 378765

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|--------------------|-----------|--------|----------|------------|
| 240-111457-11 | MW21D-39-49-190422 | Total/NA | Solid | Moisture | |
| 240-111457-12 | MW23D-50-60-190422 | Total/NA | Solid | Moisture | |
| | | | | | |

Organic Prep

Analysis Batch: 378174

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|--------------------|-----------|--------|---------------|------------|
| 240-111457-11 | MW21D-39-49-190422 | Total/NA | Solid | Part Size Red | |
| 240-111457-12 | MW23D-50-60-190422 | Total/NA | Solid | Part Size Red | |

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Client: Southern Company Project/Site: Plant Hammond

Date Received: 04/24/19 10:15

Client Sample ID: AP2-DPT01-10.5

Lab Sample ID: 240-111457-1 Date Collected: 10/30/18 13:05 Matrix: Solid

Batch Batch Dilution Batch **Prepared** Factor Method or Analyzed Analyst **Prep Type** Type Run Number Lab Total/NA 04/24/19 17:58 TAL CAN Analysis Moisture 378115 ACR

Client Sample ID: AP2-DPT01-10.5 Lab Sample ID: 240-111457-1

Date Collected: 10/30/18 13:05 **Matrix: Solid**

Date Received: 04/24/19 10:15 Percent Solids: 80.8

Dilution Batch **Prepared** Batch Batch **Prep Type** Type Method Run **Factor** Number or Analyzed Analyst Lab Total/NA TAL CAN Prep 3050B 378473 04/26/19 14:00 DEE Total/NA Analysis 6020B 2 378827 04/29/19 11:51 DSH TAL CAN

Client Sample ID: AP2-DPT01-30

Lab Sample ID: 240-111457-2 Date Collected: 10/30/18 14:15

Matrix: Solid

Date Received: 04/24/19 10:15

Batch Dilution Batch Prepared Batch Method Factor or Analyzed **Prep Type** Type Run Number Analyst Lab Total/NA 378115 04/24/19 17:58 ACR TAL CAN Analysis Moisture

Client Sample ID: AP2-DPT01-30 Lab Sample ID: 240-111457-2 Date Collected: 10/30/18 14:15 Matrix: Solid

Date Received: 04/24/19 10:15 Percent Solids: 82.0

Batch Ratch Dilution Batch **Prepared Prep Type** Type Method Run Factor Number or Analyzed Analyst Lab Total/NA Prep 3050B 378473 04/26/19 14:00 DFF TAL CAN Total/NA Analysis 6020B 2 378827 04/29/19 12:08 DSH TAL CAN

Client Sample ID: AP2-DPT02-7 Lab Sample ID: 240-111457-3

Date Collected: 10/05/18 13:30 Matrix: Solid

Date Received: 04/24/19 10:15

Dilution Batch Batch Batch Prepared **Prep Type** Method Run Factor Number or Analyzed Type Analyst Lab Total/NA 378115 04/24/19 17:58 ACR TAL CAN Analysis Moisture

Client Sample ID: AP2-DPT02-7 Lab Sample ID: 240-111457-3

Date Collected: 10/05/18 13:30 Matrix: Solid

Date Received: 04/24/19 10:15 Percent Solids: 85.0

Dilution Batch Batch Batch Prepared Method or Analyzed **Prep Type** Type Run **Factor** Number Analyst Lab TAL CAN Total/NA Prep 3050B 378473 04/26/19 14:00 DEE Total/NA Analysis 6020B 2 378827 04/29/19 12:10 DSH TAL CAN

Client Sample ID: AP2-DPT02-25 Lab Sample ID: 240-111457-4

Date Collected: 10/05/18 14:00 Matrix: Solid

Date Received: 04/24/19 10:15

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | Moisture | | 1 | 378115 | 04/24/19 17:58 | ACR | TAL CAN |

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Page 24 of 30

5/7/2019

Client: Southern Company Project/Site: Plant Hammond

Client Sample ID: AP2-DPT02-25

Date Collected: 10/05/18 14:00 Date Received: 04/24/19 10:15 Lab Sample ID: 240-111457-4

Matrix: Solid

Percent Solids: 79.3

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|--------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 3050B | | | 378473 | 04/26/19 14:00 | DEE | TAL CAN |
| Total/NA | Analysis | 6020B | | 2 | 378827 | 04/29/19 12:12 | DSH | TAL CAN |
| Total/NA | Prep | 3050B | | | 378473 | 04/26/19 14:00 | DEE | TAL CAN |
| Total/NA | Analysis | 6020B | | 10 | 379049 | 04/30/19 12:13 | DSH | TAL CAN |

Client Sample ID: AP2-DPT03-11

Date Collected: 10/31/18 11:55

Date Received: 04/24/19 10:15

Lab Sample ID: 240-111457-5

Matrix: Solid

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | Moisture | | 1 | 378115 | 04/24/19 17:58 | ACR | TAL CAN |

Client Sample ID: AP2-DPT03-11

Date Collected: 10/31/18 11:55

Date Received: 04/24/19 10:15

Lab Sample ID: 240-111457-5 **Matrix: Solid**

Percent Solids: 87.8

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|--------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 3050B | | | 378473 | 04/26/19 14:00 | DEE | TAL CAN |
| Total/NA | Analysis | 6020B | | 2 | 378827 | 04/29/19 12:15 | DSH | TAL CAN |

Client Sample ID: AP2-DPT03-19

Date Collected: 10/31/18 12:30

Date Received: 04/24/19 10:15

| Lab S | ample | ID: 24 | 0-11145 | 57-6 |
|-------|-------|--------|---------|-------------|
|-------|-------|--------|---------|-------------|

Matrix: Solid

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | Moisture | | | 378115 | 04/24/19 17:58 | ACR | TAL CAN |

Client Sample ID: AP2-DPT03-19

Date Collected: 10/31/18 12:30

Date Received: 04/24/19 10:15

Lab Sample ID: 240-111457-6

Matrix: Solid Percent Solids: 88.2

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|--------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 3050B | | | 378473 | 04/26/19 14:00 | DEE | TAL CAN |
| Total/NA | Analysis | 6020B | | 2 | 378827 | 04/29/19 12:17 | DSH | TAL CAN |

Client Sample ID: AP2-DPT04-11.5

Date Collected: 10/31/18 08:45

Date Received: 04/24/19 10:15

| Lab Sample | ID: | 240-111457-7 |
|------------|-----|---------------|
| _ | | Matrix: Solid |

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | Moisture | | | 378115 | 04/24/19 17:58 | ACR | TAL CAN |

Job ID: 240-111457-1

Client: Southern Company Project/Site: Plant Hammond

Client Sample ID: AP2-DPT04-11.5

Date Collected: 10/31/18 08:45 Date Received: 04/24/19 10:15 Lab Sample ID: 240-111457-7

Matrix: Solid Percent Solids: 86.6

Matrix: Solid

Matrix: Solid

| ١ | | Batch | Batch | | Dilution | Batch | Prepared | | |
|---|-----------|----------|--------|-----|----------|--------|----------------|---------|---------|
| | Prep Type | Туре | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| | Total/NA | Prep | 3050B | | | 378473 | 04/26/19 14:00 | DEE | TAL CAN |
| | Total/NA | Analysis | 6020B | | 2 | 378827 | 04/29/19 12:19 | DSH | TAL CAN |

Lab Sample ID: 240-111457-8 Client Sample ID: AP2-DPT04-20 **Matrix: Solid**

Date Collected: 10/31/18 09:20 Date Received: 04/24/19 10:15

| _ | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | Moisture | | 1 | 378115 | 04/24/19 17:58 | ACR | TAL CAN |

Client Sample ID: AP2-DPT04-20 Lab Sample ID: 240-111457-8

Date Collected: 10/31/18 09:20

Matrix: Solid Date Received: 04/24/19 10:15 Percent Solids: 69.5

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|--------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 3050B | | | 378473 | 04/26/19 14:00 | DEE | TAL CAN |
| Total/NA | Analysis | 6020B | | 2 | 378827 | 04/29/19 12:22 | DSH | TAL CAN |
| Total/NA | Prep | 3050B | | | 378473 | 04/26/19 14:00 | DEE | TAL CAN |
| Total/NA | Analysis | 6020B | | 10 | 378827 | 04/29/19 18:42 | DSH | TAL CAN |

Client Sample ID: AP2-DPT06-3 Lab Sample ID: 240-111457-9

Date Collected: 10/31/18 14:05 Date Received: 04/24/19 10:15

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | Moisture | | 1 | 378115 | 04/24/19 17:58 | ACR | TAL CAN |

Client Sample ID: AP2-DPT06-3 Lab Sample ID: 240-111457-9

Date Collected: 10/31/18 14:05 **Matrix: Solid** Date Received: 04/24/19 10:15 Percent Solids: 85.9

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|--------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Туре | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 3050B | | | 378473 | 04/26/19 14:00 | DEE | TAL CAN |
| Total/NA | Analysis | 6020B | | 2 | 378827 | 04/29/19 12:29 | DSH | TAL CAN |

Client Sample ID: AP2-DPT06-9 Lab Sample ID: 240-111457-10

Date Collected: 10/31/18 15:30 Date Received: 04/24/19 10:15

Batch Dilution Ratch Batch Prepared **Prep Type** Type Method Run **Factor** Number or Analyzed Analyst Lab Total/NA Analysis Moisture 378115 04/24/19 17:58 ACR TAL CAN

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Lab Chronicle

Client: Southern Company Job ID: 240-111457-1

Project/Site: Plant Hammond

Client Sample ID: AP2-DPT06-9

Lab Sample ID: 240-111457-10 Date Collected: 10/31/18 15:30

Matrix: Solid

Date Received: 04/24/19 10:15 Percent Solids: 80.3

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|--------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 3050B | | | 378473 | 04/26/19 14:00 | DEE | TAL CAN |
| Total/NA | Analysis | 6020B | | 2 | 378827 | 04/29/19 12:31 | DSH | TAL CAN |

Client Sample ID: MW21D-39-49-190422

Lab Sample ID: 240-111457-11

Date Collected: 04/22/19 09:15 Matrix: Solid Date Received: 04/24/19 10:15

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|-----------|---------------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Туре | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Processed | Part Size Red | | | 378172 | 04/25/19 07:15 | RB1 | TAL CAN |
| Total/NA | Prep | 3050B | | | 378473 | 04/26/19 14:00 | DEE | TAL CAN |
| Total/NA | Analysis | 6020B | | 2 | 378827 | 04/29/19 12:34 | DSH | TAL CAN |
| Total/NA | Analysis | Moisture | | 1 | 378765 | 04/29/19 18:01 | JMB | TAL CAN |
| Total/NA | Analysis | Part Size Red | | 1 | 378174 | 04/25/19 07:20 | RB1 | TAL CAN |

Lab Sample ID: 240-111457-12 Client Sample ID: MW23D-50-60-190422

Date Collected: 04/22/19 09:25 **Matrix: Solid**

Date Received: 04/24/19 10:15

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|-----------|---------------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Processed | Part Size Red | | | 378172 | 04/25/19 07:15 | RB1 | TAL CAN |
| Total/NA | Prep | 3050B | | | 378473 | 04/26/19 14:00 | DEE | TAL CAN |
| Total/NA | Analysis | 6020B | | 2 | 378827 | 04/29/19 12:36 | DSH | TAL CAN |
| Total/NA | Analysis | Moisture | | 1 | 378765 | 04/29/19 18:01 | JMB | TAL CAN |
| Total/NA | Analysis | Part Size Red | | 1 | 378174 | 04/25/19 07:20 | RB1 | TAL CAN |

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: Southern Company Project/Site: Plant Hammond Job ID: 240-111457-1

Laboratory: Eurofins TestAmerica, Canton

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

| Authority | Program | EPA Region | Identification Number | Expiration Date |
|-----------------------|---------------|------------|-----------------------|-----------------|
| California | State Program | 9 | 2927 | 02-23-20 |
| Connecticut | State Program | 1 | PH-0590 | 12-31-19 |
| Florida | NELAP | 4 | E87225 | 06-30-19 |
| Illinois | NELAP | 5 | 200004 | 07-31-19 |
| Kansas | NELAP | 7 | E-10336 | 04-30-19 * |
| Kentucky (UST) | State Program | 4 | 58 | 02-23-20 |
| Kentucky (WW) | State Program | 4 | 98016 | 12-31-19 |
| Minnesota | NELAP | 5 | 039-999-348 | 12-31-19 * |
| Minnesota (Petrofund) | State Program | 1 | 3506 | 07-31-19 |
| Nevada | State Program | 9 | OH00048 | 07-31-19 |
| New Jersey | NELAP | 2 | OH001 | 06-30-19 |
| New York | NELAP | 2 | 10975 | 03-31-20 |
| Ohio VAP | State Program | 5 | CL0024 | 09-06-19 |
| Oregon | NELAP | 10 | 4062 | 02-23-20 |
| Pennsylvania | NELAP | 3 | 68-00340 | 08-31-19 * |
| Texas | NELAP | 6 | T104704517-18-10 | 08-31-19 |
| USDA | Federal | | P330-16-00404 | 12-28-19 |
| Virginia | NELAP | 3 | 460175 | 09-14-19 |
| Washington | State Program | 10 | C971 | 01-12-20 * |
| West Virginia DEP | State Program | 3 | 210 | 12-31-19 |

Laboratory: Eurofins TestAmerica, Pittsburgh

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

| Authority | Program | EPA Region | Identification Number | Expiration Date |
|------------------------|---------------|------------|------------------------------|------------------------|
| Arkansas DEQ | State Program | 6 | 88-0690 | 06-27-19 |
| California | State Program | 9 | 2891 | 04-30-19 * |
| Connecticut | State Program | 1 | PH-0688 | 09-30-20 |
| Florida | NELAP | 4 | E871008 | 06-30-19 |
| Illinois | NELAP | 5 | 200005 | 06-30-19 |
| Kansas | NELAP | 7 | E-10350 | 01-31-20 |
| Louisiana | NELAP | 6 | 04041 | 06-30-19 |
| Nevada | State Program | 9 | PA00164 | 07-31-19 |
| New Hampshire | NELAP | 1 | 2030 | 04-04-20 |
| New Jersey | NELAP | 2 | PA005 | 06-30-19 |
| New York | NELAP | 2 | 11182 | 03-31-20 |
| North Carolina (WW/SW) | State Program | 4 | 434 | 12-31-19 |
| Oregon | NELAP | 10 | PA-2151 | 02-06-20 |
| Pennsylvania | NELAP | 3 | 02-00416 | 04-30-20 |
| South Carolina | State Program | 4 | 89014 | 04-30-19 * |
| Texas | NELAP | 6 | T104704528-15-2 | 03-31-20 |
| US Fish & Wildlife | Federal | | LE94312A-1 | 07-31-19 |
| USDA | Federal | | P330-16-00211 | 06-26-19 |
| Utah | NELAP | 8 | PA001462015-4 | 05-31-19 * |
| Virginia | NELAP | 3 | 460189 | 09-14-19 |
| West Virginia DEP | State Program | 3 | 142 | 01-31-20 |
| Wisconsin | State Program | 5 | 998027800 | 08-31-19 |

Eurofins TestAmerica, Canton

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

Chain of Custody Record

TestAmerica Canton

North Canton, OH 44720-6900

4101 Shuffel Street NW

TestAmerica

perform particle size reduction as needed to ensure homogeneous sample is analyzed. Special Instructions/Note: APPLICABLE TO ALL SAMPLES ON P - Na2C04S Q - Na2S03 R - Na2S203 S - H2SO4 - TSP Dodecator Ver. 01/16/2019 U - Acetone V - MCAA W - pH 4-5 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client

Disposal By Lab

Mon. 180-50076-10525. Preservation Codes 501 240-111457 Chain of Custody 0/0 GW6581B/06 Page 1 of Special Note 1-23-19 Total Number of containers Analysis Requested ocier Temperatore(s) °C and Other Remarks Special Instructions/QC Requirements Lab PM. Bortot, Veronica E-Mail: veronica bortot@testamericainc.com > > > > > > > > z Z Perform MS/MSD (Yes or No) Z Z Z Z Z Z Z Z Z Secognites z Z Z Z Z Z Field Filtered Sample (Yes or No) Z Z Z Preservation Code Matrix S S S S S S S S S S S S Radiological Type (C=comp, G=grab) Sample 0 0 0 O 0 0 O O 0 0 0 0 0 Purchase Order Requested 10 0915 Time 1415 1155 0845 0925 1400 0920 1305 1330 1230 1405 1530 Unknown Due Date Requested: NLT 5/7/19 TAT Requested (days): Sample Date 678-237-7434 10/30/18 10/31/18 10/31/19 10/31/19 10/31/19 10/31/19 10/30/18 10/5/18 10/31/18 4/22/19 4/22/19 10/5/18 Project # 18020126 Will Burke Poison B Geografec Skin Irritant Other (specify) Custody Seal No. Flammable eliverable Requested: I. III, IV. 1255 Roberts Blvd, NW Suite 200 Possible Hazard Identification Geosyntec Consultants, Inc. Main Phone: 330-497-9396 mpty Kit Relinquished by: Custody Seals Intact. A Yes A No Client Information MW21D-39-49-190422 MW23D-50-60-190422 Sample Identification vlaw@geosyntec.con Non-Hazard 378-202-9573(Tel) AP2-DPT04-11.5 Mr. Whitney Law P2-DPT01-10.5 inquished by: Plant Hammond AP2-DPT03-19 AP2-DPT01-30 AP2-DPT04-20 AP2-DPT02-25 AP2-DPT03-11 AP2-DPT06-3 4P2-DPT06-9 P2-DPT02-7 State, Zip: GA, 30144 Kennesaw 3W6581B

| I | | _ | |
|---|--|---|--|
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| | 1#: 111457 | |
|---|--|--|
| Canton Facility | Cooler unpacked by: | |
| Client Geosyntee Consultants Inc Site Name | anal) | |
| Cooler Received on 4-24-19 Opened on 4-24-19 | 21/1// | |
| FedEx: 1 st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Receipt After-hours: Drop-off Date/Time Storage Location | Other | |
| | | |
| | rm | |
| IR GUN #36 (CF +0.7°C) Observed Cooler Temp. °C Corrected Cooler Tem | mp°C | |
| 2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity -Were the seals on the outside of the cooler(s) signed & dated? -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? -Were tamper/custody seals intact and uncompromised? 3. Shippers' packing slip attached to the cooler(s)? 4. Did custody papers accompany the sample(s)? 5. Were the custody papers relinquished & signed in the appropriate place? 6. Was/were the person(s) who collected the samples clearly identified on the COC? 7. Did all bottles arrive in good condition (Unbroken)? 8. Could all bottle labels be reconciled with the COC? 9. Were correct bottle(s) used for the test(s) indicated? 10. Sufficient quantity received to perform indicated analyses? 11. Are these work share samples? 12. Were all preserved sample(s) at the correct pH upon receipt? 13. Were VOAs on the COC? 14. Were air bubbles >6 mm in any VOA vials? 15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # | No No NA No N | |
| Contacted PM Date by via Verbal V | oice Mail Other | |
| | | |
| 17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES | Samples processed by: | |
| | martin | |
| All samples sampled in Oct = | 2018 | |
| | | |
| 18. SAMPLE CONDITION | | |
| Sample(s) were received after the recommended hold | ing time had expired. | |
| Sample(s) were received | d in a broken container. | |
| Sample(s) were received with bubble >6 mm | in diameter. (Notify PM) | |
| 19. SAMPLE PRESERVATION | | |
| | | |
| Sample(s) were fu Time preserved: Preservative(s) added/Lot number(s): | rther preserved in the laboratory. | |
| Time preserved:Preservative(s) added/Lot number(s): | | |
| VOA Sample Preservation - Date/Time VOAs Frozen: | | |

APPENDIX D

Supplemental Semi-Annual Remedy Selection and Design Progress Report

Prepared for



Georgia Power Company 241 Ralph McGill Blvd NE

Atlanta, Georgia 30308

SUPPLEMENTAL SEMI-ANNUAL REMEDY SELECTION AND DESIGN PROGRESS REPORT

PLANT HAMMOND ASH POND 2 (AP-2)

Prepared by



engineers | scientists | innovators

1255 Roberts Boulevard, Suite 200 Kennesaw, Georgia 30144

Project Number GW6581B

January 2020

SUPPLEMENTAL SEMI-ANNUAL REMEDY SELECTION AND DESIGN PROGRESS REPORT

GEORGIA POWER COMPANY - PLANT HAMMOND

ASH POND 2 (AP-2)

This Supplemental Semi-Annual Remedy Selection and Design Progress Report, Georgia Power Company - Plant Hammond, Ash Pond 2 (AP-2), has been prepared in accordance with the United States Environmental Protection Agency coal combustion residual rule, specifically 40 Code of Federal (CFR) § 257.97(a) and the Georgia Environmental Protection Division Rules for Solid Waste Management 391-3-4-.10(6)(a).

Report Prepared by:

<u>January 30, 2020</u>

Date

Whitney B. Law, P.E.

Georgia Professional Engineer No. 036641



TABLE OF CONTENTS

| 1.0 | INTRODUCTION | | | | | |
|----------------------------------|---------------|--|--------|--|--|--|
| 2.0 | 2.1 2.2 | MARY OF WORK COMPLETED | 3 4 | | | |
| 3.0 | | Field Investigation and Data Collection | | | | |
| 4.0 | | ERENCES | | | | |
| | | LIST OF TABLES | | | | |
| Table Table Table Table | 2 3a 3b | Evaluation of Remedial Technologies Summary of Activity Summary of Groundwater Analytical Data – Geochemical Parameter Evaluation Summary of Groundwater Analytical Data – NPDES Compliance Evaluation Proposed ACM Supplementary Data Collection Tasks for First Semi- Annual Period 2020 | | | | |
| | | LIST OF FIGURES | | | | |
| Figure Figure Figure | 2 | Site Location Map Monitoring Well Network Map Potentiometric Surface Contour Map – September 2019 | | | | |
| | | LIST OF APPENDICES | | | | |
| Apper | ndix A | Laboratory Analytical Reports | | | | |



LIST OF ACRONYMS

ACM Assessment of Corrective Measures

AP ash pond

ASD Alternate Source Demonstration

CCR coal combustion residuals
CFR Code of Federal Regulations

CSM conceptual site model

GA EPD Georgia Environmental Protection Division

Geosyntec Geosyntec Consultants, Inc.
GPC Georgia Power Company

GWPS Groundwater Protection Standard
MNA monitored natural attenuation
PRB permeable reactive barriers
SSI statistically significant increase
SSL statistically significant level

US EPA United States Environmental Protection Agency

1.0 INTRODUCTION

In accordance with the United States Environmental Protection Agency (US EPA) coal combustion residual (CCR) rule (40 Code of Federal Regulations [CFR] 257 Subpart D; published in 80 FR 21302-21501, April 17, 2015) (CCR Rule), Geosyntec Consultants, Inc. (Geosyntec) has prepared this *Supplemental Semi-Annual Remedy Selection and Design Progress Report* (Semi-Annual Remedy Selection Progress Report) for Georgia Power Company (GPC) Plant Hammond Ash Pond 2 (AP-2 or Site). Specifically, this Semi-Annual Progress Report has been prepared pursuant to 40 CFR § 257.97(a) and the Georgia Environmental Protection Division (GA EPD) Rules for Solid Waste Management 391-3-4-.10(6)(a). This Semi-Annual Remedy Selection Progress Report was prepared to document activities conducted in the third and fourth quarters of 2019 (prior semi-annual period) in support of the previously submitted *Assessment of Corrective Measures Report — Plant Hammond Ash Pond 2 (AP-2)* (Geosyntec, 2019b) (ACM Report). As required by the rules, this Semi-Annual Remedy Selection Progress Report describes the progress made in selecting and designing a remedy.

The initial Semi-Annual Progress Report was submitted to GA EPD on December 12, 2019 (Geosyntec, 2019c). This supplemental Semi-Annual Progress Report provides the documents included with the initial Semi-Annual Progress Report supplemented with additional discussion regarding nature and extent delineation, provided in Section 2.1. This supplemental Semi-Annual Progress Report has been included as an appendix to the 2019 Annual Groundwater Monitoring and Corrective Action Report (Geosyntec, 2020b). GPC will include future semi-annual remedy selection progress reports as an appendix to the routine semi-annual groundwater monitoring and corrective action reports.

On June 12, 2019, Geosyntec completed, on behalf of GPC, the ACM Report to evaluate potential corrective measures to address statistically significant levels (SSLs) of cobalt identified in groundwater at AP-2 (Geosyntec, 2019b). GPC placed the ACM in the Site's operating record and posted to the Site's CCR Rule Compliance website. Pursuant to 40 CFR § 257.97, GPC is evaluating the potential corrective measures presented in the ACM in order to identify an appropriate remedy, or combination of remedies, as soon as feasible.

As discussed in the ACM Report, the following corrective measures are potentially feasible for use at AP-2:

1

1. Geochemical Manipulation (In-Situ Injection)



- 2. Hydraulic Containment (Pump and Treat)
- 3. Monitored Natural Attenuation (MNA)
- 4. Permeable Reactive Barrier (PRB)
- 5. Subsurface Vertical Barrier Walls

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**).

Plant Hammond is a four-unit, coal-fired electric generating facility. All four units at Plant Hammond were retired on July 29, 2019 and no longer produces electricity.

AP-2 is a 21-acre surface impoundment located at Plant Hammond. AP-2 was used as a dewatering facility for fly ash and bottom ash. To support operations, dewatered ash is excavated and transported to the nearby Huffaker Road facility, a permitted solid waste disposal location owned and operated by GPC. GPC will close AP-2 through removal of the CCR material from the CCR unit; closure activities will be conducted in accordance with 40 CFR § 257.102 and corresponding Rule 391-3-4-.10(7)(b). The proposed closure by removal approach provides a source control measure that reduces the potential for migration of CCR constituents to groundwater. Details of the closure approach are provided in the Initial Written Closure Plan, published in 2016 to GPC's CCR Rule Compliance website.

2.0 SUMMARY OF WORK COMPLETED

2.1 Nature and Extent Delineation

CCR compliance groundwater monitoring-related activities have been performed for AP-2 since May 2016 pursuant to detection monitoring and assessment monitoring programs required by 40 CFR § 257.94 and 40 CFR § 257.95, respectively. GPC initiated the assessment monitoring program in January 2018 after identifying statistically significant increases (SSIs) of Appendix III parameter groundwater concentrations over background concentrations. Pursuant to 40 CFR § 257.95, samples were collected from the compliance monitoring well network, depicted on **Figure 2**, during 2018 and analyzed for Appendix IV parameters. SSLs of cobalt were identified within the 2018 data for the following wells:

Cobalt: HGWC-15 and HGWC-18

The cobalt concentrations reported for wells HGWC-15 and HGWC-18 in 2018 exceeded site-specific groundwater protection standards (GWPS) derived from cobalt concentrations reported for background wells located upgradient of AP-2. The cobalt GWPS of 0.029 mg/L was statistically calculated pursuant to US EPA rule 40 CFR § 257.95(h) and GA EPD CCR Rule 391-3-4-.10(6)(a). For each monitoring event, statistical tests are conducted that assess and incorporate changes in background cobalt concentrations into the GWPS derivation. Details of these sampling events and statistical analyses are provided in the following report published to GPC's website and submitted to GA EPD in 2019: 2018 Annual Groundwater Monitoring and Corrective Action Report – Plant Hammond Ash Ponds 1 and 2 (Geosyntec, 2019a).

Pursuant to 40 CFR § 257.96, groundwater in the vicinity of AP-2 continues to be monitored during the remedy selection phase in accordance with the established assessment monitoring program. As part of the assessment program, three additional groundwater monitoring wells were installed in 2018 to provide additional data to characterize flow conditions downgradient of AP-2 and to horizontally and vertically delineate SSLs of cobalt from the two target wells previously listed. Well MW-22 was installed for horizontal delineation and wells MW-21D and MW-23D were installed for vertical delineation. The locations of these wells are shown on **Figure 2**. Supporting details and documents (e.g., boring logs, well construction table) are provided in the ACM Report.

Based on the Appendix IV groundwater data generated from the second semi-annual assessment monitoring event conducted September 2019, the background cobalt concentrations increased which resulted in a recalculation of the GWPS; the site-specific cobalt GWPS is 0.038 mg/L for the September 2019 data set. Also, the cobalt concentration in well HGWC-15 decreased relative to the results from previous assessment monitoring events. When these two factors are accounted for statistically, a SSL of cobalt in HGWC-15 is not reported. The September 2019 cobalt results for horizontal and vertical delineation wells MW-22 and MW-23D down gradient of HGW-15 are also below the site-specific GWPS, indicating groundwater cobalt concentrations in excess of the GWPS are contained within the property boundary in this area of AP-2. The September 2019 data are currently being finalized and will be published in the 2019 Annual Groundwater Monitoring and Corrective Action Report (pending submission to GA EPD on January 31, 2020).

The September 2019 data indicates a continued SSL of cobalt in well HGWC-18. However, based on review of available AP-2-related groundwater and aquifer solids data, the cobalt SSL reported for well HGWC-18 is not associated with a release from AP-2 but is instead associated with natural variation in the groundwater quality due to mobilization of naturally occurring cobalt present in the Floyd shale of the undifferentiated Mississippian/Devonian geologic unit underlying the northern portion of AP-2 as a consequence of naturally lower groundwater pH at this well. An Alternate Source Demonstration (ASD) was prepared pursuant to regulations in 40 CFR 257.95(g)(3)(ii), which allows the owner or operator to "demonstrate that a source other than the CCR unit caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality." The ASD also serves as an ASD under the GA EPD CCR Rule 391-3-4-.10(6), which incorporates 40 CFR 257.95(g)(3)(ii) by reference. The ASD was submitted to GA EPD on January 15, 2020 (Geosyntec, 2020). The ASD is provided in the 2019 Annual Groundwater Monitoring and Corrective Action Report (Geosyntec, 2020) for reference.

2.2 Summary of Corrective Measures

The closure of AP-2 by removal of the CCR material is a source control measure that reduces the potential for migration of CCR constituents to groundwater. The corrective measures proposed in the ACM are being evaluated to address SSLs in groundwater at and downgradient of the compliance boundary. Each individual corrective measure is evaluated relative to criteria specified in 40 CFR § 257.96(c) and 40 CFR § 257.97(b). A



comparative screening of the corrective measures is provided in **Table 1**; the following provides a brief description of each corrective measure being screened.

- Geochemical Approaches (In-Situ Injection): Use of an injection well network, or other means of introducing reagents or air into the subsurface, to provide suitable reagents for either anaerobic or aerobic attenuation of cobalt.
- **Hydraulic Containment (Pump and Treat):** The use of groundwater extraction system(s) to induce a hydraulic gradient for hydraulic capture or control the migration of impacted groundwater. Extracted water may require subsequent above-ground treatment before permitted discharge or reuse.
- Monitored Natural Attenuation (MNA): MNA relies on natural attenuation processes to achieve site-specific remediation objectives within a reasonable time frame relative to more active methods.
- Permeable Reactive Barrier (PRB): PRB technology typically involves the installation of a permeable subsurface wall constructed with reactive media for the removal of constituents as groundwater passes through.
- Subsurface Vertical Barrier Walls: This approach involves placing a barrier to groundwater flow in the subsurface, frequently around a source area, to prevent future migration of dissolved constituents in groundwater from beneath the source to downgradient areas. Groundwater extraction from upgradient of the barrier is required to avoid groundwater mounding behind the barrier.

2.3 Field Investigation and Data Collection

Additional data, data analysis, and site-specific evaluation are necessary to refine the conceptual site model (CSM) and to further evaluate the feasibility of each proposed corrective measure. This investigation may occur in different phases as the understanding of site conditions expands. When feasible, data needed to refine the CSM will be collected concurrent with the routine assessment monitoring events. However, supplementary field investigations may be required to complete the data gathering efforts during the remedy selection phase.



Table 2 presents a summary of data collection activities completed during the second 2019 semi-annual reporting period. The applicability and rationale for specific actions and/or analysis of specific parameters are also provided on Table 2.

Field efforts completed at AP-2 during the reporting period in support of remedy selection included collecting supplementary groundwater samples to evaluate:

- Attenuation mechanisms and rates and aquifer capacity for attenuation;
- Amount and distribution of select metal hydroxides or electron donors that may affect geochemical mechanisms; and
- Groundwater parameters specific to the existing National Pollutant Discharge Elimination System (NPDES) permitted discharge limits and capabilities of onsite low volume wastewater treatment plant.

The groundwater samples discussed above were collected during the second semi-annual assessment monitoring event conducted in September 2019. During the event, a site-wide round of groundwater level data were recorded from the AP-2 well network depicted on **Figure 2**. The groundwater level data were used to generate the potentiometric surface map provided on **Figure 3**.

Tables 3a and 3b. The tables present parameters needed to evaluate in-situ conditions that may affect the performance and feasibility of the corrective measures. As previously mentioned, the Appendix III and IV groundwater data collected during the September 2019 event are not presented herein, but instead are provided in the 2019 Annual Groundwater Monitoring and Corrective Action Report (Geosyntec, 2020).

The laboratory reports associated with the data presented on Tables 3a and 3b are included in **Appendix A**.



3.0 PLANNED ACTIVITIES & ANTICIPATED SCHEDULE

During the pond closure, temporary changes in site conditions may occur that must be considered as part of remedy selection. GPC proactively initiated adaptive site management, as outlined in the ACM Report (Geosyntec, 2019b), to support the remedial strategy and address potential changes in site conditions as appropriate. The adaptive site management approach may be adjusted over the site's life cycle as new site information and technologies become available. To this end, GPC will continue its data collection efforts as necessary in support of efforts to refine the CSM and to further evaluate the feasibility of each corrective measure proposed in the ACM Report. At this time, all corrective measures outlined in Table 1 are being retained. Once sufficient data are available to make technically-sound decisions regarding the ability to implement one or more specific corrective measures, necessary steps will be taken to design and implement a remedy for AP-2 in accordance with 40 CFR § 257.98.

Supplementary data collection and evaluation activities proposed to be completed during the next semi-annual reporting period are presented on **Table 4**. GPC will continue to prepare semi-annual progress reports to document AP-2 groundwater conditions, results associated with additional data gathering, and the progress in selecting and designing the remedy in accordance with 40 CFR § 257.97(a). GPC will include future semi-annual ACM progress reports in routine groundwater monitoring and corrective action reports. Record keeping, notifications, and publicly accessible internet site requirements for the semi-annual ACM progress reports will be provided in accordance with 40 CFR § 257.105(h)(12), 257.106(h)(9), and 257.107(h)(9), respectively.



4.0 REFERENCES

- Geosyntec Consultants. 2019a. 2018 Annual Groundwater Monitoring and Corrective Action Report Plant Hammond Ash Ponds 1 & 2 (AP-2 and AP-2). January 2019.
- Geosyntec Consultants, 2019b. Assessment of Corrective Measures Report Plant Hammond Ash Pond 2 (AP-2). June 2019.
- Geosyntec Consultants. 2020. 2019 Annual Groundwater Monitoring and Corrective Action Report Plant Bowen Ash Pond 1 (AP-1). January 2020.
- U.S. Environmental Protection Agency. 2015a. Federal Register. Volume 80. No. 74. Friday April 17, 2015. Part II. Environmental Protection Agency. 40 CFR Parts 257 and 261. Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule. [EPA-HQ-RCRA-2009-0640; FRL-9919-44-OSWER]. RIN-2050-AE81, April 2015.

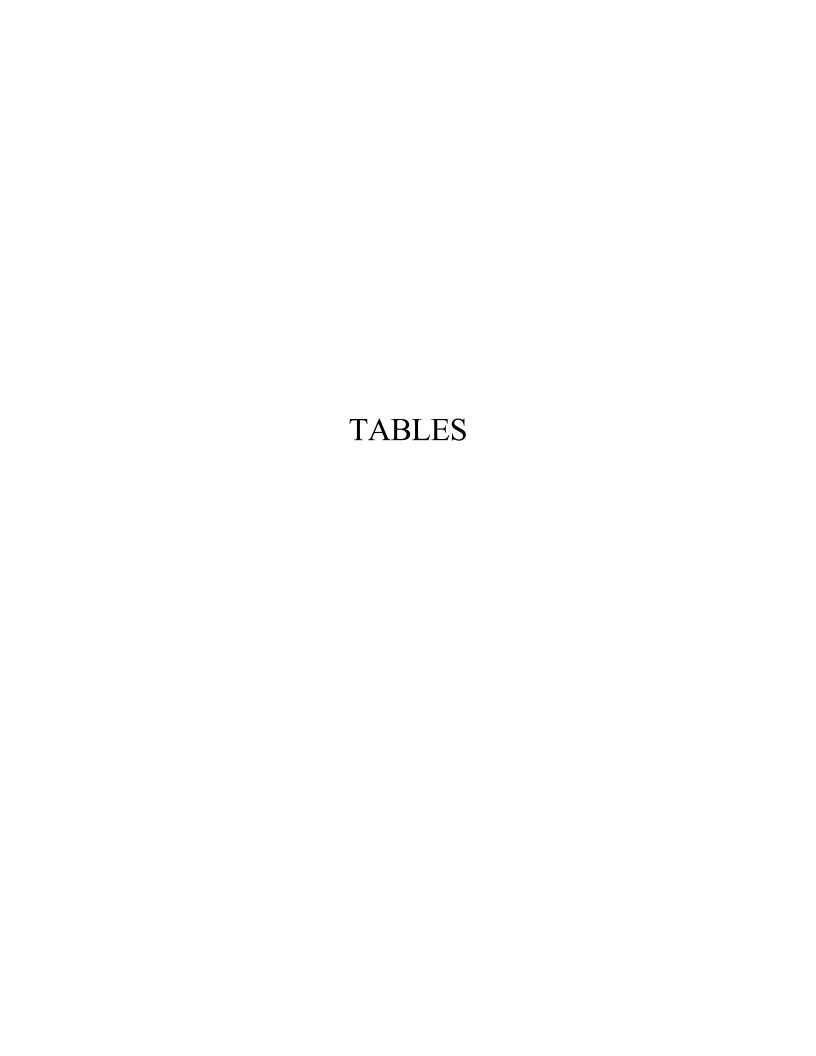


Table 1Evaluation of Remedial Technologies Plant Hammond AP-2, Floyd County, Georgia

| | Regulatory Citation for Criteria: | 40 CFR 2 | 257.96(C)(1) |
|---|---|---|---|
| Corrective Measure | Description | Performance | Reliability |
| Geochemical Approaches (In-Situ Injection) | Use of an injection well network, or other means of introducing reagents or air into the subsurface, to provide suitable reagents for either anaerobic or aerobic attenuation of Co. Under anaerobic conditions, Co would be attenuated within sparingly soluble sulfide minerals. Under aerobic conditions, soluble iron or manganese and oxygen (either via air sparging or through a chemical oxidant) would be injected to promote the formation of iron or manganese (oxy-) hydroxides for subsequent sorption of Co onto these mineral phases. If sufficient iron is present in groundwater, the use of air sparging alone may be considered to precipitate iron (oxy-) hydroxides for sorption. In-situ chemical oxidation (ISCO) or in-situ chemical reduction (ISCR) can be used to chemically alter the redox environment in the subsurface to affect the mobility of certain inorganic compounds, including Co. However, the main attenuation mechanism for Co is sorption, which is more dependent on pH than redox. | conditions; however, the anaerobic approach (involving the injection of an electron donor together with iron or manganese and sulfur) requires careful study | Reliability dependent on permeability of the subsurface and the amount and distribution of secondary iron or manganese (oxy-) hydroxides (for aerobic approach), or electron donors and soluble iron or manganese and sulfur that can be consistently distributed (for anaerobic approach). Reliable technology if injected materials can be distributed throughout the impacted aquifer. Benchand/or pilot-scale treatability testing programs are needed to understand the biogeochemical processes that would effectively reduce migration of Co in groundwater. |
| Hydraulic Containment ("Pump and Treat") | Hydraulic containment refers to the use of groundwater extraction to induce a hydraulic gradient for hydraulic capture or control the migration of impacted groundwater. This approach uses extraction wells or trenches to capture groundwater, which may subsequently require above-ground treatment and permitted discharge to a receiving water feature, reinjection into the groundwater, or reuse (e.g., land application, CCR conditioning, etc.). It is applicable to a variable mix of inorganic constituents, including dissolved Co. | Pump and treat (P&T) is effective at providing hydraulic control, but it is unclear whether full groundwater remediation can be achieved without further understanding attenuation mechanisms at the Site. At AP-2, implementation of the corrective measure is contingent on completing additional assessment activities (i.e. high-resolution site characterization, additional pump tests, flow modeling, and capture zone analysis). This is needed to refine the constituent distribution in the subsurface to target specific zones for pumping for improved mass recovery efficiency/ effectiveness and to further evaluate the potential remedy performance. | Generally reliable for hydraulic containment, but uncertainty exists whether groundwater remediation goals can be achieved within a reasonable time frame without further understanding attenuation mechanisms. |
| Monitored Natural Attenuation (MNA) | MNA relies on natural attenuation processes to achieve site-specific remediation objectives within a reasonable time frame relative to more active methods. Under certain conditions (e.g., through sorption, mineral precipitation or oxidation-reduction reactions), MNA effectively reduces the dissolved concentrations of inorganic constituents in groundwater. Attenuation mechanisms for inorganic constituents at CCR sites, including cobalt (Co) at AP-2, are either physical (e.g. dilution, dispersion, flushing, and related processes) or chemical (sorption or oxidation reduction reactions. Chemical attenuation processes include precipitation and sorption reactions such as adsorption on the surfaces of soil minerals, absorption into the matrix of soil minerals, or partitioning into organic matter. Further, oxidation-reduction (redox) reactions, via abiotic or biotic processes, can transform the valence states of some inorganic constituents to less soluble and thus less mobile forms. For Co, the main attenuation processes include sorption to iron and manganese oxides and formation of sparingly soluble sulfide minerals. | attenuation processes already at work for Co at AP-2 will further enhance ongoin MNA. | Reliable as long as the aquifer conditions that result in Co attenuation remain favorable and/or are being enhanced and sufficient attenuation capacity is present. MNA is reliable and can either be used as a stand-alone corrective measure for groundwater impacted by dissolved Co, or in combination with a second technology. |
| Permeable Reactive Barrier | Permeable reactive barrier (PRB) technology typically involves the installation of a permeable subsurface wall constructed with reactive media for the removal of constituents as groundwater passes through. Either ZVI-Carbon matrix or solid carbon (bio-barrier) are currently proposed for the concurrent removal of Co. The carbon could be composed of peat moss, mulch or another carbon source. Exact placement of the PRB is contingent on finalization of the nature and extent characterization. PRB walls are typically keyed into the bedrock. While the shallow groundwater in the residuum and fractured bedrock is connected to the groundwater in more competent bedrock, the higher permeability/conductivity of the PRB is not expected to impede groundwater flow. PRBs can also be constructed as "funnel and gate" systems, where a barrier wall directs groundwater to a smaller "treatment gate" filled with reactive media. | PRBs have been shown to effectively address Co in groundwater if the right mix of reactive materials (e.g., ZVI and carbon) is selected for removal/immobilization of the constituent. The approach is expected to achieve GWPS for Co as impacted groundwater passes through the reactive barrier. Additional testing is required to select the appropriate sorptive media mix. | Reliable groundwater corrective measure, but loss of reactivity over time may require re-installation depending on the duration of the remedy. Additional data collection, including conducting a bench and/or pilot study, is needed to better characterize current attenuation mechanisms and/or select the appropriate reactive media mix for a PRB wall. |
| Subsurface Vertical Barrier Walls | This approach involves placing a barrier to groundwater flow in the subsurface, frequently around a source area, to prevent future migration of dissolved constituents in groundwater from beneath the source to downgradient areas. In general, barrier walls are designed to provide containment; localized treatment achieved through the sorption or chemical precipitation reactions from construction of the walls are incidental to the design objective. Barrier walls can also be used in downgradient applications; to limit discharge to a surface water feature or to reduce aquifer recharge from an adjacent surface water feature when groundwater extraction wells are placed near one. A variety of barrier materials can be used, including cement and/or bentonite slurries, geomembrane composite materials, or driven materials such as steel or vinyl sheet pile. Groundwater extraction from upgradient of the barrier is required to avoid groundwater mounding behind the barrier. | Barrier walls are a proven technology for seepage control and/or groundwater cutoff at impoundments. Slurry walls are limited by the depth of installation, which is approximately 90 ft bgs. However, site-specific geologic and technology specific considerations may limit this depth to shallower installations. Within the context of AP-2, a barrier wall might be used in conjunction with a "funnel and gate" system for a PRB rather than a stand-alone technology. As such, groundwater with Co above GWPS could either be directed to "treatment gates" for passive treatment (in a PRB) or migration of impacted groundwater could be minimized via barrier wall installation. Additional subsurface investigations, aquifer testing, and compatibility testing with site-specific groundwater will be needed. | |

Page 1 of 3 December 2019

Table 1 Evaluation of Remedial Technologies Plant Hammond AP-2, Floyd County, Georgia

| | 40 CFR 257.96(C)(1) | 40 CFR 257.96(C)(1) | 40 CFR 257.96(C)(2) |
|---|---|--|--|
| Corrective Measure | Ease of Implementation | Potential Impacts | Time Requirement to Begin/Complete |
| Geochemical Approaches (In-Situ Injection) | Moderate. Installation of injection well network or other injection infrastructure would be required. Alternative installation approaches may be considered, such as along the downgradient edge of impacted groundwater, which would function similar to a PRB application. Potential for clogging of aquifer matrix and/or injection well infrastructure. Chemical distribution during injections (i.e., radius of influence) needs to be evaluated. | Minimal impacts are expected if remedy works as designed, based on a thorough pre-design investigation, geochemical modeling, and bench/pilot study results. Redox-altering processes have the potential to mobilize naturally-occurring constituents as an unintended consequence if not properly studied and implemented. | Installation of the injection network can be accomplished relatively quickly (1 to 2 months). However, a thorough pre-design investigation, geochemical modeling, and/or bench- and/or pilot-testing will be required to obtain design parameters prior to design and construction of the corrective measure, which may take up to 24 months. Once installed, the time required to achieve GWPS within the treatment area may be relatively quick but depends on the attenuation process kinetics of each targeted constituent. The time for complete distribution of the injected materials throughout the treatment area is also variable. |
| Hydraulic Containment ("Pump and Treat") | Moderate. Proven approach, and supplemental installation of extraction wells/trenches is fairly straightforward. The extracted groundwater may potentially require an above-ground treatment system. A variety of sorption and precipitation approaches exist for ex-situ treatment of Co. Operation and maintenance (O&M) requirements are expected to include upkeep of infrastructure components (pumps, pipes, tanks, instrumentation and controls, above-ground treatment system) and handling of treatment residuals. | Moderate. The main potential impacts are related to the presence and operation of an on-site above-ground water treatment facility and related infrastructure to convey and treat extracted groundwater. Pumping activity may unintentionally alter the geochemistry within the hydraulic capture zone. | Installation of extraction wells and/or trenches can be accomplished relatively quickly (1 to 2 months). However, additional aquifer testing, system design and installation, and permit approval may be required, which may take up to 24 months. The initiation of the approach would be contingent on the start-up of the wastewater treatment infrastructure. Hydraulic containment can be achieved relatively quickly after startup of the extraction system, but uncertainty exists with respect to the time to achieve GWPS without additional data collection to better understand attenuation mechanisms for Co. |
| Monitored Natural Attenuation (MNA) | Reasonably implementable with respect to infrastructure, but moderate to complex with respect to documentation. Proven approach, but additional data are needed to show that the existing attenuation capacity is sufficient to meet site objectives within a reasonable timeframe. A monitoring well network already exists to implement future groundwater monitoring efforts. | None. MNA relies on the natural processes active in the aquifer matrix to reduce constituent concentrations without disturbing the surface or the subsurface. | The infrastructure to initiate MNA is already in place. Demonstrating attenuation mechanisms and capacity can be time-consuming and can take up to 24 months. MNA is expected to be successful within a reasonable time frame following pond closure. Engineering measures will be implemented during closure of AP-2 to minimize potential impacts to the subsurface during closure activities and routine groundwater monitoring will be used to verify that groundwater impacts remain stable or decrease over time. |
| Permeable Reactive Barrier | Moderate to difficult. Trenching would be required to install a mix of reactive materials in the subsurface. Continuous trenching may be the most feasible construction method. Installation methods and materials are readily available. Once installed, treatment will be passive and O&M requirements are minimal if replacement of the PRB is not necessary. | Minimal impacts are expected following the construction of the remedy. However, ZVI has the potential to create anaerobic conditions downgradient of the PRB wall that may mobilize redox-sensitive naturally-occurring constituents. These conditions need to be carefully monitored. Short-term impacts during the construction of the remedy can be mitigated through appropriate planning and health and safety measures. | Installation of a PRB can be accomplished relatively quickly (6 to 12 months), depending on the final location and configuration. However, bench- and/or pilottesting would be required to obtain design parameters prior to design and construction of the remedy, which may take up to 24 months. Once installed, the time to achieve GWPS downgradient of the PRB is anticipated to be relatively quick. |
| Subsurface Vertical Barrier Walls | installation, which similar to PRBs, should be keyed into a low permeability layer such as a thick clay layer or bedrock. Installation methods and materials are | appropriate planning and health and safety measures. Changes to groundwater flow patterns due to installation of the barrier wall are expected, which can affect other aspects of groundwater corrective action. Pumping activity may | Installation of a barrier wall can be accomplished relatively quickly (6 to 12 months), depending on the final location and configuration. However, some design phase and additional aquifer and compatibility testing will be required, which may take up to 24 months. Once installed, preventing migration of constituents dissolved in groundwater is anticipated to be relatively quick. Since this approach does not treat the downgradient area of impacted groundwater but prevents migration from a source area, it will likely have to be maintained long-term and coupled with other approaches. |

Table 1Evaluation of Remedial Technologies Plant Hammond AP-2, Floyd County, Georgia

| | 40 CFR 2 | 57.96(C)(3) | |
|---|--|---|---|
| Corrective Measure | Institutional Requirements | Other Env or Public Health Requirements | Relative Costs |
| Geochemical Approaches (In-Situ Injection) | Deed restrictions may be necessary until in-situ treatment has achieved GWPS. A new UIC permit (for in-situ injections) would be required to implement this corrective measure. No other institutional requirements are expected at this time. | None expected at this point. Based on downgradient sampling results near adjacent water features, there currently are no complete exposure pathways for potential receptors downgradient of AP-2. Potential for mobilization of redox-sensitive constituents exists during implementation of an anerobic attenuation approach. Following installation, the remedy is passive. | Medium (depending on expanse of injection network required and injectate volume required per derived design parameters) |
| Hydraulic Containment ("Pump and Treat") | Depending on the effluent management strategy, modifications to the existing NPDES permit may be required, or obtaining a new underground injection control (UIC) permit may be needed if groundwater reinjection is chosen. In addition, deed restrictions may be required as long as groundwater conditions are above regulatory standards for unrestricted use. | Based on downgradient sampling results near adjacent water features, there currently are no complete exposure pathways for potential receptors downgradient of AP-2. Above-ground treatment components may need to be present for an extended period of time, generating residuals requiring management and disposal. | Medium to high (depending on remedy duration, complexity of above-ground treatment system, and volume of water processed) |
| Monitored Natural Attenuation (MNA) | MNA may require the implementation of institutional controls, such as deed restrictions, to preclude potential exposure to groundwater within the footprint of impacted groundwater until GWPS are achieved. | Little to no physical disruption to remediation areas and no adverse construction-related impacts are expected on the surrounding community. Based on downgradient sampling results near adjacent water features, there currently are no complete exposure pathways for potential receptors downgradient of AP-2. | Low to medium |
| Permeable Reactive Barrier | Deed restrictions may be necessary for groundwater areas upgradient of the PRB (if not installed along the waste boundary). No other institutional requirements are expected at this time. | None expected at this point. Based on downgradient sampling results near adjacent water features, there currently are no complete exposure pathways for potential receptors downgradient of AP-2. Following installation, the remedy is passive. However, certain treatment media (such as ZVI) have the potential to mobilize naturally-occurring constituents downgradient of the PRB. | Medium to high (for installation) - minimal O&M requirements if replacement is not necessary |
| Subsurface Vertical Barrier Walls | Deed restrictions may be necessary for groundwater areas downgradient of the barrier wall until remedial goals are met. No other institutional requirements are expected at this time. | Based on downgradient sampling results near adjacent water features, there currently are no complete exposure pathways for potential receptors downgradient of AP-2. Due to the need for groundwater extraction associated with barrier walls, above-ground treatment components may need to be present for an extended period of time, generating residuals requiring management and disposal. | Medium to high (depending on length and depth of wall, remedy duration and complexity of above-ground treatment system) |

Table 2 Summary of Activity Plant Hammond AP-2, Floyd County, Georgia

| Corrective Measure (CM) | Data Collected/Actions Completed | Applicable Locations Sampled | Applicability & Rationale | Comments/Planned Actions |
|---|---|--|---|--|
| Geochemical Approaches (In-Situ Injection) | Collected supplementary groundwater samples to evaluate: (i) attenuation mechanisms and rates and aquifer capacity for attenuation; and (ii) amount and distribution of select metal hydroxides or electron donors that may effect geochemical mechanisms | MW-22 | Understand geochemical baseline conditions to evaluate the need for and type of geochemical amendments required to attenuate constituents of interest. | (i) Collect and submit aquifer solid samples for sequential extraction procedure (SEP) for analysis of cobalt (Co) in the aquifer solid matrix; x-ray diffraction (XRD) analysis for mineralogy; total Co, aluminum, iron, manganese, silica concentrations; cation/anion exchange capacity. (ii) Conduct pneumatic slug tests to evaluate aquifer transmissivity, storage coefficient, hydraulic conductivity in support of conducting injections. |
| Hydraulic Containment | Collected supplementary groundwater samples to evaluate groundwater parameters specific to the existing NPDES permitted discharge limits and capabilities of on-site low volume wastewater treatment plant (LVWTP) | HGWC-15, HGWC-18 | Evaluate groundwater concentrations relative to permitted discharge limits for the plant in support of processing/discharging extracted groundwater. Determine if a permit update is required to address potentially new groundwater-specific parameters. | Conduct pneumatic slug tests to evaluate aquifer transmissivity, storage coefficient, hydraulic conductivity in support of designing a groundwater extraction system. |
| Monitored Natural Attenuation (MNA) | Collected supplementary groundwater samples both upgradient and downgradient of unit to evaluate in situ attenuation mechanisms and rates and aquifer capacity for attenuation | 6, HGWC-14, HGWC-15, HGWC-16, HGWC-17, HGWC-18, MW-21D MW-22 MW-23D | Evaluate attenuation mechanisms and rates and aquifer capacity for attenuation. Multiple sampling events required to build adequate data set for determining attenuation mechanism trends. | (i) Continue to conduct supplementary groundwater sampling events during pre-closure and closure phase activities to assess plume stability and attenuation mechanisms. (ii) Collect and submit aquifer solid samples for SEP for analysis of Co in the aquifer solid matrix; XRD analysis for mineralogy; total Co, aluminum, iron, manganese, silica concentrations; cation/anion exchange capacity. |
| Permeable Reactive Barrier (PRB) | Collected supplementary groundwater samples to evaluate attenuation mechanisms and rates and aquifer capacity for attenuation applicable to evaluating reactive media options | HGWC-14, HGWC-15, HGWC-17, HGWC-18, MW-21D, MW-22 | Evaluate in situ geochemical conditions and attenuation mechanisms that need to be considered when evaluating reactive media and initial design of a bench-scale treatability study. | (i) Initial identification of possible PRB reactive media based on current dataset, with refinement pending review of subsequent geochemical and aquifer attenuation data. (ii) Conduct pneumatic slug tests to evaluate aquifer transmissivity, storage coefficient, hydraulic conductivity in support of designing a groundwater extraction system. |
| Subsurface Vertical Barrier Walls | Collected supplementary groundwater samples to evaluate groundwater parameters specific to the existing NPDES permitted discharge limits, since limited pumping (and discharge) of groundwater will be required to maintain an inward hydraulic gradient inside/upgradient of the vertical barrier. | HGWC-15, HGWC-18 | Evaluate groundwater concentrations relative to permitted discharge limits for the plant in support of processing/discharging extracted groundwater. Determine if a permit update is required to address potentially new groundwater-specific parameters. | (i) Conduct pneumatic slug tests to evaluate aquifer transmissivity, storage coefficient, hydraulic conductivity in support of developing a groundwater flow model to assess placement of barrier walls, most likely in conjunction with PRBs, and placement of possible groundwater extraction system to maintain designed hydraulic gradients. (ii) Evaluate resources needed to conduct a bench compatibility test of barrier wall material. |

Table 3aSummary of Groundwater Analytical Data - Geochemical Parameter Evaluation
Plant Hammond AP-2, Floyd County, Georgia

| Well ID: | HGWA-1 | HGWA-2 | HGWA-3 | HGWA-4 | HGWA-5 | HGWA-6 | HGWC-14 |
|--|--------------|-----------|--------------|--------------|--------------|--------------|-------------|
| Sample Date: | 9/23/2019 | 9/23/2019 | 9/23/2019 | 9/24/2019 | 9/24/2019 | 9/24/2019 | 9/24/2019 |
| Parameter | | | | | | | |
| Alkalinity, Bicarbonate (CaCO ₃) | 279 | 29.0 | 174 | 109 | 90.0 | 158 | ND |
| Alkalinity, Total as CaCO ₃ | 279 | 29.0 | 174 | 109 | 90.0 | 158 | ND |
| Dissolved Organic Carbon | 1.1 | 2.1 | ND | ND (0.85 J) | ND | ND | ND (0.52 J) |
| Iron | ND (0.022 J) | 1.7 | 0.53 | ND (0.021 J) | 1.5 | 0.49 | 0.84 |
| Magnesium | 5.4 | 2.4 | 4.8 | 1.3 | 5.6 | 10 | 53.5 |
| Manganese | 0.20 | 1.1 | 0.21 | 0.035 | 0.077 | 0.071 | 5.5 |
| Orthophosphate as P | ND | ND | ND | ND | ND | 0.038 | ND |
| Phosphorous | ND | ND | ND (0.026 J) | ND | ND (0.039 J) | ND (0.036 J) | ND |
| Potassium | 0.33 | 0.88 | 0.42 | ND (0.24 J) | ND (0.65 J) | ND (0.56 J) | 12.1 |
| Sodium | 20.4 | 8.7 | 5.2 | 8.3 | 6.2 | 7.9 | 12.1 |
| Sulfide | ND | ND | ND | ND | ND | ND | ND |

Notes:

1 of 2 December 2019

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

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

⁽¹⁾ Well is designated a delineation monitoring well.

⁽²⁾ Parameters are reported in units of milligrams per liter (mg/L).

Table 3a
Summary of Groundwater Analytical Data - Geochemical Parameter Evaluation
Plant Hammond AP-2, Floyd County, Georgia

| Well ID: | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 | MW-21D ⁽¹⁾ | MW-22 ⁽¹⁾ | MW-23D ⁽¹⁾ |
|--|-------------|-------------|-------------|-----------|-----------------------|----------------------|-----------------------|
| Sample Date: | 9/24/2019 | 9/25/2019 | 9/25/2019 | 9/25/2019 | 9/25/2019 | 9/27/2019 | 9/26/2019 |
| Parameter | | | | | | | |
| Alkalinity, Bicarbonate (CaCO ₃) | 124 | 192 | 182 | ND | 62.0 | 93.0 | 216 |
| Alkalinity, Total as CaCO ₃ | 124 | 192 | 182 | ND | 62.0 | 93.0 | 216 |
| Dissolved Organic Carbon | ND (0.61 J) | ND | ND (0.72 J) | ND | ND | ND | ND |
| Iron | 0.053 | 1.5 | 0.18 | 0.11 | 14.6 | 0.66 | 0.17 |
| Magnesium | 37.9 | 15.5 | 31.2 | 36.0 | 67.0 | 46.3 | 35.4 |
| Manganese | 16.3 | 0.036 | 4.4 | 3.7 | 0.99 | 16.7 | 9.0 |
| Orthophosphate as P | ND | 0.021 | ND | ND | ND | ND | ND |
| Phosphorous | 0.10 | 0.069 | ND | ND | ND (0.032 J) | 0.054 | ND (0.025 J) |
| Potassium | 0.89 | ND (0.76 J) | 2.7 | 8.9 | 1.1 | 1.0 | 2.1 |
| Sodium | 14.7 | 9.9 | 15.3 | 10.4 | 15.3 | 15.0 | 13.1 |
| Sulfide | ND | ND | ND | ND | ND | ND | ND |

Notes:

2 of 2 December 2019

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

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

⁽¹⁾ Well is designated a delineation monitoring well.

⁽²⁾ Parameters are reported in units of milligrams per liter (mg/L).

Table 3b
Summary of Groundwater Analytical Data - NPDES Compliance Evaluation
Plant Hammond AP-2, Floyd County, Georgia

| Well ID: | HGWC-15 | HGWC-18 |
|-------------------------|-----------|-----------|
| Sample Date: | 9/24/2019 | 9/25/2019 |
| Parameter | | |
| Nitrogen, Ammonia | ND | 0.56 |
| BOD, 5 day | ND | ND |
| Oil and Grease | ND | ND |
| Mercury | 0.024 | ND |
| Residual Chlorine | ND | ND |
| Total Kjeldahl Nitrogen | ND | 0.40 |
| Total Organic Nitrogen | ND | ND |
| Total Suspended Solids | ND | 6.0 |

1 of 1

Notes:

 $\ensuremath{\text{ND}}=\ensuremath{\text{Indicates}}$ the parameter was not detected above the analytical MDL

NPDES = National Pollutant Discharge Elimination System

(1) Parameters are reported in units of milligrams per liter (mg/L).

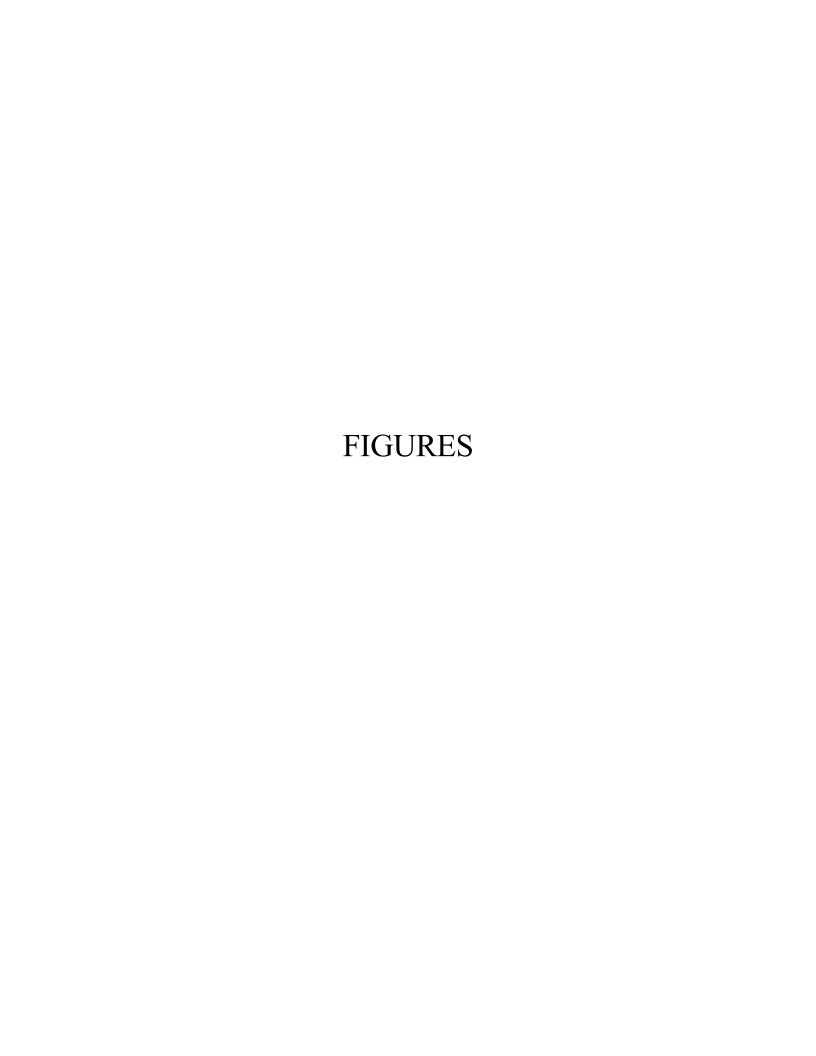
Table 4
Proposed ACM Supplementary Data Collection Tasks for First Semi-Annual Period 2020
Plant Hammond AP-2, Floyd County, Georgia

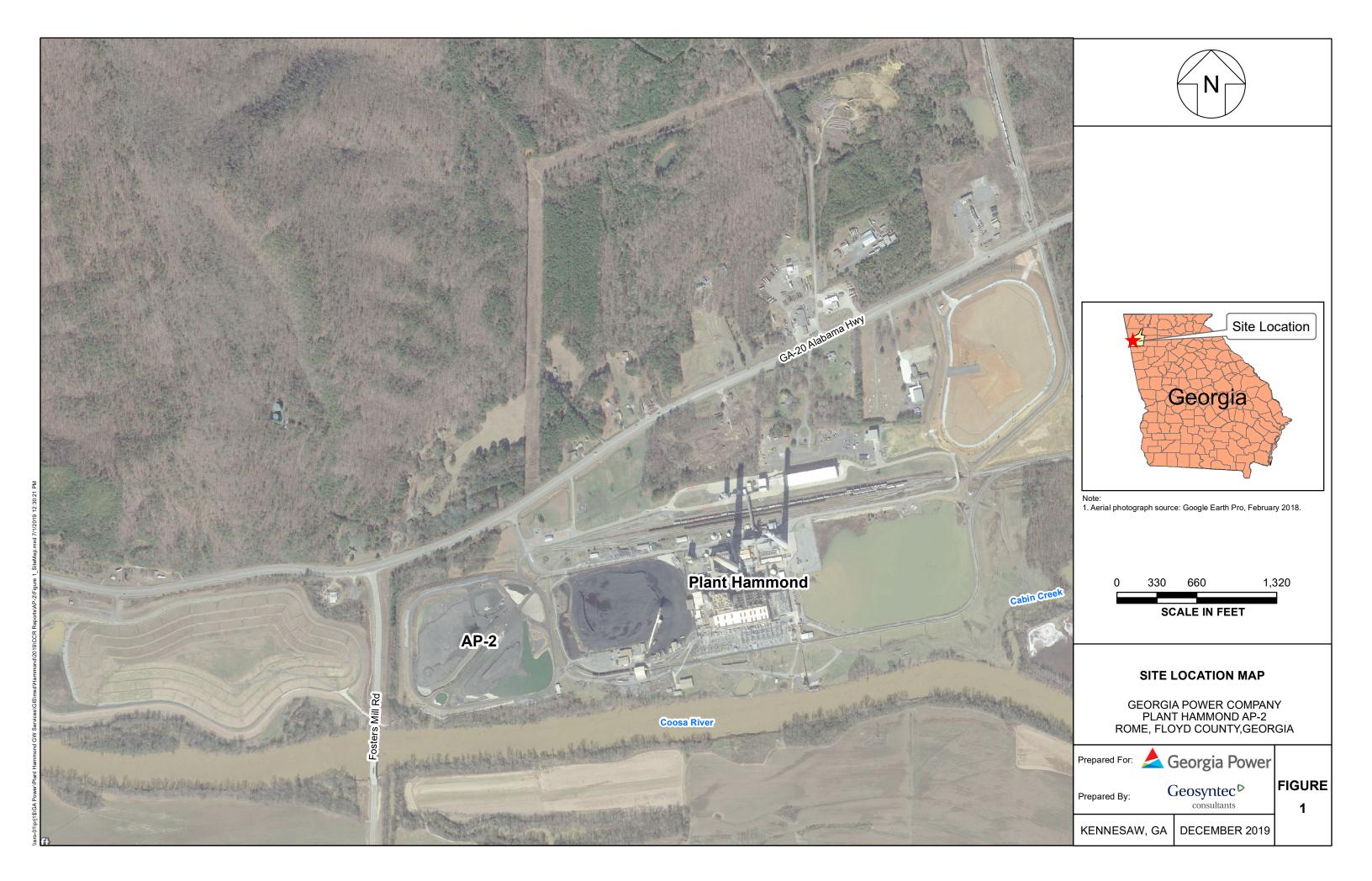
| Data Collection Event | Applicable CMs (1) | Applicability/Rationale | Field Component | Parameters of Interest (POI) | Analytical Lab Performing Analysis |
|--|-----------------------|---|--|--|---|
| Groundwater sampling | 3, 4 | Evaluation of: (i) attenuation mechanisms and rates and aquifer capacity for attenuation (ii) in situ conditions to establish phytoremediation measures downgradient of unit | Collect groundwater samples from existing well network currently sampled under the assessment monitoring program. | In addition to routine App III/IV parameters: orthophosphate, phosphorous, sulfide, iron, manganese, magnesium, sodium, potassium, total alkalinity, bicarbonate, dissolved organic carbon (DOC), nitrate/nitrite, total hardness, zinc, total dissolved solids, copper, ammonia nitrogen. | Pace-ATL |
| Aquifer solids sampling (Collect/Submit archived rock cores) | 1, 3, 4 | Evaluation of within aquifer matrix: (i) attenuation mechanisms and rates and aquifer capacity for attenuation (ii) mineralogy characterization | Collect samples from extracted rock cores archived at the SCS Civil Field Services (CFS) Logan Martin, AL, facility. | Sequential extraction procedure (SEP) for analysis of cobalt (Co) in the aquifer solid matrix; x-ray diffraction (XRD) analysis for mineralogy; total Co, aluminum, iron, manganese, silica concentrations; cation/anion exchange capacity | TestAmerica-Canton; TestAmerica- Knoxville (SEP); DCM Science Lab (XRD) |
| Aquifer solids sampling | 1, 3, 4 | Evaluation of within aquifer matrix: (i) attenuation mechanisms and rates and aquifer capacity for attenuation (ii) mineralogy characterization | Collect unconsolidated aquifer solid material from the alluvium, residuum, and/or highly weathered rock zones using a DPT rig (3-4 locations downgradient and 1-2 background locations). | SEP for analysis of Co in the aquifer solid matrix; XRD analysis for mineralogy; total Co, aluminum, iron, manganese, silica concentrations; cation/anion exchange capacity | TestAmerica-Canton; TestAmerica- Knoxville (SEP); DCM Science Lab (XRD) |
| Pneumatic slug tests | 1, 2, 4, 5 | Refine our understanding of hydrogeologic conditions within the anticipated treatment area. Slug data will be used in conjunction with groundwater data to prepare a groundwater flow model that evaluates conceptual CM designs. | Conduct pneumatic slug tests in select wells either not previously tested or in those wells for which historical data may be in question. | Transmissivity, storage coefficient, hydraulic conductivity | n/a |

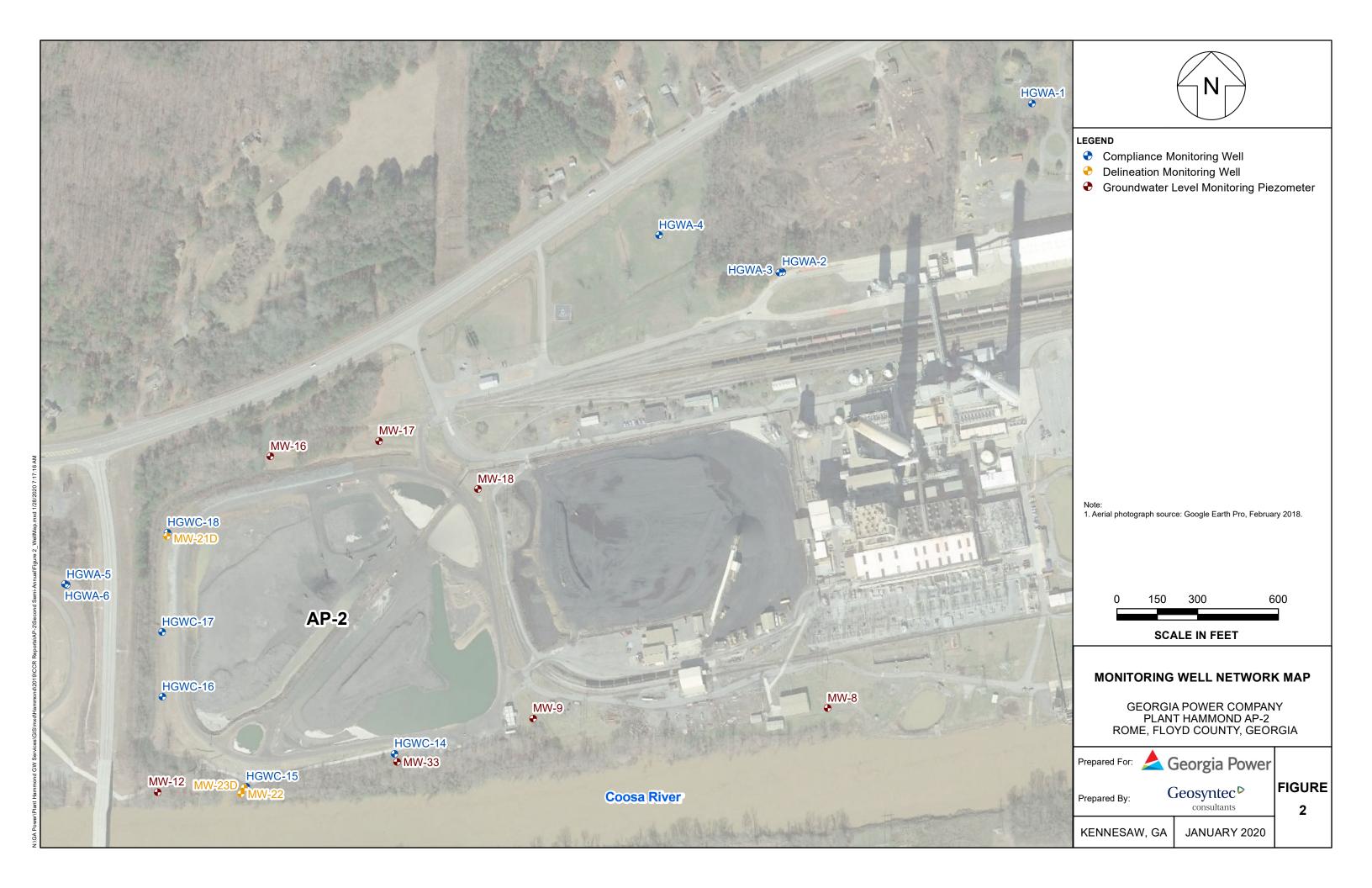
Note:

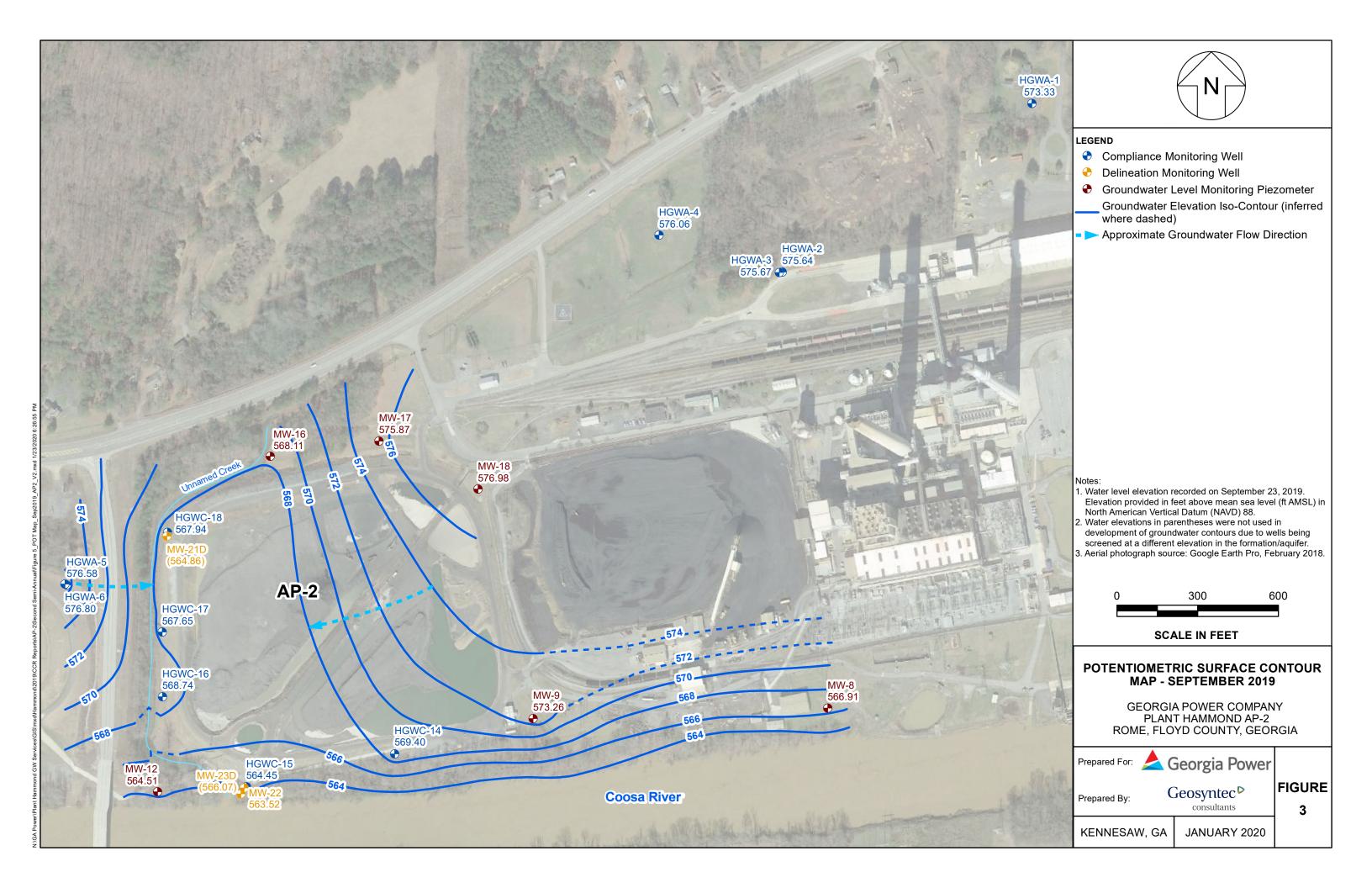
- (1) Corrective Measure (CM) Codes:
- 1 Geochemical Approaches (In-Situ Injection)
- 2 Hydraulic Containment
- 3 Monitored Natural Attenuation (MNA)
- 4 Permeable Reactive Barrier (PRB)
- 5 Subsurface Vertical Barrier Walls

1 of 1 December 2019









APPENDIX A

Laboratory Analytical Reports





October 25, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond GW6581

Pace Project No.: 2623499

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 24, 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

Beton M Damil

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



(770)734-4200



CERTIFICATIONS

Project: Plant Hammond GW6581

Pace Project No.: 2623499

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

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST Alabama Certification #: 41320

Arizona Certification# AZ0819 Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079

Georgia Certification #: 955 Guam Certification: FL NELAC Reciprocity

Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383

Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007

Maryland Certification: #346 Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074 Nebraska Certification: NE-OS-28-14

New Hampshire Certification #: 2958

New Jersey Certification #: FL022

New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710

North Dakota Certification #: R-216

Oklahoma Certification #: D9947 Pennsylvania Certification #: 68-00547

Puerto Rico Certification #: FL01264

South Carolina Certification: #96042001

Tennessee Certification #: TN02974

Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C

Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity



SAMPLE SUMMARY

Project: Plant Hammond GW6581

Pace Project No.: 2623499

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2623499001 | HGWA-1 | Water | 09/23/19 16:15 | 09/24/19 15:23 |
| 2623499002 | HGWA-2 | Water | 09/23/19 16:55 | 09/24/19 15:23 |
| 2623499003 | HGWA-3 | Water | 09/23/19 17:10 | 09/24/19 15:23 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond GW6581

Pace Project No.: 2623499

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|--------------|----------|----------------------|------------|
| 2623499001 | HGWA-1 | EPA 6010D | KLH | 6 | PASI-GA |
| | | SM 2320B | S1A | 2 | PASI-GA |
| | | SM 4500-P | JAD | 1 | PASI-GA |
| | | SM 4500-S2 D | KN | 1 | PASI-GA |
| | | SM 5310B | SA1 | 1 | PASI-O |
| 2623499002 | HGWA-2 | EPA 6010D | KLH | 6 | PASI-GA |
| | | SM 2320B | S1A | 2 | PASI-GA |
| | | SM 4500-P | JAD | 1 | PASI-GA |
| | | SM 4500-S2 D | KN | 1 | PASI-GA |
| | | SM 5310B | SA1 | 1 | PASI-O |
| 2623499003 | HGWA-3 | EPA 6010D | KLH | 6 | PASI-GA |
| | | SM 2320B | S1A | 2 | PASI-GA |
| | | SM 4500-P | JAD | 1 | PASI-GA |
| | | SM 4500-S2 D | KN | 1 | PASI-GA |
| | | SM 5310B | SA1 | 1 | PASI-O |



ANALYTICAL RESULTS

Project: Plant Hammond GW6581

Pace Project No.: 2623499

Date: 10/25/2019 06:29 PM

| Sample: HGWA-1 | Lab ID: | 2623499001 | Collected | d: 09/23/19 | 16:15 | Received: 09/ | 24/19 15:23 Ma | atrix: Water | |
|--------------------------------|------------|--------------|-----------------|-------------|---------|----------------|----------------|--------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6010D MET ICP | Analytical | Method: EPA | 6010D Prep | aration Me | hod: EF | PA 3010A | | | |
| Iron | 0.022J | mg/L | 0.040 | 0.015 | 1 | 10/22/19 14:30 | 10/23/19 22:51 | 7439-89-6 | |
| Magnesium | 5.4 | mg/L | 0.050 | 0.011 | 1 | 10/22/19 14:30 | 10/23/19 22:51 | 7439-95-4 | |
| Manganese | 0.20 | mg/L | 0.040 | 0.0061 | 1 | 10/22/19 14:30 | 10/23/19 22:51 | 7439-96-5 | |
| Phosphorus | ND | mg/L | 0.050 | 0.023 | 1 | 10/22/19 14:30 | 10/23/19 22:51 | 7723-14-0 | |
| Potassium | 0.33 | mg/L | 0.20 | 0.026 | 1 | 10/22/19 14:30 | 10/23/19 22:51 | 7440-09-7 | |
| Sodium | 20.4 | mg/L | 1.0 | 0.19 | 1 | 10/22/19 14:30 | 10/23/19 22:51 | 7440-23-5 | |
| 2320B Alkalinity | Analytical | Method: SM 2 | 320B | | | | | | |
| Alkalinity,Bicarbonate (CaCO3) | 279 | mg/L | 20.0 | 20.0 | 1 | | 09/25/19 16:36 | | |
| Alkalinity, Total as CaCO3 | 279 | mg/L | 20.0 | 20.0 | 1 | | 09/25/19 16:36 | | |
| 4500PE Ortho Phosphorus | Analytical | Method: SM 4 | 500-P | | | | | | |
| Orthophosphate as P | ND | mg/L | 0.020 | 0.020 | 1 | | 09/25/19 12:26 | | |
| 4500S2D Sulfide Water | Analytical | Method: SM 4 | 500-S2 D | | | | | | |
| Sulfide | ND | mg/L | 0.20 | 0.20 | 1 | | 09/26/19 09:20 | 18496-25-8 | |
| 5310B Dissolved Organic Carbon | Analytical | Method: SM 5 | 310B | | | | | | |
| Dissolved Organic Carbon | 1.1 | mg/L | 1.0 | 0.50 | 1 | | 10/24/19 23:28 | | НЗ |



ANALYTICAL RESULTS

Project: Plant Hammond GW6581

Pace Project No.: 2623499

Date: 10/25/2019 06:29 PM

| Sample: HGWA-2 | Lab ID: | 2623499002 | Collected | l: 09/23/19 | 16:55 | Received: 09/ | 24/19 15:23 Ma | atrix: Water | |
|--------------------------------|------------|--------------|-----------------|-------------|---------|----------------|----------------|--------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6010D MET ICP | Analytical | Method: EPA | 6010D Prepa | aration Met | hod: EF | PA 3010A | | | |
| Iron | 1.7 | mg/L | 0.040 | 0.015 | 1 | 10/22/19 14:30 | 10/23/19 22:56 | 7439-89-6 | |
| Magnesium | 2.4 | mg/L | 0.050 | 0.011 | 1 | 10/22/19 14:30 | 10/23/19 22:56 | 7439-95-4 | |
| Manganese | 1.1 | mg/L | 0.040 | 0.0061 | 1 | 10/22/19 14:30 | 10/23/19 22:56 | 7439-96-5 | |
| Phosphorus | ND | mg/L | 0.050 | 0.023 | 1 | 10/22/19 14:30 | 10/23/19 22:56 | 7723-14-0 | |
| Potassium | 0.88 | mg/L | 0.20 | 0.026 | 1 | 10/22/19 14:30 | 10/23/19 22:56 | 7440-09-7 | |
| Sodium | 8.7 | mg/L | 1.0 | 0.19 | 1 | 10/22/19 14:30 | 10/23/19 22:56 | 7440-23-5 | |
| 2320B Alkalinity | Analytical | Method: SM 2 | 320B | | | | | | |
| Alkalinity,Bicarbonate (CaCO3) | 29.0 | mg/L | 20.0 | 20.0 | 1 | | 09/25/19 16:58 | | |
| Alkalinity, Total as CaCO3 | 29.0 | mg/L | 20.0 | 20.0 | 1 | | 09/25/19 16:58 | | |
| 4500PE Ortho Phosphorus | Analytical | Method: SM 4 | 500-P | | | | | | |
| Orthophosphate as P | ND | mg/L | 0.020 | 0.020 | 1 | | 09/25/19 12:27 | | |
| 4500S2D Sulfide Water | Analytical | Method: SM 4 | 500-S2 D | | | | | | |
| Sulfide | ND | mg/L | 0.20 | 0.20 | 1 | | 09/26/19 09:23 | 18496-25-8 | |
| 5310B Dissolved Organic Carbon | Analytical | Method: SM 5 | 310B | | | | | | |
| Dissolved Organic Carbon | 2.1 | mg/L | 1.0 | 0.50 | 1 | | 10/25/19 00:17 | | НЗ |



ANALYTICAL RESULTS

Project: Plant Hammond GW6581

Pace Project No.: 2623499

Date: 10/25/2019 06:29 PM

| Sample: HGWA-3 | Lab ID: | 2623499003 | Collected | d: 09/23/19 | 17:10 | Received: 09/ | 24/19 15:23 Ma | atrix: Water | |
|--------------------------------|------------|--------------|-----------------|-------------|---------|----------------|----------------|--------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6010D MET ICP | Analytical | Method: EPA | 6010D Prep | aration Met | hod: EF | PA 3010A | | | |
| Iron | 0.53 | mg/L | 0.040 | 0.015 | 1 | 10/22/19 14:30 | 10/23/19 23:24 | 7439-89-6 | |
| Magnesium | 4.8 | mg/L | 0.050 | 0.011 | 1 | 10/22/19 14:30 | 10/23/19 23:24 | 7439-95-4 | |
| Manganese | 0.21 | mg/L | 0.040 | 0.0061 | 1 | 10/22/19 14:30 | 10/23/19 23:24 | 7439-96-5 | |
| Phosphorus | 0.026J | mg/L | 0.050 | 0.023 | 1 | 10/22/19 14:30 | 10/23/19 23:24 | 7723-14-0 | |
| Potassium | 0.42 | mg/L | 0.20 | 0.026 | 1 | 10/22/19 14:30 | 10/23/19 23:24 | 7440-09-7 | |
| Sodium | 5.2 | mg/L | 1.0 | 0.19 | 1 | 10/22/19 14:30 | 10/23/19 23:24 | 7440-23-5 | |
| 2320B Alkalinity | Analytical | Method: SM 2 | 320B | | | | | | |
| Alkalinity,Bicarbonate (CaCO3) | 174 | mg/L | 20.0 | 20.0 | 1 | | 09/25/19 17:01 | | |
| Alkalinity, Total as CaCO3 | 174 | mg/L | 20.0 | 20.0 | 1 | | 09/25/19 17:01 | | |
| 4500PE Ortho Phosphorus | Analytical | Method: SM 4 | 500-P | | | | | | |
| Orthophosphate as P | ND | mg/L | 0.020 | 0.020 | 1 | | 09/25/19 12:28 | | |
| 4500S2D Sulfide Water | Analytical | Method: SM 4 | 500-S2 D | | | | | | |
| Sulfide | ND | mg/L | 0.20 | 0.20 | 1 | | 09/26/19 09:25 | 18496-25-8 | |
| 5310B Dissolved Organic Carbon | Analytical | Method: SM 5 | 310B | | | | | | |
| Dissolved Organic Carbon | ND | mg/L | 1.0 | 0.50 | 1 | | 10/25/19 00:28 | | H3 |



Project: Plant Hammond GW6581

Pace Project No.: 2623499

Date: 10/25/2019 06:29 PM

QC Batch: 37339 Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A Analysis Description: 6010D MET

Associated Lab Samples: 2623499001, 2623499002, 2623499003

METHOD BLANK: 168935 Matrix: Water

Associated Lab Samples: 2623499001, 2623499002, 2623499003

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-------------|--------|-----------------|--------------------|--------|----------------|------------|
| - Farameter | Office | | | IVIDL | Allalyzeu | Qualifiers |
| Iron | mg/L | ND | 0.040 | 0.015 | 10/23/19 22:41 | |
| Magnesium | mg/L | ND | 0.050 | 0.011 | 10/23/19 22:41 | |
| Manganese | mg/L | ND | 0.040 | 0.0061 | 10/23/19 22:41 | |
| Phosphorus | mg/L | ND | 0.050 | 0.023 | 10/23/19 22:41 | |
| Potassium | mg/L | ND | 0.20 | 0.026 | 10/23/19 22:41 | |
| Sodium | mg/L | ND | 1.0 | 0.19 | 10/23/19 22:41 | |

| LABORATORY CONTROL SAMPLE: | 168936 | | | | | |
|----------------------------|--------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Iron | mg/L | | 1.1 | 107 | 80-120 | |
| Magnesium | mg/L | 1 | 1.1 | 107 | 80-120 | |
| Manganese | mg/L | 1 | 1.1 | 106 | 80-120 | |
| Phosphorus | mg/L | 1 | 1.1 | 107 | 80-120 | |
| Potassium | mg/L | 1 | 1.1 | 108 | 80-120 | |
| Sodium | mg/L | 1 | 1.1 | 108 | 80-120 | |
| | | | | | | |

| MATRIX SPIKE & MATRIX | SPIKE DUPL | ICATE: 1689 | 37 | | 168938 | | | | | | | |
|-----------------------|------------|----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|------|
| Parameter | Units | 2623499002 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
| Iron | mg/L | 1.7 | 1 | 1 | 2.7 | 2.8 | 101 | 106 | 75-125 | 2 | 20 | |
| Magnesium | mg/L | 2.4 | 1 | 1 | 3.4 | 3.4 | 101 | 106 | 75-125 | 1 | 20 | |
| Manganese | mg/L | 1.1 | 1 | 1 | 2.1 | 2.1 | 101 | 105 | 75-125 | 2 | 20 | |
| Phosphorus | mg/L | ND | 1 | 1 | 1.0 | 1.0 | 102 | 103 | 75-125 | 1 | 20 | |
| Potassium | mg/L | 0.88 | 1 | 1 | 1.9 | 1.9 | 97 | 101 | 75-125 | 2 | 20 | |
| Sodium | mg/L | 8.7 | 1 | 1 | 9.5 | 9.8 | 84 | 112 | 75-125 | 3 | 20 | |

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



Project: Plant Hammond GW6581

Pace Project No.: 2623499

QC Batch: 35970 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity

Associated Lab Samples: 2623499001, 2623499002, 2623499003

METHOD BLANK: 161956 Matrix: Water

Associated Lab Samples: 2623499001, 2623499002, 2623499003

Blank Reporting
Parameter Units Result Limit MD

Parameter Units Result Limit MDL Analyzed Qualifiers

Alkalinity, Total as CaCO3 mg/L ND 20.0 20.0 09/25/19 16:26

LABORATORY CONTROL SAMPLE: 161957

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Alkalinity, Total as CaCO3 85-115 mg/L 100 101 101

SAMPLE DUPLICATE: 161958

Date: 10/25/2019 06:29 PM

2623499001 Dup Max **RPD RPD** Qualifiers Parameter Units Result Result 279 281 10 Alkalinity, Total as CaCO3 1 mg/L

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



Project: Plant Hammond GW6581

Pace Project No.: 2623499

Date: 10/25/2019 06:29 PM

QC Batch: 35930 Analysis Method: SM 4500-P

QC Batch Method: SM 4500-P Analysis Description: 4500PE Ortho Phosphorus

Associated Lab Samples: 2623499001, 2623499002, 2623499003

METHOD BLANK: 161749 Matrix: Water

Associated Lab Samples: 2623499001, 2623499002, 2623499003

Blank Reporting

Parameter Units Result Limit MDL Analyzed Qualifiers

Orthophosphate as P mg/L ND 0.020 0.020 09/25/19 11:51

LABORATORY CONTROL SAMPLE: 161750

Spike LCS LCS % Rec
Parameter Units Conc. Result % Rec Limits Qualifiers

Orthophosphate as P mg/L 0.5 0.52 104 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 161862 161863

MS MSD MSD MS 2623499001 Spike Spike MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Orthophosphate as P ND 0.5 0.5 0.52 0.52 103 103 80-120 0 10 mg/L

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



Project: Plant Hammond GW6581

Pace Project No.: 2623499

Date: 10/25/2019 06:29 PM

QC Batch Method:

QC Batch: 35996

96 Analysis Method:

Analysis Description: 4500S2D Sulfide Water

SM 4500-S2 D

Associated Lab Samples: 2623499001, 2623499002, 2623499003

SM 4500-S2 D

METHOD BLANK: 162154 Matrix: Water

Associated Lab Samples: 2623499001, 2623499002, 2623499003

Blank Reporting

Parameter Units Result Limit MDL Analyzed Qualifiers

Sulfide mg/L ND 0.20 0.20 09/26/19 09:18

LABORATORY CONTROL SAMPLE: 162155

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Sulfide mg/L 0.5 0.45 90 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 162156 162157

MS MSD 2623499001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Sulfide ND 0.48 0.47 96 30-129 2 mg/L 0.5 0.5 94 10

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



Project: Plant Hammond GW6581

Pace Project No.: 2623499

Date: 10/25/2019 06:29 PM

QC Batch: 581439 Analysis Method: SM 5310B

QC Batch Method: SM 5310B Analysis Description: 5310B Dissolved Organic Carbon

Associated Lab Samples: 2623499001, 2623499002, 2623499003

METHOD BLANK: 3160596 Matrix: Water

Associated Lab Samples: 2623499001, 2623499002, 2623499003

Blank Reporting

Parameter Units Result Limit MDL Analyzed Qualifiers

Dissolved Organic Carbon mg/L ND 1.0 0.50 10/24/19 23:00

LABORATORY CONTROL SAMPLE: 3160597

Spike LCS LCS % Rec
Parameter Units Conc. Result % Rec Limits Qualifiers

Dissolved Organic Carbon mg/L 20 19.3 96 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3160598 3160599

MS MSD MSD 2624536004 Spike Spike MS MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual

Dissolved Organic Carbon mg/L ND 20 20 20.1 19.8 100 98 80-120 2 20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3160600 3160601

MS MSD

2624536010 MS MSD MS MSD Spike Spike % Rec Max RPD Parameter Conc. Conc. Result % Rec % Rec **RPD** Units Result Result Limits Qual Dissolved Organic Carbon ND 20 20 20.2 20.0 101 100 80-120 20 mg/L

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



QUALIFIERS

Project: Plant Hammond GW6581

Pace Project No.: 2623499

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-GA Pace Analytical Services - Atlanta, GA
PASI-O Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

Date: 10/25/2019 06:29 PM

H3 Sample was received or analysis requested beyond the recognized method holding time.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond GW6581

Pace Project No.: 2623499

Date: 10/25/2019 06:29 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|-----------------|----------|-------------------|---------------------|
| 2623499001 | HGWA-1 | EPA 3010A | 37339 | EPA 6010D | 37380 |
| 2623499002 | HGWA-2 | EPA 3010A | 37339 | EPA 6010D | 37380 |
| 2623499003 | HGWA-3 | EPA 3010A | 37339 | EPA 6010D | 37380 |
| 2623499001 | HGWA-1 | SM 2320B | 35970 | | |
| 2623499002 | HGWA-2 | SM 2320B | 35970 | | |
| 2623499003 | HGWA-3 | SM 2320B | 35970 | | |
| 2623499001 | HGWA-1 | SM 4500-P | 35930 | | |
| 2623499002 | HGWA-2 | SM 4500-P | 35930 | | |
| 2623499003 | HGWA-3 | SM 4500-P | 35930 | | |
| 2623499001 | HGWA-1 | SM 4500-S2 D | 35996 | | |
| 2623499002 | HGWA-2 | SM 4500-S2 D | 35996 | | |
| 2623499003 | HGWA-3 | SM 4500-S2 D | 35996 | | |
| 2623499001 | HGWA-1 | SM 5310B | 581439 | | |
| 2623499002 | HGWA-2 | SM 5310B | 581439 | | |
| 2623499003 | HGWA-3 | SM 5310B | 581439 | | |



CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| Section A | | Section B | | Section C | ပ | | | | | | | | | | | L | İ | l | | | ' | Γ |
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| Required | <u> </u> | Required Project Information: | | Invoice | Invoice Information | tion: | | | | | | | | | | | Page: | | _ | ō | J | _ |
| Company: | | | | Attention: | Š | sinvoice | scsinvoices@southernco.com | emco.c | m _O | | | | | П | | | | | | | | |
| Address: | 2480 Maner Road | Copy To: Lauren Petty, Geosyntec | | Compar | Company Name: | | | | | | | | | | | | | | | | | |
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| Phone: | × | Project Name: Plant Hammond | | Pace Pr | Pace Project Manager: | nager: | betsy | betsy.mcdaniel@pacelabs.com, | iel@ps | celab | s.com, | | | | | | 8 | 7/eu | State // Location | | | |
| Requester | d Due Date: Standad TAT | Project #: GWC58 | | Pace Profile #: | ofile #: | 327 (AP) | 4P) | | | | | | | H | | | | Ą | ١ | | | |
| | | | | | | | | | | # | Reque | / page | | EHIH 8 | Requested Aliabais (filtered (VN)) | | | | | | | |
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CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| Section A | | Section B | | | | | | | S | Section C | | | | | | | | | | | | | | | ۲ | | 6 | |
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| Required Cl | Required Client Information: | Required Project Information: | Projec | t Informat | ion: | | | ı | ž | ice In | Invoice Information: | ë | | 1 | | | i | | | | ı | | ٢ | Page | 9 | ۷ | Of > | |
| Company: | Georgia Power - Coal Combustion Residuals | Report To: | | Joju Abraham | | | | | Atte | Attention: | ŝ | invoice | scsinvoices@southernco.com | therno | EO.CO | | | | | | _ | | | | | | | |
| Address: | 2480 Maner Road | Copy To: | - 1 | Lauren Petty, Geosyntec | Geosynte | ü | | | Š | Company Name: | Name: | | | | | | | | | | | | | | | | | |
| Atlanta, GA 30339 | 30339 | | | | | | | | Add | Address: | | | | | | | | | | | | | 1 0 | Reg | Istory | Regulatory, Agency | | |
| Email: jabı | southernco.com | Purchase Order #: | Order # | SCS | SCS10382775 | | | | Pac | Pace Quote: | 66 | | | | | | | | | | L | | | | | | | |
| Phone: | 6-7239 Fax: | Project Name: | e: | Plant He | puowwi | | | | Pac | e Proje | Pace Project Manager: | ager: | 2 | betsy.mcdaniel@pacelabs.com | aniel@ | pacel | abs.co | į. | | | | | | TS. | State / Location | atton | | |
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| # M3TI | One Character per box. Woo Air (A-Z, 0-91, -) Other Sample Ids must be unique Tissue | WP AR OT TS | MATRIX CODE | | DATE TIME | DATE | | TIME | SAMPLE TEMP A | Unpreserved | HSSO4 | нсі | NaOH + Zn Ac | lonsrheM | Other Analyses | Total alkalinity, b | өтвидгондонто | esenagament od,suorodosodo | wnipos | sulfide dissolved organi | dissolved organi | | | | Residual Chlorin | | | |
| H | AGWA-2 | | 13 | J | 9-23-M 1535 | | 5501 pr. 62.p | | 9 27 | 7 | | 3 | _ | | | ٨ | 1/ | 4/4 | × | <u> </u> | Ĺ | \vdash | | | 12.57 10.57 | Citto Phospiat | 9 | 30 |
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| | | ra Ed | 3 | Ben Weinmann | \s\\ \s\\\ | · My | | 61-EZ-b | Ċ | 5441 | | N | aha | m | | mym | \mathbb{Y} | 2005 Well | | वीख | 119 | 1342 | ĘŹ | | | | | |
| | | 2 | ζį. | lia Wandam | | Grosyntec | | 4/2/10 | 2 | 1240 | | 74 | | | 7 | Y | d | ` | | 8,24,19 | 84.4 | १५१3 | \mathcal{C} | | | | | |
| P | | <u>X</u> | \parallel | - 1 | Pasca | | 4,6 | 9.24.19 | -+ | 182 | 2 | 1 | 3 | 3 | 4 | 3 | 4 | | | 3 | <u> </u> | 13 | 23 | 28 | 싰 | 7 | 1 | ۷ |
| | №0# .2623499 | | | | | | | H | _ | | - | | | | - | | | The same | | | , | | | | _ | + | + | |
| 160 | M Due Date: 10/01/19 | /19 | | | BOWE | PLEBING | ER NAME AND SIGNATURE | SIGNA | 뿔 | | | 1 | | | | | | | | | | | | : | uo | | | |
| ef 44 | GAPoue | | ļ | | | PRINT-NE | HNT-Name of BAMPLER: Ben WE: nwon | MPLE | <u>(2</u> | 3 | 3 | 3 | <u>د</u> د | | | | | | | | | | | اله الم ا | bevie | ópo | et (| 1 1 |
| 1 | | | - | | | SIGNATURE of SAMPLER | RE of SA | MPLE | ζ <u>γ</u> | 7 | 3 | $ \cdot $ | ١ | | | | DATE Signed: $g_{ m l}$ | igned | 6 | 153/1 | 67 | | | M∃T | | ice (Y/N) Custo Seale | Coole | intact (V/V) |



CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| Section A | | Section B | | | | Section C | O | | | | | | | | | | | | | |
|-----------|---|-------------------------------|------------------------------|------------------------------------|-----------|-----------------------|----------------------|------------------|------------------------------|-----------------|------------------------------|--------------------------|----------------------------------|--------------|---------------|------------|------------------|-------------------|-----------------------------------|-------------------------|
| Required | ≅Ι | Required Project Information: | rmation: | | | Invoice t | Invoice Information: | :u | | | | | | | | Page | : 0 | کے | ŏ | 2 |
| Company: | - 1 | | aham | | | Attention: | | woices@ | scsinvoices@southernco.com | o.com | | | | | | | | \ | | |
| Address: | 2480 Maner Road | Copy To: Lauren F | Lauren Petty, Geosyntec | | | Company Name: | Nar | | | | | | | | | | | | | |
| | 4 30339 | | | | | Address: | | | : | | | | i | | | 1 | egulato | Regulatory Agency | | |
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| - Luoue: | 06-7239 Fax: | Project Name: Pla | Plant Hammond | | | Pace Project Manager: | ect Mana | | betsy.mcdaniel@pacetabs.com. | lanie!@p | acelabs. | œ, | | | | | State / Location | ocation | | |
| peranec | nednessign one paris: Standard +141 | | Jesel | | | Pace Profile #: | - 1 | 327 (AP) | | | | | | \exists | | | βA | Ą | | |
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| | Dinking Water Water Water Water Water Water Water Water Water | GRAB C=C | | | ОГГЕСТІОЙ | | | | | , 1 8 | etsnod | | | nodn | | | (N/A | | | |
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| TEM # | en l | | | | 4M3T 3J4M | Preserved | EOI POS |): A nS + HO | SSSO3 | 161 Analyse: | al alkalinity, ophosphate | sensganen, aphorous.p | mui ebi | solved organ | | | oldO laubis | | | |
| | HSWA-3 | /s \ \(\frac{\sqrt{2}}{2} \) | Ahala 1666 | PATE TIME | + | | \dashv |)H ~ | | 10 | ⊢ ⊢ | += | os > | + | | | | J. J. J. | o thank with wie field | File |
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| | ". (ADDITIONAL COMMENTS | RELINOUSH | RELINGUISHED BY// BEHILLETTO | NOI | DATE | TIME | | | Афреттер ВУЛ АКЯШАТІОН | BYIJAR | пидтов | | | DATE | UMB | B |) | MARIEC | SAMPLE CONDITIONS | |
| | | Modia | Morroll | Georgia 91 | 173/la | 19:40 | 0 | 1 | | 9 | ၅ | | 9 | 4.419 | Ī | 2 | | | | |
| | | | 1 Parce | | 9,24,19 | 1823 | | 3 | 3 | 3 | 7 | | 2 | divila | 1 | 8 | 入 | メ | > | $^{\prime}$ |
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| e 17 | 70101 | - | SAMPLE | ERINAMEIAND SIGNATURE | HONATUI | 围 | 191 | | | 100 | | | 4 | | | | | uc | | |
| | _ | 1/19 | PRIN | PRINT Name of SAMPLER: | MPLER: | Noe | عانو | \triangleright | 2525 | | | | | | | lacksquare | O vi a | _ | P | səld |
| 8 | ENI: GAPower-CCR | - | SIGN | SIGNATURE OF SAMPLER: NON 1, GO AN | WPLER | Anl | 0 0 | | Z. | | DAT | DATE Signed: | ; d | 123 | 9 | | | (V/V) | Custo Sealed Coole (Y/N) | Samp intact (Y/V) |

Sample: Intact (Y/V)

DATE Signed: q/23

SIGNATURE OF SAMPLERIV JOLLIA COLL CALL

Pace Analytical

Sample Condition Upon Receipt

Client Name:

CLIENT: GAPower-CCR

| Courier: | nt 🗆 Co | omme | rcial | Pace Other | Optional Proj. Due Date: |
|--|----------|-------------|--|-----------------------------------|--|
| Custody Seal on Cooler/Box Present: | |) | Seals | intact: yes | □ no |
| Packing Material: Bubble Wrap Bubble Thermometer Used Cooler Temperature | Type of | | Wet | Other Blue None is Frozen: Yes No | Samples on ice, cooling process has begun Date and Initials of person examining contents: |
| 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: | □ves [| □No | □N/A | 3 | |
| Sampler Name & Signature on COC: | Qx6s [| □No | □n/a | 4. | |
| Samples Arrived within Hold Time: | Dres [| □No | □N/A | 5. | |
| Short Hold Time Analysis (<72hr): | □Yes [| <u>∃</u> No | □N/A | 6. | |
| Rush Turn Around Time Requested: | □Yes [| ₫No | □N/A | 7. | |
| Sufficient Volume: | HYES T | □No | □n/a | 8. | |
| Correct Containers Used: | ØYes [| □No | □n/a | 9. | |
| -Pace Containers Used: | ₽Yes | □No | □n/a | | |
| Containers Intact: | ØYes I | □No | □N/A | | |
| Filtered volume received for Dissolved tests | □Yes | Z24√0 | □##A | 11.0-phos | + VOC field tiltere |
| Sample Labels match COC: | Yes | □No | □n/a | 12. | |
| -Includes date/time/ID/Analysis Matrix: | W/ | | | | |
| All containers needing preservation have been checked. | D>es | □No | □n/a | 13. | |
| All containers needing preservation are found to be in compliance with EPA recomprehended. | Yes | □No | □n/a | - | |
| exceptions: VOA, coliform, NOC D&G, WI-DRO (water) | E⁴Yes | ŮNo | | 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: | | _ | Date | Time: | Field Data Required? Y / N |
| Person Contacted: Comments/ Resolution: | | | - | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Project Manager Review: | | | | | Date: |





November 11, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2623556

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 25, 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

Beton M Damil

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





CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2623556

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

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST Alabama Certification #: 41320 Arizona Certification# AZ0819

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079 Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity

Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383 Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007 Maryland Certification: #346

Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074 Nebraska Certification: NE-OS-28-14

New Hampshire Certification #: 2958 New Jersey Certification #: FL022

New York Certification #: FLU22
New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710 North Dakota Certification #: R-216

Oklahoma Certification #: D9947 Pennsylvania Certification #: 68-00547

Puerto Rico Certification #: FL01264 South Carolina Certification: #96042001 Tennessee Certification #: TN02974

Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity



SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2623556

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2623556001 | FB-01 | Water | 09/24/19 17:25 | 09/25/19 14:03 |
| 2623556002 | EB-01 | Water | 09/24/19 17:40 | 09/25/19 14:03 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2623556

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|---------------------|----------|----------------------|------------|
| 2623556001 | FB-01 | EPA 6010 | LEC | 7 | PASI-O |
| | | EPA 6020B | CSW | 2 | PASI-GA |
| | | EPA 7470A | DRB | 1 | PASI-GA |
| | | EPA 1664B | SJS | 1 | PASI-GA |
| | | SM 2320B | S1A | 2 | PASI-GA |
| | | SM 2540C | ALW | 1 | PASI-GA |
| | | SM 2540D | ALW | 1 | PASI-GA |
| | | SM 4500-CI G | KN | 1 | PASI-GA |
| | | SM 4500-P | JAD | 1 | PASI-GA |
| | | SM 4500-S2 D | KN | 1 | PASI-GA |
| | | SM 5210B | KN | 1 | PASI-GA |
| | | TKN-NH3 Calculation | LPH | 1 | PASI-GA |
| | | EPA 300.0 | MWB | 2 | PASI-GA |
| | | EPA 350.1 | ANB | 1 | PASI-GA |
| | | EPA 351.2 | ANB | 1 | PASI-GA |
| | | SM 5310B | SA1 | 1 | PASI-O |
| 623556002 | EB-01 | EPA 6010 | LEC | 8 | PASI-O |
| | | EPA 6020B | CSW | 2 | PASI-GA |
| | | EPA 7470A | DRB | 1 | PASI-GA |
| | | EPA 1664B | SJS | 1 | PASI-GA |
| | | SM 2320B | S1A | 2 | PASI-GA |
| | | SM 2540C | ALW | 1 | PASI-GA |
| | | SM 2540D | ALW | 1 | PASI-GA |
| | | SM 4500-CI G | KN | 1 | PASI-GA |
| | | SM 4500-P | JAD | 1 | PASI-GA |
| | | SM 4500-S2 D | KN | 1 | PASI-GA |
| | | SM 5210B | KN | 1 | PASI-GA |
| | | TKN-NH3 Calculation | LPH | 1 | PASI-GA |
| | | EPA 300.0 | MWB | 2 | PASI-GA |
| | | EPA 350.1 | ANB | 1 | PASI-GA |
| | | EPA 351.2 | ANB | 1 | PASI-GA |
| | | SM 5310B | SA1 | 1 | PASI-O |



Project: Plant Hammond

Pace Project No.: 2623556

Date: 11/11/2019 10:04 AM

| Sample: FB-01 | Lab ID: 2 | 2623556001 | Collecte | d: 09/24/19 | 9 17:25 | Received: 09/ | 25/19 14:03 M | latrix: Water | |
|---|--------------|---------------|-----------------|--------------|---------|----------------|----------------------------------|---------------|-------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6010 MET ICP | Analytical N | /lethod: EPA | 6010 Prepa | ration Meth | od: EPA | 3010 | | | |
| Iron | ND | mg/L | 0.040 | 0.0092 | 1 | 10/08/19 14:47 | 10/09/19 21:32 | 7439-89-6 | |
| Magnesium | ND | mg/L | 0.50 | 0.084 | 1 | 10/08/19 14:47 | 10/09/19 21:32 | 7439-95-4 | |
| Manganese | ND | mg/L | 0.0050 | 0.00042 | 1 | 10/08/19 14:47 | | | |
| Phosphorus | ND | mg/L | 0.045 | 0.014 | 1 | | 10/09/19 21:32 | | N2 |
| Potassium | ND | mg/L | 1.0 | 0.15 | 1 | | 10/09/19 21:32 | | |
| Sodium Tot Hardness asCaCO3 (SM 2340B | ND ND | mg/L ug/L | 2.0 3210 | 0.27 506 | 1 1 | | 10/09/19 21:32 10/09/19 21:32 | | |
| 6020B MET ICPMS | Analytical N | /lethod: EPA | 6020B Prep | aration Met | hod: EF | PA 3005A | | | |
| Copper | ND | mg/L | 0.025 | 0.00019 | 1 | 09/27/19 15:26 | 10/01/19 10:40 | 7440-50-8 | |
| Zinc | 0.0023J | mg/L | 0.010 | 0.0015 | 1 | 09/27/19 15:26 | 10/01/19 10:40 | 7440-66-6 | |
| 7470 Mercury | Analytical N | /lethod: EPA | 7470A Prep | aration Met | hod: EP | A 7470A | | | |
| Mercury | 0.025 | mg/L | 0.00050 | 0.00014 | 1 | 09/30/19 10:50 | 10/01/19 12:42 | 7439-97-6 | |
| HEM, Oil and Grease | Analytical N | /lethod: EPA | 1664B | | | | | | |
| Oil and Grease | ND | mg/L | 4.9 | 4.9 | 1 | | 09/30/19 08:00 | 1 | |
| 2320B Alkalinity Low Level | Analytical N | /lethod: SM 2 | 320B | | | | | | |
| Alkalinity,Bicarbonate (CaCO3) | ND | mg/L | 1.0 | 1.0 | 1 | | 10/02/19 12:49 |) | |
| Alkalinity, Total as CaCO3 | ND | mg/L | 1.0 | 1.0 | 1 | | 10/02/19 12:49 | 1 | |
| 2540C Total Dissolved Solids | Analytical N | /lethod: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | ND | mg/L | 10.0 | 10.0 | 1 | | 10/01/19 16:32 | ! | |
| 2540D Total Suspended Solids | Analytical N | /lethod: SM 2 | 540D | | | | | | |
| Total Suspended Solids | ND | mg/L | 5.0 | 5.0 | 1 | | 09/27/19 16:27 | • | |
| 4500CL G Chlorine, Residual | Analytical N | /lethod: SM 4 | 500-CI G | | | | | | |
| Chlorine, Total Residual | ND | mg/L | 0.1 | 0.1 | 1 | | 09/27/19 15:39 | 7782-50-5 | H3,H6 |
| 4500PE Ortho Phosphorus | Analytical N | /lethod: SM 4 | 500-P | | | | | | |
| Orthophosphate as P | ND | mg/L | 0.020 | 0.020 | 1 | | 09/26/19 12:54 | | |
| 4500S2D Sulfide Water | Analytical N | /lethod: SM 4 | 500-S2 D | | | | | | |
| Sulfide | ND | mg/L | 0.20 | 0.20 | 1 | | 09/26/19 10:51 | 18496-25-8 | |
| 5210B BOD, 5 day | Analytical N | /lethod: SM 5 | 210B Prepa | aration Meth | nod: SM | 5210B | | | |
| BOD, 5 day | ND | mg/L | 2.0 | 2.0 | 1 | 09/26/19 09:30 | 10/01/19 10:06 | i | 1A |
| Total Organic Nitrogen Calc. | Analytical N | /lethod: TKN- | NH3 Calcula | ation | | | | | |
| Total Organic Nitrogen | ND | mg/L | 0.40 | 0.40 | 1 | | 10/02/19 12:32 | | |
| | | | | | | | | | |



Project: Plant Hammond

Pace Project No.: 2623556

Date: 11/11/2019 10:04 AM

| Sample: FB-01 | Lab ID: | 2623556001 | Collected | d: 09/24/19 | 17:25 | Received: 09/ | 25/19 14:03 Ma | atrix: Water | |
|--------------------------------|------------------|--------------|-----------------|-----------------|--------|----------------|----------------------------------|--------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 300.0 IC Anions | Analytical | Method: EPA | 300.0 | | | | | | |
| Nitrate as N Nitrite as N | 0.016J 0.021J | mg/L mg/L | 0.050 0.050 | 0.0050 0.011 | 1 1 | | 09/26/19 09:36 09/26/19 09:36 | | В |
| 350.1 Ammonia | Analytical | Method: EPA | 350.1 | | | | | | |
| Nitrogen, Ammonia | ND | mg/L | 0.10 | 0.10 | 1 | | 09/30/19 10:31 | 7664-41-7 | |
| 351.2 Total Kjeldahl Nitrogen | Analytical | Method: EPA | 351.2 Prepa | aration Meth | od: EP | A 351.2 | | | |
| Nitrogen, Kjeldahl, Total | ND | mg/L | 0.40 | 0.40 | 1 | 09/30/19 08:40 | 10/01/19 11:51 | 7727-37-9 | M1 |
| 5310B Dissolved Organic Carbon | Analytical | Method: SM 5 | 310B | | | | | | |
| Dissolved Organic Carbon | ND | mg/L | 1.0 | 0.50 | 1 | | 10/01/19 14:58 | | |



Date: 11/11/2019 10:04 AM

ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2623556

| Sample: EB-01 | Lab ID: 26 | 623556002 | Collecte | d: 09/24/19 | 17:40 | Received: 09/ | 25/19 14:03 N | //atrix: Water | |
|--|---------------|-------------------------|--------------|---------------|---------|----------------------------------|--------------------------------|----------------|-------|
| Danamatana | December | 11 | Report | MDI | DE | D | A I | OAO N | 0 |
| Parameters | Results — | Units | Limit - | MDL . | DF | Prepared | Analyzed | CAS No. | Qual |
| 6010 MET ICP | Analytical Mo | ethod: EPA 6 | 6010 Prepa | ration Metho | od: EPA | 3010 | | | |
| Iron | ND | mg/L | 0.040 | 0.0092 | 1 | 10/08/19 14:47 | 10/09/19 21:4 | 6 7439-89-6 | |
| Magnesium | ND | mg/L | 0.50 | 0.084 | 1 | 10/08/19 14:47 | 10/09/19 21:4 | | |
| Manganese | ND | mg/L | 0.0050 | 0.00042 | 1 | 10/08/19 14:47 | | | NO |
| Phosphorus Potassium | ND ND | mg/L | 0.045 1.0 | 0.014 0.15 | 1 | 10/08/19 14:47 10/08/19 14:47 | 10/09/19 21:4 10/09/19 21:4 | | N2 |
| Sodium | ND ND | mg/L mg/L | 2.0 | 0.13 | 1 1 | 10/08/19 14:47 | | | |
| Tot Hardness asCaCO3 (SM 2340B | ND | mg/L | 3.2 | 0.51 | 1 | 10/08/19 14:47 | | | |
| 6020B MET ICPMS | Analytical Mo | ethod: EPA 6 | 6020B Prep | aration Met | nod: EF | A 3005A | | | |
| Copper | ND | mg/L | 0.025 | 0.00019 | 1 | 09/27/19 15:26 | 10/01/19 10:4 | 6 7440-50-8 | |
| Zinc | 0.0037J | mg/L | 0.010 | 0.0015 | 1 | 09/27/19 15:26 | 10/01/19 10:4 | 6 7440-66-6 | |
| 7470 Mercury | Analytical Mo | ethod: EPA 7 | 7470A Prep | aration Metl | nod: EP | A 7470A | | | |
| Mercury | 0.027 | mg/L | 0.00050 | 0.00014 | 1 | 09/30/19 10:50 | 10/01/19 12:4 | 5 7439-97-6 | |
| HEM, Oil and Grease | Analytical Mo | ethod: EPA [^] | 1664B | | | | | | |
| Oil and Grease | ND | mg/L | 4.9 | 4.9 | 1 | | 09/30/19 08:0 | 0 | |
| 2320B Alkalinity Low Level | Analytical Mo | ethod: SM 2 | 320B | | | | | | |
| Alkalinity,Bicarbonate (CaCO3) Alkalinity, Total as CaCO3 | ND ND | mg/L mg/L | 1.0 1.0 | 1.0 1.0 | 1 1 | | 10/02/19 12:5 10/02/19 12:5 | | |
| 2540C Total Dissolved Solids | Analytical Mo | ethod: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | ND | mg/L | 10.0 | 10.0 | 1 | | 10/01/19 16:3 | 2 | |
| 2540D Total Suspended Solids | Analytical Mo | ethod: SM 2 | 540D | | | | | | |
| Total Suspended Solids | ND | mg/L | 5.0 | 5.0 | 1 | | 09/27/19 16:2 | 7 | |
| 4500CL G Chlorine, Residual | Analytical Mo | ethod: SM 4 | 500-CI G | | | | | | |
| Chlorine, Total Residual | ND | mg/L | 0.1 | 0.1 | 1 | | 09/27/19 15:3 | 9 7782-50-5 | H3,H6 |
| 4500PE Ortho Phosphorus | Analytical Mo | ethod: SM 4 | 500-P | | | | | | |
| Orthophosphate as P | ND | mg/L | 0.020 | 0.020 | 1 | | 09/26/19 12:5 | 6 | |
| 4500S2D Sulfide Water | Analytical Mo | | 500-S2 D | | | | | | |
| Sulfide | ND | mg/L | 0.20 | 0.20 | 1 | | 09/26/19 10:5 | 1 18496-25-8 | |
| 5210B BOD, 5 day | Analytical Mo | | • | | od: SM | | | | |
| BOD, 5 day | ND | mg/L | 2.0 | 2.0 | 1 | 09/26/19 09:30 | 10/01/19 10:0 | 8 | 1A |
| Total Organic Nitrogen Calc. | Analytical Mo | ethod: TKN- | NH3 Calcula | ation | | | | | |
| Total Organic Nitrogen | ND | mg/L | 0.40 | 0.40 | 1 | | 10/02/19 12:3 | 2 | |
| | | | | | | | | | |

REPORT OF LABORATORY ANALYSIS

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Project: Plant Hammond

Pace Project No.: 2623556

Date: 11/11/2019 10:04 AM

| Sample: EB-01 | Lab ID: | 2623556002 | Collected | d: 09/24/19 | 17:40 | Received: 09/ | 25/19 14:03 Ma | atrix: Water | |
|--------------------------------|------------------|--------------|-----------------|-----------------|--------|----------------|----------------------------------|--------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 300.0 IC Anions | Analytical | Method: EPA | 300.0 | | | | | | |
| Nitrate as N Nitrite as N | 0.015J 0.022J | mg/L mg/L | 0.050 0.050 | 0.0050 0.011 | 1 1 | | 09/26/19 10:38 09/26/19 10:38 | | В |
| 350.1 Ammonia | Analytical | Method: EPA | 350.1 | | | | | | |
| Nitrogen, Ammonia | ND | mg/L | 0.10 | 0.10 | 1 | | 09/30/19 10:32 | 7664-41-7 | |
| 351.2 Total Kjeldahl Nitrogen | Analytical | Method: EPA | 351.2 Prepa | aration Meth | od: EP | A 351.2 | | | |
| Nitrogen, Kjeldahl, Total | ND | mg/L | 0.40 | 0.40 | 1 | 09/30/19 08:40 | 10/01/19 11:53 | 7727-37-9 | |
| 5310B Dissolved Organic Carbon | Analytical | Method: SM 5 | 310B | | | | | | |
| Dissolved Organic Carbon | ND | mg/L | 1.0 | 0.50 | 1 | | 10/01/19 15:37 | | |



Project: Plant Hammond

Pace Project No.: 2623556

Date: 11/11/2019 10:04 AM

QC Batch: 36152 Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury

Associated Lab Samples: 2623556001, 2623556002

METHOD BLANK: 163281 Matrix: Water

Associated Lab Samples: 2623556001, 2623556002

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Mercury mg/L ND 0.00050 0.00014 10/01/19 12:04

LABORATORY CONTROL SAMPLE: 163282

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers 83 Mercury mg/L 0.0025 0.0021 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 163283 163284

MSD MS MSD MS MSD 2623578001 Spike Spike MS % Rec Max RPD Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** Qual ND 0.0025 0.0025 0.0019 0.0021 77 83 75-125 8 20 Mercury mg/L

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



Project: Plant Hammond

Pace Project No.: 2623556

Date: 11/11/2019 10:04 AM

QC Batch: 576632 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET

Associated Lab Samples: 2623556001, 2623556002

METHOD BLANK: 3133743 Matrix: Water

Associated Lab Samples: 2623556001, 2623556002

| | | Blank | Reporting | | | |
|--------------------------------|-------|--------|-----------|---------|----------------|------------|
| Parameter | Units | Result | Limit | MDL | Analyzed | Qualifiers |
| Calcium | mg/L | ND ND | 0.50 | 0.064 | 10/10/19 13:56 | |
| Iron | mg/L | ND | 0.040 | 0.0092 | 10/10/19 13:56 | |
| Magnesium | mg/L | ND | 0.50 | 0.084 | 10/10/19 13:56 | |
| Manganese | mg/L | ND | 0.0050 | 0.00042 | 10/10/19 13:56 | |
| Phosphorus | mg/L | ND | 0.045 | 0.014 | 10/10/19 13:56 | N2 |
| Potassium | mg/L | ND | 1.0 | 0.15 | 10/10/19 13:56 | |
| Sodium | mg/L | ND | 2.0 | 0.27 | 10/10/19 13:56 | |
| Tot Hardness asCaCO3 (SM 2340B | ug/L | ND | 3210 | 506 | 10/10/19 13:56 | |

| | | Spike | LCS | LCS | % Rec | |
|--------------------------------|-------|-------|--------|-------|--------|------------|
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Calcium | mg/L | 12.5 | 13.2 | 105 | 80-120 | |
| Iron | mg/L | 2.5 | 2.6 | 105 | 80-120 | |
| Magnesium | mg/L | 12.5 | 13.0 | 104 | 80-120 | |
| Manganese | mg/L | 0.25 | 0.26 | 106 | 80-120 | |
| Phosphorus | mg/L | 0.25 | 0.25 | 99 | 80-120 | N 2 |
| Potassium | mg/L | 12.5 | 12.8 | 103 | 80-120 | |
| Sodium | mg/L | 12.5 | 13.2 | 106 | 80-120 | |
| Tot Hardness asCaCO3 (SM 2340B | ug/L | 82700 | 86400 | 104 | 80-120 | |

| MATRIX SPIKE & MATRIX S | PIKE DUPL | ICATE: 3133 | | | 3133746 | | | | | | | |
|-----------------------------------|-----------|---------------|-------|-------|---------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2623752004 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Calcium | mg/L | 29000 ug/L | 12.5 | 12.5 | 42.7 | 41.5 | 110 | 100 | 75-125 | 3 | 20 | |
| Iron | mg/L | 0.22 | 2.5 | 2.5 | 2.8 | 2.8 | 105 | 103 | 75-125 | 1 | 20 | |
| Magnesium | mg/L | 8.5 | 12.5 | 12.5 | 21.6 | 21.3 | 105 | 103 | 75-125 | 2 | 20 | |
| Manganese | mg/L | 0.040 | 0.25 | 0.25 | 0.31 | 0.30 | 107 | 103 | 75-125 | 3 | 20 | |
| Phosphorus | mg/L | 0.019J | 0.25 | 0.25 | 0.28 | 0.28 | 103 | 104 | 75-125 | 1 | 20 | N2 |
| Potassium | mg/L | 0.69J | 12.5 | 12.5 | 13.6 | 13.5 | 103 | 103 | 75-125 | 1 | 20 | |
| Sodium | mg/L | 118 | 12.5 | 12.5 | 135 | 131 | 130 | 102 | 75-125 | 3 | 20 | M1 |
| Tot Hardness asCaCO3 (SM 2340B | ug/L | 107000 | 82700 | 82700 | 196000 | 191000 | 107 | 102 | 75-125 | 2 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2623556

Date: 11/11/2019 10:04 AM

QC Batch: 36079 QC Batch Method: EPA 3005A Analysis Method: EPA 6020B

Analysis Description: 6020B MET

Associated Lab Samples: 2623556001, 2623556002

METHOD BLANK: 162814 Matrix: Water

Associated Lab Samples: 2623556001, 2623556002

Blank Reporting Limit MDL Parameter Result Qualifiers Units Analyzed Copper ND 0.025 0.00019 09/30/19 19:37 mg/L Zinc mg/L ND 0.010 0.0015 09/30/19 19:37

LABORATORY CONTROL SAMPLE: 162815 Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Copper mg/L 0.1 0.098 98 80-120 Zinc mg/L 0.1 0.10 101 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 162816 162817 MSD MS 2623500001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD RPD** Qual 0.099 Copper mg/L ND 0.1 0.1 0.094 99 94 75-125 6 20 Zinc 95 mg/L 0.0019J 0.1 0.1 0.10 0.097 99 75-125 3 20

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



Project: Plant Hammond

LABORATORY CONTROL SAMPLE:

Date: 11/11/2019 10:04 AM

Pace Project No.: 2623556

QC Batch: 36120 Analysis Method: EPA 1664B

QC Batch Method: EPA 1664B Analysis Description: 1664 HEM, Oil and Grease

Associated Lab Samples: 2623556001, 2623556002

METHOD BLANK: 163051 Matrix: Water

Associated Lab Samples: 2623556001, 2623556002

ParameterUnitsBlank Reporting ResultReporting LimitMDLAnalyzedQualifiersOil and Greasemg/LND5.05.009/30/19 08:00

163052

Spike LCS LCS % Rec
Parameter Units Conc. Result % Rec Limits Qualifiers

Oil and Grease mg/L 40 39.9 100 78-114

MATRIX SPIKE SAMPLE: 163054

MS MS 2623556001 Spike % Rec Parameter Units Result Conc. Result % Rec Limits Qualifiers ND 93 Oil and Grease 39.2 37.5 78-114 mg/L

SAMPLE DUPLICATE: 163053 2623453001 Dup M

Parameter Units 2623453001 Dup Max Result RPD PD Qualifiers
Oil and Grease mg/L ND ND 75

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



Project: Plant Hammond

Pace Project No.: 2623556

QC Batch: 36336 Analysis Method: SM 2320B

QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity, Low Level

Associated Lab Samples: 2623556001, 2623556002

METHOD BLANK: 164031 Matrix: Water

Associated Lab Samples: 2623556001, 2623556002

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Alkalinity, Total as CaCO3 mg/L ND 1.0 1.0 10/02/19 12:39

LABORATORY CONTROL SAMPLE: 164032

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Alkalinity, Total as CaCO3 50 96 85-115 mg/L 48.0

SAMPLE DUPLICATE: 164047

Date: 11/11/2019 10:04 AM

2623614004 Dup Max RPD **RPD** Qualifiers Parameter Units Result Result Alkalinity, Total as CaCO3 13.5 14.0 4 10 mg/L



Project: Plant Hammond

Pace Project No.: 2623556

QC Batch: 36262 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 2623556001, 2623556002

LABORATORY CONTROL SAMPLE: 163778

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers **Total Dissolved Solids** mg/L 400 357 89 84-108

SAMPLE DUPLICATE: 163780

2623620001 Dup Max RPD **RPD** Parameter Units Result Result Qualifiers **Total Dissolved Solids** 146 139 5 10 mg/L

SAMPLE DUPLICATE: 163844

Date: 11/11/2019 10:04 AM

2623559001 Dup Max Result RPD RPD Qualifiers Parameter Units Result 133 **Total Dissolved Solids** mg/L 124 7 10

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



Project: Plant Hammond

Pace Project No.: 2623556

QC Batch: 36092 Analysis Method: SM 2540D

QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids

2623556001, 2623556002 Associated Lab Samples:

METHOD BLANK: 162876 Matrix: Water

162877

Associated Lab Samples: 2623556001, 2623556002

Blank Reporting Limit MDL Parameter Result Qualifiers Units Analyzed

Total Suspended Solids ND 5.0 5.0 09/27/19 16:27 mg/L

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers 90-110 Total Suspended Solids mg/L 100 100 100

SAMPLE DUPLICATE: 162878

LABORATORY CONTROL SAMPLE:

2623124002 Dup Max **RPD RPD** Parameter Units Result Result Qualifiers 307 318 4 10 H1 Total Suspended Solids mg/L

SAMPLE DUPLICATE: 162879

Date: 11/11/2019 10:04 AM

2623546003 Dup Max RPD RPD Parameter Units Result Result Qualifiers 34.0 Total Suspended Solids mg/L 34.0 0 10

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



Project: Plant Hammond

Pace Project No.: 2623556

QC Batch: 36088 Analysis Method: SM 4500-CI G

QC Batch Method: SM 4500-Cl G Analysis Description: 4500CL G Chlorine, Total Residual

Associated Lab Samples: 2623556001, 2623556002

METHOD BLANK: 162851 Matrix: Water

Associated Lab Samples: 2623556001, 2623556002

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Chlorine, Total Residual mg/L ND 0.1 09/27/19 15:35 H6

LABORATORY CONTROL SAMPLE: 162852

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Chlorine, Total Residual 86-116 H6 mg/L 1 100

SAMPLE DUPLICATE: 162870

Date: 11/11/2019 10:04 AM

2623664001 Dup Max **RPD RPD** Parameter Units Result Result Qualifiers Chlorine, Total Residual 0.1 0.1 0 10 H3,H6 mg/L



Project: Plant Hammond

Pace Project No.: 2623556

Date: 11/11/2019 10:04 AM

QC Batch: 36006 Analysis Method: SM 4500-P

QC Batch Method: SM 4500-P Analysis Description: 4500PE Ortho Phosphorus

Associated Lab Samples: 2623556001, 2623556002

METHOD BLANK: 162241 Matrix: Water

Associated Lab Samples: 2623556001, 2623556002

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Orthophosphate as P mg/L ND 0.020 0.020 09/26/19 12:53

LABORATORY CONTROL SAMPLE: 162242

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Orthophosphate as P 102 80-120 mg/L 0.5 0.51

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 162244 162243

MSD MS MSD MS MSD 2623556001 Spike Spike MS % Rec Max RPD Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** Qual Orthophosphate as P ND 0.5 0.5 0.52 0.51 104 101 80-120 2 10 mg/L

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



Plant Hammond Project:

Pace Project No.: 2623556

QC Batch: 35996

QC Batch Method: SM 4500-S2 D Analysis Method: Analysis Description: SM 4500-S2 D

4500S2D Sulfide Water

2623556001, 2623556002 Associated Lab Samples:

METHOD BLANK: 162154

Matrix: Water

ND

Associated Lab Samples:

2623556001, 2623556002

Blank

Reporting

0.20

Parameter

Units

mg/L

Units

mg/L

Result

ND

Limit Result

MDL

Analyzed 09/26/19 09:18 Qualifiers

LABORATORY CONTROL SAMPLE:

Parameter

162155

Spike Conc.

0.5

LCS Result

0.45

LCS % Rec

90

% Rec Limits

80-120

Qualifiers

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

Units

mg/L

162156

162157

MS Conc.

0.5

MSD MS

MSD Result

0.47

MS MSD

% Rec

Max

Parameter Sulfide

Date: 11/11/2019 10:04 AM

Sulfide

Sulfide

2623499001 Spike Spike Conc.

0.5

Result 0.48

% Rec 96

0.20

% Rec Limits 94 30-129

RPD RPD

Qual 2 10

85-115 1A



QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623556

QC Batch: 35994 Analysis Method: SM 5210B

mg/L

QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day

Associated Lab Samples: 2623556001, 2623556002

METHOD BLANK: 162151 Matrix: Water

Associated Lab Samples: 2623556001, 2623556002

Blank Reporting Limit MDL Parameter Units Result Qualifiers Analyzed

198

100

BOD, 5 day ND 2.0 2.0 10/01/19 09:55 1A mg/L

LABORATORY CONTROL SAMPLE: 162153

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers 198

SAMPLE DUPLICATE: 162313

Date: 11/11/2019 10:04 AM

BOD, 5 day

2623577001 Dup Max **RPD RPD** Parameter Units Result Result Qualifiers 193 192 20 1A BOD, 5 day 1 mg/L



EPA 300.0

300.0 IC Anions

Plant Hammond Project:

Pace Project No.: 2623556

METHOD BLANK: 162133

Date: 11/11/2019 10:04 AM

QC Batch: 35990 QC Batch Method: EPA 300.0

Analysis Description: Associated Lab Samples: 2623556001, 2623556002

Associated Lab Samples: 2623556001, 2623556002

Blank Reporting Parameter Limit MDL Qualifiers Units Result Analyzed Nitrate as N ND 0.050 0.0050 09/26/19 08:55 mg/L Nitrite as N mg/L 0.013J 0.050 0.011 09/26/19 08:55

Matrix: Water

Analysis Method:

LABORATORY CONTROL SAMPLE: 162134

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Nitrate as N 10 10.4 104 90-110 mg/L Nitrite as N mg/L 10 10.5 105 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 162135 162136 MSD MS 2623556001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD RPD** Qual Nitrate as N mg/L 0.016J 10 10 10.2 10.1 102 101 90-110 15 Nitrite as N mg/L 0.021J 10 10 10.3 10.5 103 105 90-110 2 15



Project: Plant Hammond

Pace Project No.: 2623556

QC Batch: 36095 Analysis Method: EPA 350.1 QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia

2623556001, 2623556002 Associated Lab Samples:

METHOD BLANK: 162900 Matrix: Water

Associated Lab Samples: 2623556001, 2623556002

Blank Reporting Limit MDL Parameter Result Analyzed Qualifiers Units ND 0.10 0.10

Nitrogen, Ammonia 09/30/19 10:18 mg/L

LABORATORY CONTROL SAMPLE: 162901

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers 90-110 Nitrogen, Ammonia mg/L 10 10.3 103

MATRIX SPIKE SAMPLE: 162902

2623600001 MS MS Spike % Rec Parameter Units Result Conc. Result % Rec Limits Qualifiers ND 102 90-110 Nitrogen, Ammonia 10 10.2 mg/L

MATRIX SPIKE SAMPLE: 162903

Date: 11/11/2019 10:04 AM

2623679001 Spike MS MS % Rec Parameter Units Result Conc. Result % Rec Limits Qualifiers 0.33 Nitrogen, Ammonia mg/L 10 12.1 118 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.



Project: Plant Hammond

Pace Project No.: 2623556

QC Batch: 36141 Analysis Method: EPA 351.2

QC Batch Method: EPA 351.2 Analysis Description: 351.2 TKN

Associated Lab Samples: 2623556001, 2623556002

METHOD BLANK: 163259 Matrix: Water

Associated Lab Samples: 2623556001, 2623556002

ParameterUnitsBlank Reporting ResultReporting LimitMDLAnalyzedQualifiersNitrogen, Kjeldahl, Totalmg/LND0.400.4010/01/19 11:44

• • •

LABORATORY CONTROL SAMPLE: 163260

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Nitrogen, Kjeldahl, Total mg/L 10 9.6 96 90-110

MATRIX SPIKE SAMPLE: 163261

MS MS 2623556001 Spike % Rec Parameter Units Result Conc. Result % Rec Limits Qualifiers ND 8.8 88 90-110 M1 Nitrogen, Kjeldahl, Total 10 mg/L

MATRIX SPIKE SAMPLE: 163262

Date: 11/11/2019 10:04 AM

2623649002 Spike MS MS % Rec Parameter Units Result Conc. Result % Rec Limits Qualifiers 25.8 Nitrogen, Kjeldahl, Total mg/L 10 35.3 95 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.



Project: Plant Hammond

Pace Project No.: 2623556

Date: 11/11/2019 10:04 AM

QC Batch: 574634 Analysis Method: SM 5310B

QC Batch Method: SM 5310B Analysis Description: 5310B Dissolved Organic Carbon

Associated Lab Samples: 2623556001, 2623556002

METHOD BLANK: 3122436 Matrix: Water

Associated Lab Samples: 2623556001, 2623556002

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Dissolved Organic Carbon mg/L ND 1.0 0.50 10/01/19 14:32

LABORATORY CONTROL SAMPLE: 3122437

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Dissolved Organic Carbon mg/L 20 18.6 93 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122438 3122439

MS MSD MSD MS MSD 2623556001 Spike Spike MS % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Dissolved Organic Carbon ND 20 20 19.6 19.5 96 95 80-120 20 mg/L

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122440 3122441

MS MSD 2623635001 MS MSD MS MSD % Rec Spike Spike Max RPD Parameter Units Conc. Conc. Result % Rec % Rec **RPD** Result Result Limits Qual ND 20 Dissolved Organic Carbon 20 19.6 19.5 96 95 80-120 20 mg/L

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



QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2623556

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-GA Pace Analytical Services - Atlanta, GA
PASI-O Pace Analytical Services - Ormond Beach

BATCH QUALIFIERS

Batch: 36230

[1] The calculated SCF was below the desired range of 0.6 to 1.0 mg/L. All other QC indicators, including the LCS, were within acceptance criteria

ANALYTE QUALIFIERS

Date: 11/11/2019 10:04 AM

| 1A | The calculated SCF was below the desired range of 0.6 to 1.0 mg/L. All other QC indicators, including the LCS, were |
|----|---|
| | within acceptance criteria |

B Analyte was detected in the associated method blank.

H1 Analysis conducted outside the EPA method holding time.

H3 Sample was received or analysis requested beyond the recognized method holding time.

H6 Analysis initiated outside of the 15 minute EPA required holding time.

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

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A

complete list of accreditations/certifications is available upon request.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2623556

Date: 11/11/2019 10:04 AM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|--------------------------|----------------|---|------------------|------------------------|---------------------|
| 2623556001 2623556002 | FB-01 EB-01 | EPA 3010 EPA 3010 | 576632 576632 | EPA 6010 EPA 6010 | 576717 576717 |
| 2623556001 2623556002 | FB-01 EB-01 | EPA 3005A EPA 3005A | 36079 36079 | EPA 6020B EPA 6020B | 36104 36104 |
| 2623556001 2623556002 | FB-01 EB-01 | EPA 7470A EPA 7470A | 36152 36152 | EPA 7470A EPA 7470A | 36190 36190 |
| 2623556001 2623556002 | FB-01 EB-01 | EPA 1664B EPA 1664B | 36120 36120 | | |
| 2623556001 2623556002 | FB-01 EB-01 | SM 2320B SM 2320B | 36336 36336 | | |
| 2623556001 2623556002 | FB-01 EB-01 | SM 2540C SM 2540C | 36262 36262 | | |
| 2623556001 2623556002 | FB-01 EB-01 | SM 2540D SM 2540D | 36092 36092 | | |
| 2623556001 2623556002 | FB-01 EB-01 | SM 4500-CI G SM 4500-CI G | 36088 36088 | | |
| 2623556001 2623556002 | FB-01 EB-01 | SM 4500-P SM 4500-P | 36006 36006 | | |
| 2623556001 2623556002 | FB-01 EB-01 | SM 4500-S2 D SM 4500-S2 D | 35996 35996 | | |
| 2623556001 2623556002 | FB-01 EB-01 | SM 5210B SM 5210B | 35994 35994 | SM 5210B SM 5210B | 36230 36230 |
| 2623556001 2623556002 | FB-01 EB-01 | TKN-NH3 Calculation TKN-NH3 Calculation | 36340 36340 | | |
| 2623556001 2623556002 | FB-01 EB-01 | EPA 300.0 EPA 300.0 | 35990 35990 | | |
| 2623556001 2623556002 | FB-01 EB-01 | EPA 350.1 EPA 350.1 | 36095 36095 | | |
| 2623556001 2623556002 | FB-01 EB-01 | EPA 351.2 EPA 351.2 | 36141 36141 | EPA 351.2 EPA 351.2 | 36143 36143 |
| 2623556001 2623556002 | FB-01 EB-01 | SM 5310B SM 5310B | 574634 574634 | | |

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

(N/A) Callaptent L(M) niact seidmes SALPLE CONDITIONS (N/A) ŏ Coolar Sealed Stafe // Location (N/A) g Received on NO#: 2623556 Residual Chlorine (Y/N) Page: TEMP in C Oil and grease by 1664 > 8OD (2-day) Mie at 1 40. 2 mmonia nitrogen, TKN, TON 7/11 PAISZY 01/82/10 3 TOS, TSS, Residual Clorine 2 フ DATE etratin/ets/mitrite 125 dissolved organic carbon 2 7 2 onis, asenthan hardness, zinc DATE Signed: 2 7 ercury, priospriorous, potassium betsy.mcdaniel@pacelabs.com, 7 ACCEPTED BY / AFRICATION Pace etartąsoriąorin ب Total alkalinity, bicarbonate KVA Attention: scsinvoices@southernco.com Mosts. Other Methanol Preservatives Nessoa Pace Project Manager: Pace Profile #: 327 (AP) oA nS + HOsN 5 5 Ö Invoice Information: HCI Noelia €ONH Company Nan 25.60 HS2O4 Pace Quote: 9.281 1403 Address: į Unpreserved <u>~</u> * OF CONTAINERS SAMPLER NAME AND SIGNATURE 1 [67] H \$ SAMPLE TEMP AT COLLECTION چ PRINT Name of SAMPLER: SIGNATURE of SAMPLER: of 6 /2449 1330 /24/19 1340 135 TIME 8 2 3 DATE Crocosarlox COLLECTED IEO BY/AFFILATION C विक्रीक 1715 TIME Pace Lauren Petty, Geosyntec Jurchase Order #: SCS10382775 18: Plant Hammond START Required Project Information: Report To: Joju Abraham (G=GHAB C=COMP) 34YT 3J4MA8 MATRIX CODE (599 valid codos to left) Project Name: Project #: Copy To: Section B MATRIX
Dimbrig Water
Water
Water
Product
Sol/Sold
OM
Wice
Ar
Ar
Coher
Tissue Georgia Power - Coal Combustion Residuals Phone: (404)506-7239 Fax:
Requested Due Date: Stan Ann TA One Character per box. (A-Z, 0-9 /, .-) Sample Ids must be unique SAMPLE ID Email: jabraham@scuthernco.com 2480 Maner Road 10-01 Required Client Information: 10 E CO Illanta, GA 30339 8 a L 6 e # WELL Page 26 of 27

Sample Condition Upon Receipt Client Name: Project # Courier: Fed Ex UPS USPS Client Commercial Pace Other Due Date: 10/02/19 CLIENT: GAPower-CCR ☐ no Packing Material: Bubble Wrap Bubble Bags None Other Type of Ice: Wel Blue None Thermometer Used Samples on ice, cooling process has begun Date and Initials of person examining Biological Tissue is Frozen: Yes **Cooler Temperature** contents: 9 Temp should be above freezing to 6°C Comments: DYes □No □N/A 1. Chain of Custody Present: ØYes □No Chain of Custody Filled Out: □N/A 2. Jes □No □N/A 3. Chain of Custody Relinquished: Sampler Name & Signature on COC: -EYes -No □N/A 4. ☑Yes □No □N/A 5. Samples Arrived within Hold Time: --EYes □No □N/A 6. Short Hold Time Analysis (<72hr): ☐Yes ☐N/A Rush Turn Around Time Requested: -EYES □No □n/a Sufficient Volume: -Elves ONo □N/A 9. Correct Containers Used: **₫Yes** □No □N/A -Pace Containers Used: Containers Intact: Filtered volume received for Dissolved tests --ElYes □No □N/A 11. Sample Labels match COC: _—Yes □No □N/A 12. -Includes date/time/ID/Analysis Matrix: All containers needing preservation have been checked. TYES ONe □N/A 13. All containers needing preservation are found to be in To Yes □No □N/A compliance with EPA recommendation. Initial when Lot # of added ☐Yes □No exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) completed preservative □Yes □No ĐN/A Samples checked for dechlorination: Headspace in VOA Vials (>6mm): □Yes □No ₽NÃ Trip Blank Present: □Yes □No □NIÃ □Yes □No □NA Trip Blank Custody Seals Present Pace Trip Blank Lot # (if purchased): Client Notification/ Resolution: Field Data Required? Y / N Date/Time: Person Contacted: 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)

Project Manager Review:

Date:





November 11, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2623562

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 25, 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,

Kevin Herring for Betsy McDaniel

Kein Lung

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





CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2623562

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

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST Alabama Certification #: 41320

Arizona Certification# AZ0819

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079 Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity

Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383

Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007

Maryland Certification: #346 Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074

Nebraska Certification: NE-OS-28-14 New Hampshire Certification #: 2958

New Jersey Certification #: FL022

New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710

North Dakota Certification #: R-216

Oklahoma Certification #: D9947

Pennsylvania Certification #: 68-00547

Puerto Rico Certification #: FL01264

South Carolina Certification: #96042001

Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C

Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity



SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2623562

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2623562001 | HGWA-5 | Water | 09/24/19 12:20 | 09/25/19 14:03 |
| 2623562002 | HGWA-6 | Water | 09/24/19 11:27 | 09/25/19 14:03 |
| 2623562003 | HGWA-4 | Water | 09/24/19 10:52 | 09/25/19 14:03 |
| 2623562004 | HGWC-14 | Water | 09/24/19 12:30 | 09/25/19 14:03 |
| 2623562005 | HGWC-15 | Water | 09/24/19 14:25 | 09/25/19 14:03 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2623562

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|---------------------|----------|----------------------|------------|
| 2623562001 | HGWA-5 | EPA 6010 | LEC | 6 | PASI-O |
| | | SM 2320B | S1A | 2 | PASI-GA |
| | | SM 4500-P | MWB | 1 | PASI-GA |
| | | SM 4500-S2 D | KN | 1 | PASI-GA |
| | | SM 5310B | SA1 | 1 | PASI-O |
| 2623562002 | HGWA-6 | EPA 6010 | LEC | 6 | PASI-O |
| | | SM 2320B | S1A | 2 | PASI-GA |
| | | SM 4500-P | MWB | 1 | PASI-GA |
| | | SM 4500-S2 D | KN | 1 | PASI-GA |
| | | SM 5310B | SA1 | 1 | PASI-O |
| 2623562003 | HGWA-4 | EPA 6010 | LEC | 6 | PASI-O |
| | | SM 2320B | S1A | 2 | PASI-GA |
| | | SM 4500-P | MWB | 1 | PASI-GA |
| | | SM 4500-S2 D | KN | 1 | PASI-GA |
| | | SM 5310B | SA1 | 1 | PASI-O |
| 623562004 | HGWC-14 | EPA 6010 | LEC | 6 | PASI-O |
| | | SM 2320B | S1A | 2 | PASI-GA |
| | | SM 4500-P | MWB | 1 | PASI-GA |
| | | SM 4500-S2 D | KN | 1 | PASI-GA |
| | | SM 5310B | SA1 | 1 | PASI-O |
| 623562005 | HGWC-15 | EPA 6010D | KLH | 7 | PASI-GA |
| | | EPA 6020B | CSW | 2 | PASI-GA |
| | | EPA 7470A | DRB | 1 | PASI-GA |
| | | EPA 1664B | SJS | 1 | PASI-GA |
| | | SM 2320B | S1A | 2 | PASI-GA |
| | | SM 2540C | ALW | 1 | PASI-GA |
| | | SM 2540D | ALW | 1 | PASI-GA |
| | | SM 4500-CI G | KN | 1 | PASI-GA |
| | | SM 4500-P | MWB | 1 | PASI-GA |
| | | SM 4500-S2 D | KN | 1 | PASI-GA |
| | | SM 5210B | KN | 1 | PASI-GA |
| | | TKN-NH3 Calculation | LPH | 1 | PASI-GA |
| | | EPA 300.0 | MWB | 2 | PASI-GA |
| | | EPA 350.1 | ANB | 1 | PASI-GA |
| | | EPA 351.2 | ANB | 1 | PASI-GA |
| | | SM 5310B | SA1 | 1 | PASI-O |



Project: Plant Hammond

Pace Project No.: 2623562

Date: 11/11/2019 10:48 AM

| Sample: HGWA-5 | Lab ID: | 2623562001 | Collecte | d: 09/24/19 | 12:20 | Received: 09/ | 25/19 14:03 Ma | atrix: Water | |
|--------------------------------|------------|--------------|-----------------|-------------|---------|----------------|----------------|--------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6010 MET ICP | Analytical | Method: EPA | 6010 Prepa | ration Meth | od: EPA | 3010 | | | |
| Iron | 1.5 | mg/L | 0.040 | 0.0092 | 1 | 10/08/19 14:47 | 10/09/19 21:51 | 7439-89-6 | |
| Magnesium | 5.6 | mg/L | 0.50 | 0.084 | 1 | 10/08/19 14:47 | 10/09/19 21:51 | 7439-95-4 | |
| Manganese | 0.077 | mg/L | 0.0050 | 0.00042 | 1 | 10/08/19 14:47 | 10/09/19 21:51 | 7439-96-5 | |
| Phosphorus | 0.039J | mg/L | 0.045 | 0.014 | 1 | 10/08/19 14:47 | 10/09/19 21:51 | 7723-14-0 | N2 |
| Potassium | 0.65J | mg/L | 1.0 | 0.15 | 1 | 10/08/19 14:47 | 10/09/19 21:51 | 7440-09-7 | |
| Sodium | 6.2 | mg/L | 2.0 | 0.27 | 1 | 10/08/19 14:47 | 10/09/19 21:51 | 7440-23-5 | |
| 2320B Alkalinity | Analytical | Method: SM 2 | 320B | | | | | | |
| Alkalinity,Bicarbonate (CaCO3) | 90.0 | mg/L | 20.0 | 20.0 | 1 | | 09/30/19 16:45 | | |
| Alkalinity, Total as CaCO3 | 90.0 | mg/L | 20.0 | 20.0 | 1 | | 09/30/19 16:45 | | |
| 4500PE Ortho Phosphorus | Analytical | Method: SM 4 | 500-P | | | | | | |
| Orthophosphate as P | ND | mg/L | 0.020 | 0.020 | 1 | | 09/25/19 21:01 | | |
| 4500S2D Sulfide Water | Analytical | Method: SM 4 | 500-S2 D | | | | | | |
| Sulfide | ND | mg/L | 0.20 | 0.20 | 1 | | 09/26/19 10:52 | 18496-25-8 | |
| 5310B Dissolved Organic Carbon | Analytical | Method: SM 5 | 310B | | | | | | |
| Dissolved Organic Carbon | ND | mg/L | 1.0 | 0.50 | 1 | | 10/01/19 15:51 | | |



Project: Plant Hammond

Pace Project No.: 2623562

Date: 11/11/2019 10:48 AM

| Sample: HGWA-6 | Lab ID: | 2623562002 | Collecte | d: 09/24/19 | 11:27 | Received: 09/ | 25/19 14:03 Ma | atrix: Water | |
|--------------------------------|------------|---------------|-----------------|-------------|---------|----------------|----------------|--------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6010 MET ICP | Analytical | Method: EPA 6 | 6010 Prepa | ration Meth | od: EPA | 3010 | | | |
| Iron | 0.49 | mg/L | 0.040 | 0.0092 | 1 | 10/08/19 14:47 | 10/09/19 21:56 | 7439-89-6 | |
| Magnesium | 10 | mg/L | 0.50 | 0.084 | 1 | 10/08/19 14:47 | 10/09/19 21:56 | 7439-95-4 | |
| Manganese | 0.071 | mg/L | 0.0050 | 0.00042 | 1 | 10/08/19 14:47 | 10/09/19 21:56 | | |
| Phosphorus | 0.036J | mg/L | 0.045 | 0.014 | 1 | 10/08/19 14:47 | 10/09/19 21:56 | | N2 |
| Potassium | 0.56J | mg/L | 1.0 | 0.15 | 1 | 10/08/19 14:47 | 10/09/19 21:56 | | |
| Sodium | 7.9 | mg/L | 2.0 | 0.27 | 1 | 10/08/19 14:47 | 10/09/19 21:56 | 7440-23-5 | |
| 2320B Alkalinity | Analytical | Method: SM 2 | 320B | | | | | | |
| Alkalinity,Bicarbonate (CaCO3) | 158 | mg/L | 20.0 | 20.0 | 1 | | 09/30/19 16:55 | | |
| Alkalinity, Total as CaCO3 | 158 | mg/L | 20.0 | 20.0 | 1 | | 09/30/19 16:55 | | |
| 4500PE Ortho Phosphorus | Analytical | Method: SM 4 | 500-P | | | | | | |
| Orthophosphate as P | 0.038 | mg/L | 0.020 | 0.020 | 1 | | 09/25/19 21:01 | | |
| 4500S2D Sulfide Water | Analytical | Method: SM 4 | 500-S2 D | | | | | | |
| Sulfide | ND | mg/L | 0.20 | 0.20 | 1 | | 09/26/19 10:53 | 18496-25-8 | |
| 5310B Dissolved Organic Carbon | Analytical | Method: SM 5 | 310B | | | | | | |
| Dissolved Organic Carbon | ND | mg/L | 1.0 | 0.50 | 1 | | 10/01/19 16:02 | | |



Project: Plant Hammond

Pace Project No.: 2623562

Date: 11/11/2019 10:48 AM

| Sample: HGWA-4 | Lab ID: | 2623562003 | Collecte | d: 09/24/19 | 10:52 | Received: 09/ | 25/19 14:03 Ma | atrix: Water | |
|--------------------------------|------------|--------------|------------|-------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6010 MET ICP | Analytical | Method: EPA | 6010 Prepa | ration Meth | od: EPA | 3010 | | | |
| Iron | 0.021J | mg/L | 0.040 | 0.0092 | 1 | 10/11/19 01:26 | 10/11/19 15:23 | 7439-89-6 | |
| Magnesium | 1.3 | mg/L | 0.50 | 0.084 | 1 | 10/11/19 01:26 | 10/11/19 15:23 | 7439-95-4 | |
| Manganese | 0.035 | mg/L | 0.0050 | 0.00042 | 1 | 10/11/19 01:26 | 10/11/19 15:23 | 7439-96-5 | |
| Phosphorus | ND | mg/L | 0.045 | 0.014 | 1 | 10/11/19 01:26 | 10/11/19 15:23 | 7723-14-0 | N2 |
| Potassium | 0.24J | mg/L | 1.0 | 0.15 | 1 | 10/11/19 01:26 | 10/11/19 15:23 | 7440-09-7 | |
| Sodium | 8.3 | mg/L | 2.0 | 0.27 | 1 | 10/11/19 01:26 | 10/11/19 15:23 | 7440-23-5 | |
| 2320B Alkalinity | Analytical | Method: SM 2 | 320B | | | | | | |
| Alkalinity,Bicarbonate (CaCO3) | 109 | mg/L | 20.0 | 20.0 | 1 | | 09/30/19 16:56 | | |
| Alkalinity, Total as CaCO3 | 109 | mg/L | 20.0 | 20.0 | 1 | | 09/30/19 16:56 | | |
| 4500PE Ortho Phosphorus | Analytical | Method: SM 4 | 500-P | | | | | | |
| Orthophosphate as P | ND | mg/L | 0.020 | 0.020 | 1 | | 09/25/19 21:03 | | |
| 4500S2D Sulfide Water | Analytical | Method: SM 4 | 500-S2 D | | | | | | |
| Sulfide | ND | mg/L | 0.20 | 0.20 | 1 | | 09/26/19 10:54 | 18496-25-8 | |
| 5310B Dissolved Organic Carbon | Analytical | Method: SM 5 | 310B | | | | | | |
| Dissolved Organic Carbon | 0.85J | mg/L | 1.0 | 0.50 | 1 | | 10/01/19 16:18 | | |



Project: Plant Hammond

Pace Project No.: 2623562

Date: 11/11/2019 10:48 AM

| Sample: HGWC-14 | Lab ID: | 2623562004 | Collecte | d: 09/24/19 | 12:30 | Received: 09/ | 25/19 14:03 Ma | atrix: Water | |
|--------------------------------|------------|--------------|------------|-------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6010 MET ICP | Analytical | Method: EPA | 6010 Prepa | ration Meth | od: EPA | A 3010 | | | |
| Iron | 0.84 | mg/L | 0.040 | 0.0092 | 1 | 10/08/19 14:47 | 10/09/19 22:00 | 7439-89-6 | |
| Magnesium | 53.5 | mg/L | 0.50 | 0.084 | 1 | 10/08/19 14:47 | 10/09/19 22:00 | 7439-95-4 | |
| Manganese | 5.5 | mg/L | 0.10 | 0.0084 | 20 | 10/08/19 14:47 | 10/10/19 13:29 | 7439-96-5 | |
| Phosphorus | ND | mg/L | 0.045 | 0.014 | 1 | 10/08/19 14:47 | 10/09/19 22:00 | 7723-14-0 | N2 |
| Potassium | 12.1 | mg/L | 1.0 | 0.15 | 1 | 10/08/19 14:47 | 10/09/19 22:00 | 7440-09-7 | |
| Sodium | 12.1 | mg/L | 2.0 | 0.27 | 1 | 10/08/19 14:47 | 10/09/19 22:00 | 7440-23-5 | |
| 2320B Alkalinity Low Level | Analytical | Method: SM 2 | 320B | | | | | | |
| Alkalinity,Bicarbonate (CaCO3) | ND | mg/L | 1.0 | 1.0 | 1 | | 10/02/19 13:00 | | |
| Alkalinity, Total as CaCO3 | ND | mg/L | 1.0 | 1.0 | 1 | | 10/02/19 13:00 | | |
| 4500PE Ortho Phosphorus | Analytical | Method: SM 4 | 500-P | | | | | | |
| Orthophosphate as P | ND | mg/L | 0.020 | 0.020 | 1 | | 09/25/19 21:02 | | |
| 4500S2D Sulfide Water | Analytical | Method: SM 4 | 500-S2 D | | | | | | |
| Sulfide | ND | mg/L | 0.20 | 0.20 | 1 | | 09/26/19 10:55 | 18496-25-8 | |
| 5310B Dissolved Organic Carbon | Analytical | Method: SM 5 | 310B | | | | | | |
| Dissolved Organic Carbon | 0.52J | mg/L | 1.0 | 0.50 | 1 | | 10/01/19 16:33 | | |



Project: Plant Hammond

Pace Project No.: 2623562

Date: 11/11/2019 10:48 AM

| Sample: HGWC-15 | Lab ID: 2623562005 | Collecte | Collected: 09/24/19 14:25 | | | Received: 09/25/19 14:03 Matrix: Water | | | | |
|--------------------------------|-------------------------------------|-------------|---------------------------|---------|----------------|--|------------|-------|--|--|
| Danamatana | Daguita I Inita | Report | MDI | DE | Danaman | A a l a d | CACNI | 0 | | |
| Parameters | Results Units | Limit - | MDL - | DF | Prepared | Analyzed | CAS No. | Qual | | |
| 6010D MET ICP | Analytical Method: EPA | 6010D Prep | paration Met | hod: EF | PA 3010A | | | | | |
| Iron | 0.053 mg/L | 0.040 | 0.015 | 1 | 09/26/19 18:42 | 10/01/19 22:40 | 7439-89-6 | | | |
| Magnesium | 37.9 mg/L | 0.50 | 0.11 | 10 | 09/26/19 18:42 | 10/06/19 15:52 | 7439-95-4 | | | |
| Manganese | 16.3 mg/L | 0.040 | 0.0061 | 1 | | 10/01/19 22:40 | | | | |
| Phosphorus | 0.10 mg/L | 0.050 | 0.023 | 1 | | 10/03/19 20:38 | | | | |
| Potassium | 0.89 mg/L | 0.20 | 0.026 | 1 | | 10/03/19 20:38 10/03/19 20:38 | | | | |
| Sodium Total Hardness by 2340B | 14.7 mg/L 681 mg/L | 1.0 27.0 | 0.19 4.0 | 1 10 | | 10/03/19 20:38 | 7440-23-3 | | | |
| 6020B MET ICPMS | Analytical Method: EPA | | | | | 10,00,10 10.02 | | | | |
| Copper | 0.00086J mg/L | 0.025 | 0.00019 | 1 | 09/27/19 15:26 | 10/01/19 11:56 | 7440-50-8 | | | |
| Zinc | 0.0085J mg/L | 0.023 | 0.00015 | 1 | 09/27/19 15:26 | 10/01/19 11:56 | | | | |
| 7470 Mercury | Analytical Method: EPA | 7470A Prep | aration Metl | nod: EF | A 7470A | | | | | |
| Mercury | 0.024 mg/L | 0.00050 | 0.00014 | 1 | 09/30/19 10:50 | 10/01/19 12:47 | 7439-97-6 | | | |
| HEM, Oil and Grease | Analytical Method: EPA | 1664B | | | | | | | | |
| Oil and Grease | ND mg/L | 4.9 | 4.9 | 1 | | 09/30/19 08:00 | | | | |
| 2320B Alkalinity | Analytical Method: SM 2 | 2320B | | | | | | | | |
| Alkalinity,Bicarbonate (CaCO3) | 124 mg/L | 20.0 | 20.0 | 1 | | 09/30/19 17:10 | | | | |
| Alkalinity, Total as CaCO3 | 124 mg/L | 20.0 | 20.0 | 1 | | 09/30/19 17:10 | | | | |
| 2540C Total Dissolved Solids | Analytical Method: SM 2 | 2540C | | | | | | | | |
| Total Dissolved Solids | 1070 mg/L | 10.0 | 10.0 | 1 | | 09/26/19 18:05 | | | | |
| 2540D Total Suspended Solids | Analytical Method: SM 2 | 2540D | | | | | | | | |
| Total Suspended Solids | ND mg/L | 5.0 | 5.0 | 1 | | 09/27/19 16:28 | | | | |
| 4500CL G Chlorine, Residual | Analytical Method: SM 4 | 1500-CI G | | | | | | | | |
| Chlorine, Total Residual | ND mg/L | 0.1 | 0.1 | 1 | | 09/27/19 15:37 | 7782-50-5 | H3,H6 | | |
| 4500PE Ortho Phosphorus | Analytical Method: SM 4 | 1500-P | | | | | | | | |
| Orthophosphate as P | ND mg/L | 0.020 | 0.020 | 1 | | 09/25/19 21:02 | | | | |
| 4500S2D Sulfide Water | Analytical Method: SM 4 | 1500-S2 D | | | | | | | | |
| Sulfide | ND mg/L | 0.20 | 0.20 | 1 | | 09/26/19 10:56 | 18496-25-8 | | | |
| 5210B BOD, 5 day | Analytical Method: SM 5 | 5210B Prepa | aration Meth | od: SM | 5210B | | | | | |
| BOD, 5 day | ND mg/L | 2.0 | 2.0 | 1 | 09/26/19 09:30 | 10/01/19 10:09 | | 1A | | |
| Total Organic Nitrogen Calc. | Analytical Method: TKN- | -NH3 Calcul | ation | | | | | | | |
| Total Organic Nitrogen | ND mg/L | 0.40 | 0.40 | 1 | | 10/02/19 12:32 | | | | |
| | | | | | | | | | | |



Project: Plant Hammond

Pace Project No.: 2623562

Date: 11/11/2019 10:48 AM

| Sample: HGWC-15 | Lab ID: | 2623562005 | Collected | d: 09/24/19 | 14:25 | Received: 09/ | 25/19 14:03 Ma | atrix: Water | |
|--------------------------------|------------|--------------|-------------|-------------|--------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 300.0 IC Anions | Analytical | Method: EPA | 300.0 | | | | | | |
| Nitrate as N | 0.74 | mg/L | 0.050 | 0.0050 | 1 | | 09/26/19 10:59 | 14797-55-8 | |
| Nitrite as N | 0.030J | mg/L | 0.050 | 0.011 | 1 | | 09/26/19 10:59 | 14797-65-0 | В |
| 350.1 Ammonia | Analytical | Method: EPA | 350.1 | | | | | | |
| Nitrogen, Ammonia | ND | mg/L | 0.10 | 0.10 | 1 | | 09/30/19 10:33 | 7664-41-7 | |
| 351.2 Total Kjeldahl Nitrogen | Analytical | Method: EPA | 351.2 Prepa | ration Meth | od: EP | A 351.2 | | | |
| Nitrogen, Kjeldahl, Total | ND | mg/L | 0.40 | 0.40 | 1 | 10/01/19 09:05 | 10/01/19 13:23 | 7727-37-9 | |
| 5310B Dissolved Organic Carbon | Analytical | Method: SM 5 | 310B | | | | | | |
| Dissolved Organic Carbon | 0.61J | mg/L | 1.0 | 0.50 | 1 | | 10/01/19 17:25 | | |



Project: Plant Hammond

Pace Project No.: 2623562

Date: 11/11/2019 10:48 AM

QC Batch: 36152 Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury

Associated Lab Samples: 2623562005

METHOD BLANK: 163281 Matrix: Water

Associated Lab Samples: 2623562005

Parameter Units Result Limit MDL Analyzed Qualifiers

Mercury mg/L ND 0.00050 0.00014 10/01/19 12:04

LABORATORY CONTROL SAMPLE: 163282

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers 83 Mercury mg/L 0.0025 0.0021 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 163283 163284

MSD MS MSD MS MSD 2623578001 Spike Spike MS % Rec Max RPD Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** Qual ND 0.0025 0.0025 0.0019 0.0021 77 83 75-125 8 20 Mercury mg/L

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



Project: Plant Hammond

Pace Project No.: 2623562

Date: 11/11/2019 10:48 AM

QC Batch: 576632 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET

Associated Lab Samples: 2623562001, 2623562002, 2623562004

METHOD BLANK: 3133743 Matrix: Water

Associated Lab Samples: 2623562001, 2623562002, 2623562004

| | | Blank | Reporting | | | |
|------------|-------|--------|-----------|---------|----------------|------------|
| Parameter | Units | Result | Limit | MDL | Analyzed | Qualifiers |
| Iron | mg/L | ND | 0.040 | 0.0092 | 10/10/19 13:56 | |
| Magnesium | mg/L | ND | 0.50 | 0.084 | 10/10/19 13:56 | |
| Manganese | mg/L | ND | 0.0050 | 0.00042 | 10/10/19 13:56 | |
| Phosphorus | mg/L | ND | 0.045 | 0.014 | 10/10/19 13:56 | N2 |
| Potassium | mg/L | ND | 1.0 | 0.15 | 10/10/19 13:56 | |
| Sodium | mg/L | ND | 2.0 | 0.27 | 10/10/19 13:56 | |

| LABORATORY CONTROL SAMPLE: | 3133744 | | | | | |
|----------------------------|---------|-------|--------|-------|----------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Iron | mg/L | 2.5 | 2.6 | 105 | 80-120 | |
| Magnesium | mg/L | 12.5 | 13.0 | 104 | 80-120 | |
| Manganese | mg/L | 0.25 | 0.26 | 106 | 80-120 | |
| Phosphorus | mg/L | 0.25 | 0.25 | 99 | 80-120 N | 12 |
| Potassium | mg/L | 12.5 | 12.8 | 103 | 80-120 | |
| Sodium | mg/L | 12.5 | 13.2 | 106 | 80-120 | |

| MATRIX SPIKE & MATRIX S | PIKE DUPL | ICATE: 3133 | 745 | | 3133746 | | | | | | | |
|-------------------------|-----------|-------------|-------|-------|---------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2623752004 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Iron | mg/L | 0.22 | 2.5 | 2.5 | 2.8 | 2.8 | 105 | 103 | 75-125 | 1 | 20 | |
| Magnesium | mg/L | 8.5 | 12.5 | 12.5 | 21.6 | 21.3 | 105 | 103 | 75-125 | 2 | 20 | |
| Manganese | mg/L | 0.040 | 0.25 | 0.25 | 0.31 | 0.30 | 107 | 103 | 75-125 | 3 | 20 | |
| Phosphorus | mg/L | 0.019J | 0.25 | 0.25 | 0.28 | 0.28 | 103 | 104 | 75-125 | 1 | 20 | N2 |
| Potassium | mg/L | 0.69J | 12.5 | 12.5 | 13.6 | 13.5 | 103 | 103 | 75-125 | 1 | 20 | |
| Sodium | mg/L | 118 | 12.5 | 12.5 | 135 | 131 | 130 | 102 | 75-125 | 3 | 20 | M1 |

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



Project: Plant Hammond

Pace Project No.: 2623562

Date: 11/11/2019 10:48 AM

QC Batch: 577481 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET

Associated Lab Samples: 2623562003

METHOD BLANK: 3139682 Matrix: Water

Associated Lab Samples: 2623562003

| | | Blank | Reporting | | | |
|------------|-------|--------|-----------|---------|----------------|------------|
| Parameter | Units | Result | Limit | MDL | Analyzed | Qualifiers |
| Iron | mg/L | ND | 0.040 | 0.0092 | 10/11/19 15:14 | |
| Magnesium | mg/L | ND | 0.50 | 0.084 | 10/11/19 15:14 | |
| Manganese | mg/L | ND | 0.0050 | 0.00042 | 10/11/19 15:14 | |
| Phosphorus | mg/L | ND | 0.045 | 0.014 | 10/11/19 15:14 | N2 |
| Potassium | mg/L | ND | 1.0 | 0.15 | 10/11/19 15:14 | |
| Sodium | mg/L | ND | 2.0 | 0.27 | 10/11/19 15:14 | |

| LABORATORY CONTROL SAMPLE: | 3139683 | Spike | LCS | LCS | % Rec | |
|----------------------------|---------|-------|--------|-------|--------|------------|
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Iron | mg/L | 2.5 | 2.6 | 106 | 80-120 | |
| lagnesium | mg/L | 12.5 | 13.1 | 105 | 80-120 | |
| anganese | mg/L | 0.25 | 0.27 | 109 | 80-120 | |
| osphorus | mg/L | 0.25 | 0.26 | 103 | 80-120 | N2 |
| tassium | mg/L | 12.5 | 13.0 | 104 | 80-120 | |
| Sodium | mg/L | 12.5 | 13.2 | 105 | 80-120 | |

| MATRIX SPIKE & MATRIX S | SPIKE DUPL | ICATE: 3139 | 684 | | 3139685 | i | | | | | | |
|-------------------------|------------|-------------|-------|-------|---------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2623562003 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Iron | mg/L | 0.021J | 2.5 | 2.5 | 2.6 | 2.6 | 103 | 103 | 75-125 | 0 | 20 | |
| Magnesium | mg/L | 1.3 | 12.5 | 12.5 | 13.8 | 13.9 | 101 | 101 | 75-125 | 0 | 20 | |
| Manganese | mg/L | 0.035 | 0.25 | 0.25 | 0.30 | 0.30 | 106 | 107 | 75-125 | 1 | 20 | |
| Phosphorus | mg/L | ND | 0.25 | 0.25 | 0.26 | 0.26 | 105 | 104 | 75-125 | 0 | 20 | N2 |
| Potassium | mg/L | 0.24J | 12.5 | 12.5 | 12.9 | 13.0 | 102 | 102 | 75-125 | 0 | 20 | |
| Sodium | mg/L | 8.3 | 12.5 | 12.5 | 21.2 | 21.3 | 103 | 104 | 75-125 | 0 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2623562

Date: 11/11/2019 10:48 AM

QC Batch: 36024 Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A Analysis Description: 6010D MET

Associated Lab Samples: 2623562005

METHOD BLANK: 162383 Matrix: Water

Associated Lab Samples: 2623562005

| | | Blank | Reporting | | | |
|-------------------------|-------|--------|-----------|--------|----------------|------------|
| Parameter | Units | Result | Limit | MDL | Analyzed | Qualifiers |
| Iron | mg/L | ND | 0.040 | 0.015 | 10/01/19 21:03 | |
| Magnesium | mg/L | ND | 0.050 | 0.011 | 10/01/19 21:03 | |
| Manganese | mg/L | ND | 0.040 | 0.0061 | 10/01/19 21:03 | |
| Phosphorus | mg/L | ND | 0.050 | 0.023 | 10/01/19 21:03 | |
| Potassium | mg/L | ND | 0.20 | 0.026 | 10/01/19 21:03 | |
| Sodium | mg/L | ND | 1.0 | 0.19 | 10/01/19 21:03 | |
| Total Hardness by 2340B | mg/L | ND | 2.7 | 0.40 | 10/01/19 21:03 | |

| LABORATORY CONTROL SAMPLE: | 162384 | | | | | |
|----------------------------|--------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Iron | mg/L | | 1.0 | 104 | 80-120 | |
| Magnesium | mg/L | 1 | 1.1 | 111 | 80-120 | |
| /langanese | mg/L | 1 | 1.0 | 105 | 80-120 | |
| hosphorus | mg/L | 1 | 1.0 | 105 | 80-120 | |
| otassium | mg/L | 1 | 1.1 | 107 | 80-120 | |
| odium | mg/L | 1 | 1.1 | 107 | 80-120 | |
| otal Hardness by 2340B | mg/L | 6.6 | 7.1 | 107 | 80-120 | |

| MATRIX SPIKE & MATRIX S | PIKE DUPL | ICATE: 1623 | | | 162386 | | | | | | | |
|-------------------------|-----------|----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|------|
| Parameter | Units | 2623499001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
| Iron | mg/L | 0.022J | | | 1.1 | 1.1 | | | | 2 | 20 | |
| Magnesium | mg/L | 5.4 | | | 6.9 | 6.9 | | | | 1 | 20 | |
| Manganese | mg/L | 0.20 | | | 1.2 | 1.3 | | | | 1 | 20 | |
| Phosphorus | mg/L | ND | | | 1.3 | 1.3 | | | | 5 | 20 | |
| Potassium | mg/L | 0.33 | | | 1.7 | 1.8 | | | | 3 | 20 | |
| Sodium | mg/L | 20.4 | | | 26.8 | 27.0 | | | | 1 | 20 | |
| Total Hardness by 2340B | mg/L | | | | 330 | 332 | | | | 1 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2623562

Date: 11/11/2019 10:48 AM

QC Batch: 36079
QC Batch Method: EPA 3005A

Associated Lab Samples: 2623562005

Analysis Method: EPA 6020B
Analysis Description: 6020B MET

METHOD BLANK: 162814 Matrix: Water

Associated Lab Samples: 2623562005

Blank Reporting Limit MDL Parameter Units Result Analyzed Qualifiers Copper mg/L ND 0.025 0.00019 09/30/19 19:37 mg/L Zinc ND 0.010 0.0015 09/30/19 19:37

LABORATORY CONTROL SAMPLE: 162815

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Copper mg/L 0.1 0.098 98 80-120 Zinc mg/L 0.1 0.10 101 80-120

| MATRIX SPIKE & MATRIX SF | PIKE DUPL | ICATE: 1628 | 16 | | 162817 | | | | | | | |
|--------------------------|-----------|-------------|-------|-------|--------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2623500001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Copper | mg/L | ND | 0.1 | 0.1 | 0.099 | 0.094 | 99 | 94 | 75-125 | 6 | 20 | |
| Zinc | mg/L | 0.0019J | 0.1 | 0.1 | 0.10 | 0.097 | 99 | 95 | 75-125 | 3 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2623562

QC Batch: 36120 Analysis Method: EPA 1664B

QC Batch Method: EPA 1664B Analysis Description: 1664 HEM, Oil and Grease

Associated Lab Samples: 2623562005

METHOD BLANK: 163051 Matrix: Water

Associated Lab Samples: 2623562005

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Oil and Grease mg/L ND 5.0 5.0 09/30/19 08:00

LABORATORY CONTROL SAMPLE: 163052

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Oil and Grease mg/L 40 39.9 100 78-114

· ·

MATRIX SPIKE SAMPLE: 163054

MS MS 2623556001 Spike % Rec Parameter Units Result Conc. Result % Rec Limits Qualifiers ND 93 Oil and Grease 39.2 37.5 78-114 mg/L

SAMPLE DUPLICATE: 163053

Date: 11/11/2019 10:48 AM

Parameter Units Result Result RPD Max Qualifiers
Oil and Grease mg/L ND ND 75

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



Project: Plant Hammond

Pace Project No.: 2623562

QC Batch: 36180 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity

Associated Lab Samples: 2623562001, 2623562002, 2623562003, 2623562005

METHOD BLANK: 163383 Matrix: Water Associated Lab Samples: 2623562001, 2623562002, 2623562003, 2623562005

Blank Reporting

Parameter Units Result Limit MDL Analyzed Qualifiers

Alkalinity, Total as CaCO3 mg/L ND 20.0 20.0 09/30/19 14:21

LABORATORY CONTROL SAMPLE: 163384

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Alkalinity, Total as CaCO3 85-115 mg/L 100 100 100

SAMPLE DUPLICATE: 163385

Date: 11/11/2019 10:48 AM

2623563001 Dup Max **RPD RPD** Qualifiers Parameter Units Result Result 177 174 2 10 Alkalinity, Total as CaCO3 mg/L



SM 2320B

Project: Plant Hammond

Pace Project No.: 2623562

QC Batch: 36336

QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity, Low Level

Associated Lab Samples: 2623562004

METHOD BLANK: 164031 Matrix: Water

Associated Lab Samples: 2623562004

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Analysis Method:

Alkalinity, Total as CaCO3 mg/L ND 1.0 1.0 10/02/19 12:39

LABORATORY CONTROL SAMPLE: 164032

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Alkalinity, Total as CaCO3 50 96 85-115 mg/L 48.0

SAMPLE DUPLICATE: 164047

Date: 11/11/2019 10:48 AM

2623614004 Dup Max RPD **RPD** Qualifiers Parameter Units Result Result Alkalinity, Total as CaCO3 13.5 14.0 4 10 mg/L



Project: Plant Hammond

Pace Project No.: 2623562

QC Batch: 36029 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 2623562005

LABORATORY CONTROL SAMPLE: 162444

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers **Total Dissolved Solids** mg/L 400 393 98 84-108

SAMPLE DUPLICATE: 162445

2623494001 Dup Max RPD **RPD** Parameter Units Result Result Qualifiers **Total Dissolved Solids** 222 248 11 10 D6 mg/L

SAMPLE DUPLICATE: 162446

Date: 11/11/2019 10:48 AM

2623553001 Dup Max

Parameter Units Result Result RPD RPD Qualifiers

Total Dissolved Solids mg/L ND ND 10 D6



Project: Plant Hammond

Pace Project No.: 2623562

QC Batch: 36092 Analysis Method: SM 2540D

QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids

Associated Lab Samples: 2623562005

METHOD BLANK: 162876 Matrix: Water

162877

Associated Lab Samples: 2623562005

Blank Reporting Limit MDL Parameter Units Result Analyzed Qualifiers

Total Suspended Solids ND 5.0 5.0 09/27/19 16:27 mg/L

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers 90-110 Total Suspended Solids mg/L 100 100 100

SAMPLE DUPLICATE: 162878

LABORATORY CONTROL SAMPLE:

2623124002 Dup Max **RPD RPD** Parameter Units Result Result Qualifiers 307 318 4 10 H1 Total Suspended Solids mg/L

SAMPLE DUPLICATE: 162879

Date: 11/11/2019 10:48 AM

2623546003 Dup Max RPD RPD Parameter Units Result Result Qualifiers 34.0 Total Suspended Solids mg/L 34.0 0 10

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



SM 4500-CI G

Project: Plant Hammond

Pace Project No.: 2623562

QC Batch: 36088 Analysis Method:

QC Batch Method: SM 4500-Cl G Analysis Description: 4500CL G Chlorine, Total Residual

Associated Lab Samples: 2623562005

METHOD BLANK: 162851 Matrix: Water

Associated Lab Samples: 2623562005

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Chlorine, Total Residual mg/L ND 0.1 09/27/19 15:35 H6

LABORATORY CONTROL SAMPLE: 162852

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Chlorine, Total Residual 86-116 H6 mg/L 1 100

SAMPLE DUPLICATE: 162870

Date: 11/11/2019 10:48 AM

2623664001 Dup Max **RPD RPD** Parameter Units Result Result Qualifiers Chlorine, Total Residual 0.1 0.1 0 10 H3,H6 mg/L



Project: Plant Hammond

Pace Project No.: 2623562

Date: 11/11/2019 10:48 AM

QC Batch: 35993 Analysis Method: SM 4500-P

QC Batch Method: SM 4500-P Analysis Description: 4500PE Ortho Phosphorus

Associated Lab Samples: 2623562001, 2623562002, 2623562003, 2623562004, 2623562005

METHOD BLANK: 162147 Matrix: Water

Associated Lab Samples: 2623562001, 2623562002, 2623562003, 2623562004, 2623562005

Blank Reporting

Parameter Units Result Limit MDL Analyzed Qualifiers

Orthophosphate as P mg/L ND 0.020 0.020 09/25/19 20:56

LABORATORY CONTROL SAMPLE: 162148

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Orthophosphate as P mg/L 0.5 0.51 102 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 162149 162150

MS MSD MSD MS MSD 2623562003 Spike Spike MS % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Orthophosphate as P ND 0.5 0.5 0.53 0.52 106 104 80-120 mg/L 10

10

94



QUALITY CONTROL DATA

Plant Hammond Project:

Pace Project No.: 2623562

Date: 11/11/2019 10:48 AM

QC Batch: 35996 Analysis Method: SM 4500-S2 D

QC Batch Method: SM 4500-S2 D Analysis Description: 4500S2D Sulfide Water

2623562001, 2623562002, 2623562003, 2623562004, 2623562005 Associated Lab Samples:

METHOD BLANK: 162154 Matrix: Water

Associated Lab Samples: 2623562001, 2623562002, 2623562003, 2623562004, 2623562005

Blank

MDL Parameter Limit Qualifiers Units Result Analyzed

Reporting

Sulfide ND 0.20 0.20 09/26/19 09:18 mg/L

LABORATORY CONTROL SAMPLE: 162155

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers

0.5

Sulfide mg/L 0.5 0.45 90 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 162156 162157

mg/L

MS MSD 2623499001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Sulfide ND 0.48 0.47 96 30-129 2

0.5



Project: Plant Hammond

Pace Project No.: 2623562

QC Batch: 35994

QC Batch Method: SM 5210B Analysis Method:

SM 5210B

Analysis Description:

5210B BOD, 5 day

Associated Lab Samples: 2623562005

METHOD BLANK: 162151

Matrix: Water

Associated Lab Samples:

2623562005

Blank

Reporting

Parameter

LABORATORY CONTROL SAMPLE:

Parameter

Units mg/L

Limit Result

ND

MDL

2.0

Analyzed

Qualifiers

10/01/19 09:55 1A

Units

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

BOD, 5 day

BOD, 5 day

mg/L

198

198

100

2.0

SAMPLE DUPLICATE: 162313

Date: 11/11/2019 10:48 AM

Parameter

2623577001 Units Result

Dup Result

RPD

Max **RPD**

85-115 1A

Qualifiers

BOD, 5 day

mg/L

193

192

1

20 1A

Qualifiers



QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623562

Date: 11/11/2019 10:48 AM

QC Batch: 35990 QC Batch Method: EPA 300.0 Analysis Method: EPA 300.0 Analysis Description:

Matrix: Water

300.0 IC Anions

Associated Lab Samples: 2623562005

METHOD BLANK: 162133

Associated Lab Samples: 2623562005

> Blank Reporting Limit Parameter Units Result

MDL Analyzed Nitrate as N ND 0.050 0.0050 09/26/19 08:55 mg/L Nitrite as N mg/L 0.013J 0.050 0.011 09/26/19 08:55

LABORATORY CONTROL SAMPLE: 162134

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Nitrate as N mg/L 10 10.4 104 90-110 mg/L Nitrite as N 10 10.5 105 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 162135 162136

| Darameter | Llaita | 2623556001 | MS Spike | MSD Spike | MS | MSD | MS | MSD | % Rec | DDD | Max | Ougl |
|--------------|--------|------------|-------------|--------------|--------|--------|-------|-------|--------|-----|-----|------|
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Nitrate as N | mg/L | 0.016J | 10 | 10 | 10.2 | 10.1 | 102 | 101 | 90-110 | 1 | 15 | |
| Nitrite as N | mg/L | 0.021J | 10 | 10 | 10.3 | 10.5 | 103 | 105 | 90-110 | 2 | 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.



Project: Plant Hammond

Pace Project No.: 2623562

MATRIX SPIKE SAMPLE:

Date: 11/11/2019 10:48 AM

QC Batch: 36095 Analysis Method: EPA 350.1

QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia

Associated Lab Samples: 2623562005

METHOD BLANK: 162900 Matrix: Water

162903

Associated Lab Samples: 2623562005

ParameterUnitsBlank ResultReporting LimitMDLAnalyzedQualifiersNitrogen, Ammoniamg/LND0.100.1009/30/19 10:18

LABORATORY CONTROL SAMPLE: 162901

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers 90-110 Nitrogen, Ammonia mg/L 10 10.3 103

MATRIX SPIKE SAMPLE: 162902 2623600001 MS MS Spike % Rec Parameter Units Result Conc. Result % Rec Limits Qualifiers ND 102 90-110 Nitrogen, Ammonia 10 10.2 mg/L

2623679001 Spike MS MS % Rec Parameter Units Result Conc. Result % Rec Limits Qualifiers 0.33 Nitrogen, Ammonia mg/L 10 12.1 118 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.



Project: Plant Hammond

Pace Project No.: 2623562

QC Batch: 36222 QC Batch Method: EPA 351.2 Analysis Method: Analysis Description:

Result

10

EPA 351.2

351.2 TKN

Associated Lab Samples: 2623562005

METHOD BLANK: 163614 Matrix: Water

Associated Lab Samples:

2623562005

Blank Reporting

ND

Parameter Nitrogen, Kjeldahl, Total

Units mg/L Limit 0.40

MDL Analyzed 0.40 10/01/19 13:03 Qualifiers

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

Parameter

Spike Units Conc.

LCS Result

LCS % Rec 107 % Rec Limits

Qualifiers

MATRIX SPIKE SAMPLE:

Nitrogen, Kjeldahl, Total

163616

mg/L

mg/L

mg/L

163615

2623680001 Units Result 2.3 Spike Conc. 10

10.7

MS Result

10.5

MS % Rec

82

88

90-110

% Rec Limits

Qualifiers 90-110 M1

MATRIX SPIKE SAMPLE:

Nitrogen, Kjeldahl, Total

163621

Units

Spike

MS

MS % Rec % Rec Limits

Qualifiers

Nitrogen, Kjeldahl, Total

Date: 11/11/2019 10:48 AM

2623680003 Result

3.5

Conc. 10

Result 12.3

90-110 M1



Project: Plant Hammond

Pace Project No.: 2623562

Date: 11/11/2019 10:48 AM

QC Batch: 574634 Analysis Method: SM 5310B

QC Batch Method: SM 5310B Analysis Description: 5310B Dissolved Organic Carbon

Associated Lab Samples: 2623562001, 2623562002, 2623562003, 2623562004, 2623562005

METHOD BLANK: 3122436 Matrix: Water

Associated Lab Samples: 2623562001, 2623562002, 2623562003, 2623562004, 2623562005

Blank Reporting

ParameterUnitsResultLimitMDLAnalyzedQualifiersDissolved Organic Carbonmg/LND1.00.5010/01/19 14:32

LABORATORY CONTROL SAMPLE: 3122437

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Dissolved Organic Carbon mg/L 20 18.6 93 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122438 3122439

MS MSD MSD 2623556001 Spike Spike MS MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Dissolved Organic Carbon ND 20 20 19.6 19.5 96 95 80-120 20 mg/L

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122440 3122441

MS MSD 2623635001 MS MSD MS MSD Spike Spike % Rec Max % Rec RPD Parameter Conc. Conc. % Rec **RPD** Qual Units Result Result Result Limits Dissolved Organic Carbon ND 20 20 19.6 19.5 96 95 80-120 20 mg/L

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



QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2623562

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-GA Pace Analytical Services - Atlanta, GA
PASI-O Pace Analytical Services - Ormond Beach

SAMPLE QUALIFIERS

Sample: 2623562005

[1] Sample was received outside the recognized method holding time; client notified and approved.

BATCH QUALIFIERS

Batch: 36230

[1] The calculated SCF was below the desired range of 0.6 to 1.0 mg/L. All other QC indicators, including the LCS, were within acceptance criteria

ANALYTE QUALIFIERS

Date: 11/11/2019 10:48 AM

| 1A | The calculated SCF was below the desired range of 0.6 to 1.0 mg/L. All other QC indicators, including the LCS, were |
|----|---|
| | within acceptance criteria |

B Analyte was detected in the associated method blank.

D6 The precision between the sample and sample duplicate exceeded laboratory control limits.

H1 Analysis conducted outside the EPA method holding time.

H3 Sample was received or analysis requested beyond the recognized method holding time.

H6 Analysis initiated outside of the 15 minute EPA required holding time.

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





QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2623562

ANALYTE QUALIFIERS

Date: 11/11/2019 10:48 AM

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A

complete list of accreditations/certifications is available upon request.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2623562

Date: 11/11/2019 10:48 AM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytica Batch |
|------------|-----------|---------------------|----------|-------------------|--------------------|
| 2623562001 | HGWA-5 | EPA 3010 | 576632 | EPA 6010 | 576717 |
| 2623562002 | HGWA-6 | EPA 3010 | 576632 | EPA 6010 | 576717 |
| 2623562003 | HGWA-4 | EPA 3010 | 577481 | EPA 6010 | 577485 |
| 2623562004 | HGWC-14 | EPA 3010 | 576632 | EPA 6010 | 576717 |
| 2623562005 | HGWC-15 | EPA 3010A | 36024 | EPA 6010D | 36072 |
| 2623562005 | HGWC-15 | EPA 3005A | 36079 | EPA 6020B | 36104 |
| 2623562005 | HGWC-15 | EPA 7470A | 36152 | EPA 7470A | 36190 |
| 2623562005 | HGWC-15 | EPA 1664B | 36120 | | |
| 2623562001 | HGWA-5 | SM 2320B | 36180 | | |
| 2623562002 | HGWA-6 | SM 2320B | 36180 | | |
| 2623562003 | HGWA-4 | SM 2320B | 36180 | | |
| 2623562005 | HGWC-15 | SM 2320B | 36180 | | |
| 2623562004 | HGWC-14 | SM 2320B | 36336 | | |
| 2623562005 | HGWC-15 | SM 2540C | 36029 | | |
| 623562005 | HGWC-15 | SM 2540D | 36092 | | |
| 623562005 | HGWC-15 | SM 4500-Cl G | 36088 | | |
| 2623562001 | HGWA-5 | SM 4500-P | 35993 | | |
| 623562002 | HGWA-6 | SM 4500-P | 35993 | | |
| 623562003 | HGWA-4 | SM 4500-P | 35993 | | |
| 623562004 | HGWC-14 | SM 4500-P | 35993 | | |
| 623562005 | HGWC-15 | SM 4500-P | 35993 | | |
| 2623562001 | HGWA-5 | SM 4500-S2 D | 35996 | | |
| 2623562002 | HGWA-6 | SM 4500-S2 D | 35996 | | |
| 623562003 | HGWA-4 | SM 4500-S2 D | 35996 | | |
| 623562004 | HGWC-14 | SM 4500-S2 D | 35996 | | |
| 623562005 | HGWC-15 | SM 4500-S2 D | 35996 | | |
| 623562005 | HGWC-15 | SM 5210B | 35994 | SM 5210B | 36230 |
| 2623562005 | HGWC-15 | TKN-NH3 Calculation | 36340 | | |
| 623562005 | HGWC-15 | EPA 300.0 | 35990 | | |
| 623562005 | HGWC-15 | EPA 350.1 | 36095 | | |
| 2623562005 | HGWC-15 | EPA 351.2 | 36222 | EPA 351.2 | 36226 |
| 2623562001 | HGWA-5 | SM 5310B | 574634 | | |
| 2623562002 | HGWA-6 | SM 5310B | 574634 | | |
| 623562003 | HGWA-4 | SM 5310B | 574634 | | |
| 623562004 | HGWC-14 | SM 5310B | 574634 | | |
| 2623562005 | HGWC-15 | SM 5310B | 574634 | | |

PaceAraytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

(V/V) Samples SAMPLE CONTITIONS (N/A) Cooler ŏ Sealed Regulatory Agency State / Location (N/A) 90| MO#: 2623562 Received on 50 > Residual Chlorine (Y/N) Page: TEMP in C 5991 yd esseng bra 664 \(\frac{1}{2}\) SOD (5-day) ove mue ァ 9,25,8 KII итолів пітодеп, ТКИ, TON 7 Heartested Gralyste Fittered (VVI) DATE Signed: 00/24/19 2 7 TDS, TSS, Residual Clorine 125114 2 ァ HITELEVITION STATE lissolved organic carbon 2 ァ 2 onis, seenbran lator, muibos 2 2 betsy.mcdaniel@pacelabs.com ADCEPTED 8V/AFFILATION Mark 2 Z otal alkalinity, bicarbonate reeT eesylena NA 3 **Jerti**C Methanol Preservatives NazSZO3 327 (AP) DA nZ + HORN Section C Invoice Information: Pace Project Manager: Pace Profite #: 327 scsinvoid S нсі CONH Company Name: Pace Ouote: 152O4 **3**0.0 8-25.19 1405 Address: 3 Unpreserved OF CONTAINERS SIGNATURE OF SAMPLER: SALLIRI CHI NAME AND SIGNATURE 7 under (Grechul al MIG PRINT Name of SAMPLER: SAMPLE TEMP AT COLLECTION DATE 9/24/pd 1220 Ī 2 DATE BLANDUSHED BY / AFFLUSTON COLLECTED TIME \equiv 17 ere Q Lauren Petty, Geosynlec SCS10382775 START Project Name: Plant Hammond g/alle Required Project Information: Joju Abraham Project #: CANGSB1 ড (G=GRAB C=COMP) Purchase Order #: MATRIX CODE (see valid codes to left) Report To: Copy To: Section B CODE DW WT WW OL OL OL OT AB MAIRIX
Drinking Water
Water
Waste Water
Froduct
Soil-Sold
Od
Wipe
Art
Christee Georgia Power - Coal Combustion Residuals 2480 Maner Road Standard ### One Character per box. (A-Z, 0-9 /, -) Sample Ids must be unique SAMPLE ID n jabraham@southemco.com TOWA-(404)506-7239 Required Client Information: Requested Due Date: Atlanta, GA 30339 e e 9 189 77 97 0 (7) # MBTI Page 32 of 37



CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| Section A | | Section | | | | | | ä | Section | ć | | | | | | | | | | | | L | ł | | ١ | | | Γ |
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| Required | Required Client Information: | Required Project Information: | oject I | Information | 22 | | | : <u>=</u> | oice | Invoice Information: | ation: | | | | | | | | | | | | Page: | | 1 | ŏ | ブ | |
| Company: | Georgia Power - Coal Combustion Residuals | Report To: | igo i | Joju Abraham | | | | ¥ | Attention: | l | csinvoit | scsinvoices@southernco.com | outher | 100.001 | Ļ | | | | | Г | | J | ١ | | | | ١ | 1 |
| Address: | 2480 Maner Road | Copy To: | Laur | Lauren Petty, Geosyntec | osyntec | | | ŏ | mpan | Company Name | <u></u> | | | | | | | | | Π | | | | | | | | |
| Atlanta, (| Atlanta, GA 30339 | | | | | | | Ac | Address: | | | | | | | | | | | | | | 44 | Regulatory Apency | 0.00 | | | 癜 |
| Email: | 0.com | Purchase Order #: | ger #: | SCS10382775 | 382775 | | | å | Pace Quote: | :atc: | | | | | | | | | | H | | | | | | | | |
| Phone: | Fax: | 21 | | Plant Hammond | nond | | | <u>6</u> | 8 P | Pace Project Manager: | anager | - | betsy.mcdaniel@pacelabs.com, | cdanie | 1@pac | selats. | Ë, | | | | | | 9 | State // Location | F | | | |
| isanbau | nequested one cale. Studiet W.A. H. | Froject #: | 3 | (30) MS | | | | - | 90 | Pace Profile 4: | 327 | 327 (AP) | | | | Ŧ | 3 | E PER | | | Requested Analysis Filtered (Y/N) | | | ₹. | | | | *** |
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| 6 | | | Λ | | | | | | | | <u> </u> | | | | <u> </u> | | 3 | #01 | • • | 7 | $\ddot{\mathcal{C}}$ | 2623562 | 9 | 2 | | |] | |
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CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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| Require | ₽ | žΙ | [] | ŏ |
| Company: | - 1 | - 1 | Attention: scsinvoices@southernco.com | |
| Address: | s: 2480 Maner Road | Copy To: Lauren Petty, Geosyntec | Сотрану Nате: | phonorem and the state of the s |
| Atlanta. | Atlanta, GA 30339 | | Address: | Regulation Agency |
| Email: | southernco.com | Purchase Order #: SCS10382775 | Pace Quote: | |
| Phone: | (404)506- | me: | Pace Project Manager: betsy.mcdaniel@pacelabs.com, | State //Location |
| Reques | Requested Due Date: Strudard TRF | Project #: SWGS & | Pace Profile #: 327 (AP) | GA |
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| 18 | SECTIONS | | | |
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| of 37 | | PRINT Name of SAMPLER: | OAN G-885 | ni qi bəviə bəviə bə bəlqr səlqr |
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CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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|--|---|-----------------|--------------------|-------------|--|----------------------------------|--|---------------|--|--|-----------------------------|--|---|---------|---|---|------------|-----------------------|------------------|---------------------------------|------------------------------|---------------------|---------------|------------|-----------------------|----------------------------|
| | 900 000 | | | | betsy.mcdaniel@pacelabs.com, | | In the property of the propert | N N N N N N | elanochacie muisorgem.oso muissatoc.euc anix.asenb | Other Total alkalinity, brosphare copper, tron mangen mercury, phosphore sodium, fotal hare sodium, fotal hare | - | | | | | | #0M | Ë | CLIENT: | - - - - - - - | ACCERTED 8Y/ 4FRILLITION | Luther 1 Geosgister | 9 | Comman of |) | |
| Section C Invoice Information: | Attention: scsipvoices@southermon.com | ş | Address: | Pace Quote: | Pace Project Manager: betsy.m | Pace Profile #: 327 (AP) | | Preservatives | | Melhanol HCI HCI HNO3 HS2O4 HS2O4 OL CONTAINER | 1 5 1 501 | | - | 9,70,70 | 1 | | | | | | TUNE POORE | 18:00 Makia W | 1 - 2 0):ac 1 | 1403 100 1 | | āun |
| | | Geosyntec | | SCS10382775 | bromme | 9(| | COLLECTED | END | | 5 52:hl biptle shill biptle | | | -(| | | | | | | HELPHOURSHED BY (APPLIATION | Georgete. gleder | (Ges 9th | . 3 | | SAMPLERINAME!AND SIGNATURE |
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| Section A Required Client Information: | Georgia Power - Coal Combustion Residuals | 2480 Maner Road | Allanla, GA 30339 | o.com | (404)506-7239 Fax | Requested Due Date: Stauland TRT | | FTAM | | One Character per box. Woe (A-Z, 0-9 /, -) Che Characte Ids must be unique Tasse | H6 MC-15 | | | | | | | | | | фавтонду сочивнтв | | | | | |

CHAIN-OF-CUSTODY / Analytical Request Docur

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

Section C

Section B

MO#: 2623562

Due Date: 10/02/19 (V/V) orthopophete 1 00 c was field filtherd səқdш**e**s **ВАМР**ЕСОНОПОНВ (N/A) The Committee of the Co Cooler Custod State / Location (N/A) Received on CLIENT: GAPower-CCR Residual Chlorine (Y/V) Din GMBT 1334 <u>ح</u> DATE Signed: 09/24/19 OATE 9/17/19 2 gissolved organic carbon 7 2 epilin ٦, > unno 2 mussaicq, subjordson man тигелдет, еге педпет, по ァ betsy.mcdaniel@pacelabs.com, 2 асоветер вул Агепдатом engudsoudouse 2 7 otal alkalinity, bicarbonate ₹ 8 NA reel seeviend ttention: scsinvoices@southernco.com Noelia Mustus Methanol Preservatives Nessos Pace Profile #: 327 (AP) DA nZ + HOSN Pace Project Manager: 3 ЮН Invoice Information: CONH Company Name: Joshin Joshin #OSZH Pace Quote: 200 Address: Unpreserved OF CONTAINERS SAMPLEH VAMETAND SKRNATURE 61/22/6 PRINT Name of SAMPLER: 120021 SIGNATURE of SAMPLER OATE SAMPLE TEMP AT COLLECTION TIME S DATE 1/24/m Noveme Windustranda RELDMONTSHED BY/ AFFILKATION - . COLLECTED TIME Ĭ P: SCS10382775 Plant Hammond Lauren Petty, Geosyntec START <u>ब</u>्ध DATE Required Project Information: GALESTON Report To: Joju Abraham S (GeGRAB CaCOMP) Purchase Order #: Project Name: Pla MATRIX CODE (see valid codes to left) Project #: Copy To: MATRIX
Donnking Water
Water
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Cother
Tissue Georgia Power - Coal Combustion Residuals BCWA-5 ABOTTONAL COMMENTS Requested Due Date: Standard TRT One Character per box. (A-Z, 0-9 /, .-) Sample Ids must be unique SAMPLE ID Corrected COL for well jabraham@southemco.com HWA-S 2480 Maner Road (404)506-7239 Required Client Information: Atlanta, GA 30339 Zompany: . J 11 3 9 . 9 • maji # M3TI 36 of 37

Mushen

Sample Condition Upon Receipt Face Analytical Client Name: GA Powercal Project # Courier: | Fed Ex | UPS | USPS | Client | Commercial Pace Other | WO#: 2623562

| Courier: Fed Ex UPS USPS C | ient 🗆 Commercia | Pace Oth | WO#: 2623562 | |
|--|---------------------------------------|--|--|------|
| Tracking #: | | • | PM: BM Due Date: 10/0 | 2/19 |
| Custody Seal on Cooler/Box Present: | es □ no Sea | ıls intact: 🗸 y | | |
| Packing Material: Bubble Wrap Bobb | ole Bags 🔲 None | Other _ | _ | |
| Thermometer Used | Type of Ice: 🌿 | et Blue None | | |
| Cooler Temperature | Biological Tissu | te is Frozen: Yes | Date and Initials of person examining contents: 9/25/19 mg | |
| Temp should be above freezing to 6°C | | Comments: | | ļ |
| Chain of Custody Present: | ONO ON | <u>/A 1. </u> | | - |
| Chain of Custody Filled Out: | → EYes □No □N | /A 2. | <u> </u> | - |
| Chain of Custody Relinquished: | ───────────────────────────────────── | /A 3. | | - |
| Sampler Name & Signature on COC: | -DYes ONO ON | /A 4. | | - |
| Samples Arrived within Hold Time: | - □res □no □n | /A 5. | | |
| Short Hold Time Analysis (<72hr): | Erres □No □N | /A 6. | | |
| Rush Turn Around Time Requested: | □Yes □No □N | /A 7. | | |
| Sufficient Volume: | □Yes □No □N | /A 8. | | |
| Correct Containers Used: | | /A 9. | | - |
| -Pace Containers Used: | Yes ONO ON | /A | | |
| Containers Intact: | —☐Yes □No □N | /A 10. | | |
| Filtered volume received for Dissolved tests | | /A 11. | | |
| Sample Labels match COC: | □Yes □N | 1A 12. See | e comment | |
| -Includes date/time/ID/Analysis Matrix: | <i>U</i> 7 | | | |
| All containers needing preservation have been checked. | EY€S □No □N | /A 13. | | 1 |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ÆYes □No □N | /A | | |
| | ∐Yes □No | Initial when | Lot # of added | |
| exceptions: VØA, coliform, TOC, Q&G, WI-DRO (water) | | completed | preservative | 1 |
| Samples checked for dechlorination: | □Yes □No Æ | 4 | | 1 |
| Headspace in VOA Vials (>6mm): | ☐Yes ☐No ∠☐N | | | 1 |
| Trip Blank Present: | □Yes □No .包N | ∠ | | |
| Trip Blank Custody Seals Present | □Yes □No 🔎 | lia l | | |
| Pace Trip Blank Lot # (if purchased): | | | | _ |
| Client Notification/ Resolution: | | | Field Data Required? Y / N | • |
| Person Contacted: | Da | e/Time: | | |
| Comments/ Resolution: The | ient suls | mitted | exactly same containe | res |
| with same anal | 18es box | HGU | JA- 50 and HOWA-6 | _ |
| instead of what | isted or | ~ CÓC | for 461WA-5. | - |
| The Conference Cabo | 15 were | used | for leggn purposes | for |
| H GIWA-5, The upo | exted COC | for HE | FWA-5 WAS VECEIVED | m |
| 09/27/19 @ 1330. | | | | - |
| 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)





November 12, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 26, 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,

Kevin Herring for Betsy McDaniel

Kein Slury

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



(770)734-4200



CERTIFICATIONS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

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

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST Alabama Certification #: 41320

Arizona Certification# AZ0819

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079 Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity

Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383 Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007

Maryland Certification: #346 Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074

Nebraska Certification: NE-OS-28-14

New Hampshire Certification #: 2958

New Jersey Certification #: FL022 New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710

North Dakota Certification #: R-216

Oklahoma Certification #: D9947

Pennsylvania Certification #: 68-00547

Puerto Rico Certification #: FL01264

South Carolina Certification: #96042001

Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Wyoming (EPA Region 8): FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C

Wisconsin Certification #: 399079670



SAMPLE SUMMARY

Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

| Lab ID | Sample ID | Matrix | Date Collected | Date Received | |
|------------|-----------|--------|----------------|----------------|--|
| 2623638001 | HGWC-16 | Water | 09/25/19 11:00 | 09/26/19 15:22 | |
| 2623638002 | HGWC-17 | Water | 09/25/19 12:35 | 09/26/19 15:22 | |
| 2623638003 | MW-21d | Water | 09/25/19 16:12 | 09/26/19 15:22 | |
| 2623638004 | HGWC-18 | Water | 09/25/19 14:38 | 09/26/19 15:22 | |



SAMPLE ANALYTE COUNT

Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

| ₋ab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|---------------------|----------|----------------------|------------|
| 2623638001 | HGWC-16 | EPA 6010 | | 6 | PASI-O |
| | | SM 2320B | S1A | 2 | PASI-GA |
| | | SM 4500-P | JAD | 1 | PASI-GA |
| | | SM 4500-S2 D | KN | 1 | PASI-GA |
| | | SM 5310B | SA1 | 1 | PASI-O |
| 623638002 | HGWC-17 | EPA 6010 | CS2 | 6 | PASI-O |
| | | SM 2320B | S1A | 2 | PASI-GA |
| | | SM 4500-P | JAD | 1 | PASI-GA |
| | | SM 4500-S2 D | KN | 1 | PASI-GA |
| | | SM 5310B | SA1 | 1 | PASI-O |
| 623638003 | MW-21d | EPA 6010 | CS2 | 6 | PASI-O |
| | | SM 2320B | S1A | 2 | PASI-GA |
| | | SM 4500-P | JAD | 1 | PASI-GA |
| | | SM 4500-S2 D | KN | 1 | PASI-GA |
| | | SM 5310B | SA1 | 1 | PASI-O |
| 623638004 | HGWC-18 | EPA 6010 | CS2 | 7 | PASI-O |
| | | EPA 6020B | CSW | 2 | PASI-GA |
| | | EPA 7470A | DRB | 1 | PASI-GA |
| | | EPA 1664B | SJS | 1 | PASI-GA |
| | | SM 2320B | S1A | 2 | PASI-GA |
| | | SM 2540C | ALW | 1 | PASI-GA |
| | | SM 2540D | ALW | 1 | PASI-GA |
| | | SM 4500-CI G | KN | 1 | PASI-GA |
| | | SM 4500-P | JAD | 1 | PASI-GA |
| | | SM 4500-S2 D | KN | 1 | PASI-GA |
| | | SM 5210B | KN | 1 | PASI-GA |
| | | TKN-NH3 Calculation | LPH | 1 | PASI-GA |
| | | EPA 300.0 | MWB | 2 | PASI-GA |
| | | EPA 350.1 | ANB | 1 | PASI-GA |
| | | EPA 351.2 | ANB | 1 | PASI-GA |
| | | SM 5310B | SA1 | 1 | PASI-O |



Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

Date: 11/12/2019 08:46 AM

| Sample: HGWC-16 | Lab ID: | 2623638001 | Collecte | d: 09/25/19 | 11:00 | Received: 09/ | 26/19 15:22 Ma | atrix: Water | |
|--------------------------------|------------|--------------|------------|-------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6010 MET ICP | Analytical | Method: EPA | 6010 Prepa | ration Meth | od: EPA | A 3010 | | | |
| Iron | 1.5 | mg/L | 0.040 | 0.0092 | 1 | 10/08/19 16:13 | 10/09/19 13:10 | 7439-89-6 | |
| Magnesium | 15.5 | mg/L | 0.50 | 0.084 | 1 | 10/08/19 16:13 | 10/09/19 13:10 | 7439-95-4 | |
| Manganese | 0.036 | mg/L | 0.0050 | 0.00042 | 1 | 10/08/19 16:13 | 10/09/19 13:10 | 7439-96-5 | |
| Phosphorus | 0.069 | mg/L | 0.045 | 0.014 | 1 | 10/08/19 16:13 | 10/09/19 13:10 | 7723-14-0 | N2 |
| Potassium | 0.76J | mg/L | 1.0 | 0.15 | 1 | 10/08/19 16:13 | 10/09/19 13:10 | 7440-09-7 | |
| Sodium | 9.9 | mg/L | 2.0 | 0.27 | 1 | 10/08/19 16:13 | 10/09/19 13:10 | 7440-23-5 | |
| 2320B Alkalinity | Analytical | Method: SM 2 | 320B | | | | | | |
| Alkalinity,Bicarbonate (CaCO3) | 192 | mg/L | 20.0 | 20.0 | 1 | | 10/01/19 17:52 | | |
| Alkalinity, Total as CaCO3 | 192 | mg/L | 20.0 | 20.0 | 1 | | 10/01/19 17:52 | | |
| 4500PE Ortho Phosphorus | Analytical | Method: SM 4 | 500-P | | | | | | |
| Orthophosphate as P | 0.021 | mg/L | 0.020 | 0.020 | 1 | | 09/27/19 10:42 | | |
| 4500S2D Sulfide Water | Analytical | Method: SM 4 | 500-S2 D | | | | | | |
| Sulfide | ND | mg/L | 0.20 | 0.20 | 1 | | 09/30/19 15:49 | 18496-25-8 | |
| 5310B Dissolved Organic Carbon | Analytical | Method: SM 5 | 310B | | | | | | |
| Dissolved Organic Carbon | ND | mg/L | 1.0 | 0.50 | 1 | | 10/01/19 19:44 | | |
| | | | | | | | | | |



Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

Date: 11/12/2019 08:46 AM

| Sample: HGWC-17 | Lab ID: | 2623638002 | Collected | d: 09/25/19 | 12:35 | Received: 09/ | 26/19 15:22 Ma | atrix: Water | |
|--------------------------------|------------|---------------|------------|-------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6010 MET ICP | Analytical | Method: EPA 6 | 6010 Prepa | ration Meth | od: EPA | 3010 | | | |
| Iron | 0.18 | mg/L | 0.040 | 0.0092 | 1 | 10/08/19 16:13 | 10/09/19 13:13 | 7439-89-6 | |
| Magnesium | 31.2 | mg/L | 0.50 | 0.084 | 1 | 10/08/19 16:13 | 10/09/19 13:13 | 7439-95-4 | |
| Manganese | 4.4 | mg/L | 0.10 | 0.0084 | 20 | 10/08/19 16:13 | 10/10/19 14:58 | 7439-96-5 | |
| Phosphorus | ND | mg/L | 0.045 | 0.014 | 1 | 10/08/19 16:13 | 10/09/19 13:13 | 7723-14-0 | N2 |
| Potassium | 2.7 | mg/L | 1.0 | 0.15 | 1 | 10/08/19 16:13 | 10/09/19 13:13 | 7440-09-7 | |
| Sodium | 15.3 | mg/L | 2.0 | 0.27 | 1 | 10/08/19 16:13 | 10/09/19 13:13 | 7440-23-5 | |
| 2320B Alkalinity | Analytical | Method: SM 2 | 320B | | | | | | |
| Alkalinity,Bicarbonate (CaCO3) | 182 | mg/L | 20.0 | 20.0 | 1 | | 10/01/19 18:01 | | |
| Alkalinity, Total as CaCO3 | 182 | mg/L | 20.0 | 20.0 | 1 | | 10/01/19 18:01 | | |
| 4500PE Ortho Phosphorus | Analytical | Method: SM 4 | 500-P | | | | | | |
| Orthophosphate as P | ND | mg/L | 0.020 | 0.020 | 1 | | 09/27/19 11:12 | | |
| 4500S2D Sulfide Water | Analytical | Method: SM 4 | 500-S2 D | | | | | | |
| Sulfide | ND | mg/L | 0.20 | 0.20 | 1 | | 09/30/19 15:50 | 18496-25-8 | |
| 5310B Dissolved Organic Carbon | Analytical | Method: SM 5 | 310B | | | | | | |
| Dissolved Organic Carbon | 0.72J | mg/L | 1.0 | 0.50 | 1 | | 10/01/19 20:41 | | |



Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

Date: 11/12/2019 08:46 AM

| Sample: MW-21d | Lab ID: | 2623638003 | Collecte | d: 09/25/19 | 16:12 | Received: 09/ | 26/19 15:22 Ma | atrix: Water | |
|--------------------------------|------------|--------------|------------|-------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6010 MET ICP | Analytical | Method: EPA | 6010 Prepa | ration Meth | od: EPA | 3010 | | | |
| Iron | 14.6 | mg/L | 0.040 | 0.0092 | 1 | 10/08/19 16:13 | 10/09/19 13:17 | 7439-89-6 | |
| Magnesium | 67.0 | mg/L | 0.50 | 0.084 | 1 | 10/08/19 16:13 | 10/09/19 13:17 | 7439-95-4 | |
| Manganese | 0.99 | mg/L | 0.0050 | 0.00042 | 1 | 10/08/19 16:13 | 10/09/19 13:17 | 7439-96-5 | |
| Phosphorus | 0.032J | mg/L | 0.045 | 0.014 | 1 | 10/08/19 16:13 | 10/09/19 13:17 | 7723-14-0 | N2 |
| Potassium | 1.1 | mg/L | 1.0 | 0.15 | 1 | 10/08/19 16:13 | 10/09/19 13:17 | 7440-09-7 | |
| Sodium | 15.3 | mg/L | 2.0 | 0.27 | 1 | 10/08/19 16:13 | 10/09/19 13:17 | 7440-23-5 | |
| 2320B Alkalinity | Analytical | Method: SM 2 | 320B | | | | | | |
| Alkalinity,Bicarbonate (CaCO3) | 62.0 | mg/L | 20.0 | 20.0 | 1 | | 10/01/19 18:04 | | |
| Alkalinity, Total as CaCO3 | 62.0 | mg/L | 20.0 | 20.0 | 1 | | 10/01/19 18:04 | | |
| 4500PE Ortho Phosphorus | Analytical | Method: SM 4 | 500-P | | | | | | |
| Orthophosphate as P | ND | mg/L | 0.020 | 0.020 | 1 | | 09/27/19 11:12 | | |
| 4500S2D Sulfide Water | Analytical | Method: SM 4 | 500-S2 D | | | | | | |
| Sulfide | ND | mg/L | 0.20 | 0.20 | 1 | | 09/30/19 15:51 | 18496-25-8 | |
| 5310B Dissolved Organic Carbon | Analytical | Method: SM 5 | 310B | | | | | | |
| Dissolved Organic Carbon | ND | mg/L | 1.0 | 0.50 | 1 | | 10/01/19 20:54 | | |



Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

Date: 11/12/2019 08:46 AM

| DF hod: EPA 1 1 5 | | Analyzed | CAS No. | 01 |
|-------------------------------|-------------------------|---|---|--|
| - ——— hod: EPA 1 1 | 3010 | Analyzed | CAS No. | |
| 1 1 | | | | Qual |
| 1 | | | | |
| | 10/08/19 16:13 | 10/09/19 13:20 | 7439-89-6 | |
| 5 | 10/08/19 16:13 | 10/09/19 13:20 | | |
| | | 10/09/19 17:59 | | |
| 1 | | 10/09/19 13:20 | | N2 |
| 1 | | 10/09/19 13:20 | | |
| 1 | | 10/09/19 13:20 | 7440-23-5 | |
| 2 | 10/06/19 10.13 | 10/09/19 17:55 | | |
| ethod: EP | A 3005A | | | |
| 1 | 09/30/19 12:43 | 10/01/19 22:07 | 7440-50-8 | |
| 1 | 09/30/19 12:43 | 10/01/19 22:07 | 7440-66-6 | |
| ethod: EP | A 7470A | | | |
| 1 | 10/03/19 09:37 | 10/03/19 15:38 | 7439-97-6 | |
| | | | | |
| 1 | | 10/01/19 07:30 | | |
| | | | | |
| 1 | | 10/03/19 17:39 | | |
| 1 | | 10/03/19 17:39 | | |
| | | | | |
| 1 | | 10/02/19 12:05 | | |
| | | | | |
| 1 | | 09/27/19 18:18 | | |
| | | | | |
| 1 | | 09/27/19 15:40 | 7782-50-5 | H3,H6 |
| | | | | |
| 1 | | 09/27/19 11:13 | | |
| | | | | |
| 1 | | 09/30/19 15:52 | 18496-25-8 | |
| thod: SM | 5210B | | | |
| 1 | 09/27/19 10:01 | 10/02/19 12:23 | | 1A |
| | | | | |
| 1 | | 10/03/19 00:55 | | |
| 1 | 1 1 1 thod: SM | 1 1 1 1 thod: SM 5210B 1 09/27/19 10:01 | 1 09/27/19 18:18 1 09/27/19 15:40 1 09/27/19 11:13 1 09/30/19 15:52 thod: SM 5210B 1 09/27/19 10:01 10/02/19 12:23 | 1 09/27/19 18:18 1 09/27/19 15:40 7782-50-5 1 09/27/19 11:13 1 09/30/19 15:52 18496-25-8 thod: SM 5210B 1 09/27/19 10:01 10/02/19 12:23 |



Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

Date: 11/12/2019 08:46 AM

| Sample: HGWC-18 | Lab ID: | 2623638004 | Collected | d: 09/25/19 | 14:38 | Received: 09/ | /26/19 15:22 Ma | atrix: Water | |
|--------------------------------|------------|--------------|-------------|-------------|--------|----------------|-----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters ———— | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 300.0 IC Anions | Analytical | Method: EPA | 300.0 | | | | | | |
| Nitrate as N | 0.081 | mg/L | 0.050 | 0.0050 | 1 | | 09/27/19 05:10 | 14797-55-8 | В |
| Nitrite as N | 0.013J | mg/L | 0.050 | 0.011 | 1 | | 09/27/19 05:10 | 14797-65-0 | В |
| 350.1 Ammonia | Analytical | Method: EPA | 350.1 | | | | | | |
| Nitrogen, Ammonia | 0.56 | mg/L | 0.10 | 0.10 | 1 | | 09/30/19 10:45 | 7664-41-7 | |
| 351.2 Total Kjeldahl Nitrogen | Analytical | Method: EPA | 351.2 Prepa | ration Meth | od: EP | A 351.2 | | | |
| Nitrogen, Kjeldahl, Total | 0.40 | mg/L | 0.40 | 0.40 | 1 | 09/30/19 08:40 | 10/01/19 11:59 | 7727-37-9 | |
| 5310B Dissolved Organic Carbon | Analytical | Method: SM 5 | 310B | | | | | | |
| Dissolved Organic Carbon | ND | mg/L | 1.0 | 0.50 | 1 | | 10/01/19 21:12 | | |



Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

Date: 11/12/2019 08:46 AM

QC Batch: 36410 Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury

Associated Lab Samples: 2623638004

METHOD BLANK: 164385 Matrix: Water

Associated Lab Samples: 2623638004

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Mercury mg/L ND 0.00050 0.00014 10/03/19 14:32

LABORATORY CONTROL SAMPLE: 164386

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 164387 164388

MS MSD

MSD MSD 2623623008 Spike Spike MS MS % Rec Max RPD Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** Qual 0.0024 0.0024 3 20 Mercury mg/L



Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

Date: 11/12/2019 08:46 AM

QC Batch: 576681 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET

Associated Lab Samples: 2623638001, 2623638002, 2623638003, 2623638004

METHOD BLANK: 3134011 Matrix: Water
Associated Lab Samples: 2623638001, 2623638002, 2623638003, 2623638004

| | | Blank | Reporting | | | |
|--------------------------------|-------|--------|-----------|---------|----------------|------------|
| Parameter | Units | Result | Limit | MDL | Analyzed | Qualifiers |
| Iron | mg/L | ND | 0.040 | 0.0092 | 10/09/19 12:43 | |
| Magnesium | mg/L | ND | 0.50 | 0.084 | 10/09/19 12:43 | |
| Manganese | mg/L | ND | 0.0050 | 0.00042 | 10/09/19 12:43 | |
| Phosphorus | mg/L | ND | 0.045 | 0.014 | 10/09/19 12:43 | N2 |
| Potassium | mg/L | ND | 1.0 | 0.15 | 10/09/19 12:43 | |
| Sodium | mg/L | ND | 2.0 | 0.27 | 10/09/19 12:43 | |
| Tot Hardness asCaCO3 (SM 2340B | ug/L | ND | 3210 | 506 | 10/09/19 12:43 | |

| ABORATORY CONTROL SAMPLE: | 3134012 | | | | | |
|----------------------------|---------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| on | mg/L | 2.5 | 2.5 | 98 | 80-120 | |
| ngnesium | mg/L | 12.5 | 12.2 | 98 | 80-120 | |
| nganese | mg/L | 0.25 | 0.25 | 98 | 80-120 | |
| sphorus | mg/L | 0.25 | 0.23 | 92 | 80-120 | N2 |
| assium | mg/L | 12.5 | 12.1 | 97 | 80-120 | |
| dium | mg/L | 12.5 | 12.3 | 98 | 80-120 | |
| Hardness asCaCO3 (SM 2340B | ug/L | 82700 | 81100 | 98 | 80-120 | |

| MATRIX SPIKE & MATRIX S | PIKE DUPLI | CATE: 3134 | 013 | | 3134014 | | | | | | | |
|--------------------------------|------------|------------|-------------|--------------|---------|--------|-------|-------|--------|-----|-----|------|
| | | 2623635003 | MS Spike | MSD Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Iron | mg/L | 3.1 | 2.5 | 2.5 | 5.6 | 5.6 | 98 | 100 | 75-125 | 1 | 20 | |
| Magnesium | mg/L | 8.6 | 12.5 | 12.5 | 21.1 | 21.2 | 99 | 101 | 75-125 | 1 | 20 | |
| Manganese | mg/L | 0.17 | 0.25 | 0.25 | 0.42 | 0.42 | 98 | 99 | 75-125 | 1 | 20 | |
| Phosphorus | mg/L | 0.083 | 0.25 | 0.25 | 0.33 | 0.33 | 98 | 99 | 75-125 | 1 | 20 | N2 |
| Potassium | mg/L | 0.31J | 12.5 | 12.5 | 13.1 | 13.1 | 102 | 103 | 75-125 | 0 | 20 | |
| Sodium | mg/L | 11.0 | 12.5 | 12.5 | 23.7 | 23.8 | 101 | 103 | 75-125 | 1 | 20 | |
| Tot Hardness asCaCO3 (SM 2340B | ug/L | 337000 | 82700 | 82700 | 418000 | 421000 | 99 | 102 | 75-125 | 1 | 20 | |

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



Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

QC Batch: 36170 QC Batch Method: **EPA 3005A**

2623638004

Analysis Method: Analysis Description: EPA 6020B

6020B MET

Associated Lab Samples:

METHOD BLANK: 163336

Matrix: Water

Associated Lab Samples: 2623638004

> Parameter Units

Reporting

Limit MDL

LCS

% Rec

102

Analyzed 10/01/19 18:14 Qualifiers

Copper Zinc

Copper

Zinc

mg/L mg/L

Units

mg/L

mg/L

ND ND 0.025 0.010 0.00019 0.0015

10/01/19 18:14

LABORATORY CONTROL SAMPLE: 163337

Parameter

Date: 11/12/2019 08:46 AM

Spike Conc. 0.1

MS

0.1

Blank

Result

Result 0.10 0.10

LCS

Limits 100 80-120

% Rec

80-120

Qualifiers

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

163338

163339

| Parameter | Units | 2623623007 Result | Spike Conc. | Spike Conc. | MS Result | MSD Result | MS % Rec | |
|----------------|--------------|----------------------|----------------|----------------|--------------|---------------|-------------|--|
| Copper Zinc | mg/L mg/L | ND 0.0017J | 0.1 0.1 | 0.1 | 0.10 0.10 | 0.10 0.10 | 105 103 | |

MSD

MSD % Rec % Rec Limits **RPD** 102 75-125

102

RPD 20 2 75-125 1 20

Max

Qual



EPA 1664B

Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

QC Batch: 36214 Analysis Method:

QC Batch Method: EPA 1664B Analysis Description: 1664 HEM, Oil and Grease

Associated Lab Samples: 2623638004

METHOD BLANK: 163592 Matrix: Water

Associated Lab Samples: 2623638004

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Oil and Grease mg/L ND 5.0 5.0 10/01/19 07:30

LABORATORY CONTROL SAMPLE: 163593

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Oil and Grease mg/L 40 39.9 100 78-114

MATRIX SPIKE SAMPLE: 163595

2623546004 Spike MS MS % Rec Parameter Units Result Conc. Result % Rec Limits Qualifiers ND Oil and Grease 50 24.6 44 78-114 M3 mg/L

MATRIX SPIKE SAMPLE: 163596

2623680002 Spike MS MS % Rec Parameter Units Result Conc Result % Rec Limits Qualifiers ND Oil and Grease mg/L 50 27.5 50 78-114 M3

SAMPLE DUPLICATE: 163594

Parameter Units 2623546002 Dup Max Result RPD Qualifiers

Oil and Grease mg/L ND ND 75

SAMPLE DUPLICATE: 163597

Date: 11/12/2019 08:46 AM

 2623680004
 Dup
 Max

 Parameter
 Units
 Result
 Result
 RPD
 RPD
 Qualifiers

 Oil and Grease
 mg/L
 ND
 ND
 75

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



Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

QC Batch: 36284 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity

Associated Lab Samples: 2623638001, 2623638002, 2623638003

METHOD BLANK: 163853 Matrix: Water

Associated Lab Samples: 2623638001, 2623638002, 2623638003

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Alkalinity, Total as CaCO3 mg/L ND 20.0 20.0 10/01/19 17:35

LABORATORY CONTROL SAMPLE: 163854

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Alkalinity, Total as CaCO3 98 85-115 mg/L 100 98.0

SAMPLE DUPLICATE: 163855

Date: 11/12/2019 08:46 AM

2623635002 Dup Max **RPD RPD** Qualifiers Parameter Units Result Result 165 164 10 Alkalinity, Total as CaCO3 1 mg/L



Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

Date: 11/12/2019 08:46 AM

QC Batch: 36448 Analysis Method: SM 2320B

QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity, Low Level

Associated Lab Samples: 2623638004

METHOD BLANK: 164641 Matrix: Water

Associated Lab Samples: 2623638004

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Alkalinity, Total as CaCO3 mg/L ND 1.0 1.0 10/03/19 17:36

LABORATORY CONTROL SAMPLE: 164642

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Alkalinity, Total as CaCO3 50 47.0 94 85-115 mg/L



Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

QC Batch: 36325 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 2623638004

LABORATORY CONTROL SAMPLE: 164004

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers **Total Dissolved Solids** mg/L 400 421 105 84-108

SAMPLE DUPLICATE: 164005

2623620005 Dup Max RPD **RPD** Parameter Units Result Qualifiers Result **Total Dissolved Solids** 159 152 5 10 mg/L

SAMPLE DUPLICATE: 164006

Date: 11/12/2019 08:46 AM

2623623005 Dup Max Result RPD RPD Qualifiers Parameter Units Result 81.0 **Total Dissolved Solids** mg/L 83.0 2 10



Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

QC Batch: 36106 Analysis Method: SM 2540D

QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids

Associated Lab Samples: 2623638004

METHOD BLANK: 162939 Matrix: Water

162940

Associated Lab Samples: 2623638004

Blank Reporting Limit MDL Parameter Units Result Analyzed Qualifiers

Total Suspended Solids ND 5.0 5.0 09/27/19 18:18 mg/L

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers 90-110 **Total Suspended Solids** mg/L 100 103 103

SAMPLE DUPLICATE: 162941

LABORATORY CONTROL SAMPLE:

2623617001 Dup Max **RPD RPD** Parameter Units Result Result Qualifiers 48.0 6 10 Total Suspended Solids 51.0 mg/L

SAMPLE DUPLICATE: 162942

Date: 11/12/2019 08:46 AM

2623593001 Dup Max RPD RPD Parameter Units Result Result Qualifiers 82.5 Total Suspended Solids mg/L 80.0 3 10

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



Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

QC Batch: 36088 Analysis Method: SM 4500-CI G

QC Batch Method: SM 4500-Cl G Analysis Description: 4500CL G Chlorine, Total Residual

Associated Lab Samples: 2623638004

METHOD BLANK: 162851 Matrix: Water

Associated Lab Samples: 2623638004

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Chlorine, Total Residual mg/L ND 0.1 09/27/19 15:35 H6

LABORATORY CONTROL SAMPLE: 162852

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Chlorine, Total Residual 86-116 H6 mg/L 1 100

SAMPLE DUPLICATE: 162870

Date: 11/12/2019 08:46 AM

2623664001 Dup Max **RPD RPD** Parameter Units Result Result Qualifiers Chlorine, Total Residual 0.1 0.1 0 10 H3,H6 mg/L



Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

Date: 11/12/2019 08:46 AM

QC Batch: 36055 Analysis Method: SM 4500-P

QC Batch Method: SM 4500-P Analysis Description: 4500PE Ortho Phosphorus

Associated Lab Samples: 2623638001, 2623638002, 2623638003, 2623638004

METHOD BLANK: 162666 Matrix: Water Associated Lab Samples: 2623638001, 2623638002, 2623638003, 2623638004

Blank Reporting

Parameter Units Result Limit MDL Analyzed Qualifiers

Orthophosphate as P mg/L ND 0.020 0.020 09/27/19 10:41

LABORATORY CONTROL SAMPLE: 162667

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Orthophosphate as P mg/L 0.5 0.52 103 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 162668 162669

MS MSD MSD MS MSD 2623638001 Spike Spike MS % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Orthophosphate as P 0.021 0.5 0.5 0.53 0.53 101 102 80-120 mg/L 10

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



Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

Date: 11/12/2019 08:46 AM

QC Batch: 36186 Analysis Method: SM 4500-S2 D

QC Batch Method: SM 4500-S2 D Analysis Description: 4500S2D Sulfide Water

Associated Lab Samples: 2623638001, 2623638002, 2623638003, 2623638004

METHOD BLANK: 163399 Matrix: Water Associated Lab Samples: 2623638001, 2623638002, 2623638003, 2623638004

: 2623638001, 2623638002, 2623638003, 2623638004 Blank Reporting

Parameter Units Result Limit MDL Analyzed Qualifiers

Sulfide mg/L ND 0.20 0.20 09/30/19 14:59

LABORATORY CONTROL SAMPLE: 163400

Spike LCS LCS % Rec
Parameter Units Conc. Result % Rec Limits Qualifiers

Sulfide mg/L 0.5 0.51 101 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 163401 163402

MS MSD 2623644003 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Sulfide ND 0.50 98 30-129 2 mg/L 0.5 0.5 0.49 100 10



Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

QC Batch: 36054

QC Batch Method: SM 5210B

Associated Lab Samples: 2623638004

Analysis Method:
Analysis Description:

SM 5210B

5210B BOD, 5 day

METHOD BLANK: 162663 Matrix: Water

Associated Lab Samples: 2623638004

Blank Reporting

 Parameter
 Units
 Result
 Limit
 MDL
 Analyzed
 Qualifiers

 BOD, 5 day
 mg/L
 ND
 2.0
 2.0
 10/02/19 12:17
 1A

LABORATORY CONTROL SAMPLE: 162665

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers BOD, 5 day 85-115 1A mg/L 198 196 99

SAMPLE DUPLICATE: 162714

Date: 11/12/2019 08:46 AM

| | | 2623603001 | Dup | | Max | |
|------------|-------|------------|--------|-----|-----|------------|
| Parameter | Units | Result | Result | RPD | RPD | Qualifiers |
| BOD, 5 day | mg/L | 364 | 396 | 8 | 2 | 0 1A |



Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

QC Batch: 36045 QC Batch Method: EPA 300.0 Analysis Method:

EPA 300.0

Analysis Description:

300.0 IC Anions

Associated Lab Samples: 2623638004

METHOD BLANK: 162623

Matrix: Water

Associated Lab Samples:

Nitrite as N

Date: 11/12/2019 08:46 AM

2623638004

Blank Reporting

Limit MDL Parameter Units Result Qualifiers Analyzed Nitrate as N 0.013J 0.050 0.0050 09/27/19 01:45 mg/L Nitrite as N mg/L 0.020J 0.050 0.011 09/27/19 01:45

LABORATORY CONTROL SAMPLE: 162624

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Nitrate as N mg/L 10 10.6 106 90-110 mg/L 10 10.9 109 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 162625 162626

| Parameter | Units | 2623614003 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|------------------------------|--------------|----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|------------------|------------|------------|------|
| Nitrate as N Nitrite as N | mg/L mg/L | 0.66 0.020J | 10 10 | 10 10 | 11.2 10.9 | 11.2 10.9 | 105 109 | 105 108 | 90-110 90-110 | 0 1 | 15 15 | |

102

90-110



QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

Nitrogen, Ammonia

Date: 11/12/2019 08:46 AM

QC Batch: 36095 Analysis Method: EPA 350.1 QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia

mg/L

Associated Lab Samples: 2623638004

METHOD BLANK: 162900 Matrix: Water

Associated Lab Samples: 2623638004

Blank Reporting Limit MDL Parameter Units Result Analyzed Qualifiers Nitrogen, Ammonia ND 0.10 0.10 09/30/19 10:18 mg/L

LABORATORY CONTROL SAMPLE: 162901

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers 90-110 Nitrogen, Ammonia mg/L 10 10.3 103

MATRIX SPIKE SAMPLE: 162902 2623600001 MS MS Spike % Rec Parameter Units Result Conc. Result % Rec Limits Qualifiers ND

10

10.2

MATRIX SPIKE SAMPLE: 162903 2623679001 Spike MS MS % Rec Parameter Units Result Conc. Result % Rec Limits Qualifiers 0.33 Nitrogen, Ammonia mg/L 10 12.1 118 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.



Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

QC Batch: 36141 QC Batch Method: EPA 351.2 Analysis Method:

EPA 351.2

Analysis Description:

351.2 TKN

Associated Lab Samples: 2623638004

METHOD BLANK: 163259 Matrix: Water

Associated Lab Samples:

Nitrogen, Kjeldahl, Total

2623638004

Blank

ND

Result

Reporting

0.40

Parameter

Units mg/L Limit

MDL

0.40

Analyzed

10/01/19 11:44

Qualifiers

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

Parameter

163260

Units

mg/L

mg/L

Units

mg/L

Spike Conc.

10

LCS Result

ND

LCS % Rec % Rec Limits

Qualifiers

Nitrogen, Kjeldahl, Total MATRIX SPIKE SAMPLE:

163261

2623556001 Units Result

Spike Conc.

10

10

9.6

MS Result

96

8.8

MS % Rec

90-110

% Rec Limits

Qualifiers

90-110 M1

MATRIX SPIKE SAMPLE:

Nitrogen, Kjeldahl, Total

163262

Spike

MS Result

MS % Rec % Rec Limits

Qualifiers

Nitrogen, Kjeldahl, Total

Date: 11/12/2019 08:46 AM

2623649002 Result

Conc. 25.8

35.3

95

88

90-110



Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

Date: 11/12/2019 08:46 AM

QC Batch: 574634 Analysis Method: SM 5310B

QC Batch Method: SM 5310B Analysis Description: 5310B Dissolved Organic Carbon

Associated Lab Samples: 2623638001, 2623638002, 2623638003, 2623638004

METHOD BLANK: 3122436 Matrix: Water Associated Lab Samples: 2623638001, 2623638002, 2623638003, 2623638004

Blank Reporting

Parameter Units Result Limit MDL Analyzed Qualifiers

Dissolved Organic Carbon mg/L ND 1.0 0.50 10/01/19 14:32

LABORATORY CONTROL SAMPLE: 3122437

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Dissolved Organic Carbon mg/L 20 18.6 93 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122438 3122439

MS MSD MSD 2623556001 Spike Spike MS MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Dissolved Organic Carbon ND 20 20 19.6 19.5 96 95 80-120 20 mg/L

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122440 3122441

MS MSD 2623635001 MS MSD MS MSD Spike Spike % Rec Max % Rec RPD Parameter Conc. Conc. % Rec **RPD** Qual Units Result Result Result Limits Dissolved Organic Carbon ND 20 20 19.6 19.5 96 95 80-120 20 mg/L



QUALIFIERS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

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-GA Pace Analytical Services - Atlanta, GA
PASI-O Pace Analytical Services - Ormond Beach

BATCH QUALIFIERS

Batch: 36328

[1] The calculated SCF was below the desired range of 0.6 to 1.0 mg/L. All other QC indicators, including the LCS, were within acceptance criteria

ANALYTE QUALIFIERS

Date: 11/12/2019 08:46 AM

| 1A | The calculated SCF was below the desired range of 0.6 to 1.0 mg/L. All other QC indicators, including the LCS, were |
|----|---|
| | within acceptance criteria |

B Analyte was detected in the associated method blank.

H3 Sample was received or analysis requested beyond the recognized method holding time.

H6 Analysis initiated outside of the 15 minute EPA required holding time.

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

M3 Matrix spike recovery was outside laboratory control limits due to matrix interferences.

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

Date: 11/12/2019 08:46 AM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|---------------------|----------|-------------------|---------------------|
| 2623638001 | HGWC-16 | EPA 3010 | 576681 | EPA 6010 | 576722 |
| 2623638002 | HGWC-17 | EPA 3010 | 576681 | EPA 6010 | 576722 |
| 2623638003 | MW-21d | EPA 3010 | 576681 | EPA 6010 | 576722 |
| 2623638004 | HGWC-18 | EPA 3010 | 576681 | EPA 6010 | 576722 |
| 2623638004 | HGWC-18 | EPA 3005A | 36170 | EPA 6020B | 36202 |
| 2623638004 | HGWC-18 | EPA 7470A | 36410 | EPA 7470A | 36427 |
| 2623638004 | HGWC-18 | EPA 1664B | 36214 | | |
| 2623638001 | HGWC-16 | SM 2320B | 36284 | | |
| 2623638002 | HGWC-17 | SM 2320B | 36284 | | |
| 2623638003 | MW-21d | SM 2320B | 36284 | | |
| 2623638004 | HGWC-18 | SM 2320B | 36448 | | |
| 2623638004 | HGWC-18 | SM 2540C | 36325 | | |
| 2623638004 | HGWC-18 | SM 2540D | 36106 | | |
| 2623638004 | HGWC-18 | SM 4500-CI G | 36088 | | |
| 2623638001 | HGWC-16 | SM 4500-P | 36055 | | |
| 2623638002 | HGWC-17 | SM 4500-P | 36055 | | |
| 2623638003 | MW-21d | SM 4500-P | 36055 | | |
| 2623638004 | HGWC-18 | SM 4500-P | 36055 | | |
| 2623638001 | HGWC-16 | SM 4500-S2 D | 36186 | | |
| 2623638002 | HGWC-17 | SM 4500-S2 D | 36186 | | |
| 2623638003 | MW-21d | SM 4500-S2 D | 36186 | | |
| 2623638004 | HGWC-18 | SM 4500-S2 D | 36186 | | |
| 2623638004 | HGWC-18 | SM 5210B | 36054 | SM 5210B | 36328 |
| 2623638004 | HGWC-18 | TKN-NH3 Calculation | 36406 | | |
| 2623638004 | HGWC-18 | EPA 300.0 | 36045 | | |
| 2623638004 | HGWC-18 | EPA 350.1 | 36095 | | |
| 2623638004 | HGWC-18 | EPA 351.2 | 36141 | EPA 351.2 | 36143 |
| 2623638001 | HGWC-16 | SM 5310B | 574634 | | |
| 2623638002 | HGWC-17 | SM 5310B | 574634 | | |
| 2623638003 | MW-21d | SM 5310B | 574634 | | |
| 2623638004 | HGWC-18 | SM 5310B | 574634 | | |

CHAIN-OF-CUSTODY / Analytical Request Document

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

1 S (N/A) Field Killery ntact Samples SAMPLE CONDITIONS (N/A) Orthoposphan ŏ Sealed Begulatory/Agency/ Custod State //Location (V/V) B Received 4.0 2 Residual Chlorine (Y/N) 5 2 Page: ni 9M3T 175 1135 TIME DATE Signed: 9-25-2019 125/19 4/14/14 DATE dissolved organic carbon epillus 3 HIDIDO ₹ musseiog, suorongson muisengam, esenagnam, no betsy.mcdaniel@pacelabs.com, Афрентер ВУ// Анншапон erendsoudoupe otal alkalinity, bicarbonate V/X 1881 868VISNA scsinvoices@southernco.com Methanol Preservatives Na2S2O3 Pollà Pace Profile #: 327 (AP) DA nZ + HORN JAN GOBBS Pace Project Manager: m ЮН ~ Invoice Information: EONH Company Name: 9/10/19 11: 45 HS2O4 1522 Pace Quote: 9/25/19/ 1915 MINE Address: Unpreserved 2 BAMPLERINAME AND SKRNATURE от соитыиень PRINT Name of SAMPLER: 8 स्काप्त かれ SIGNATURE of SAMPLEB SAMPLE TEMP AT COLLECTION DATE 0211 W/52/6 SE: 21 6/8/12 12 12 3/8/14 12:32 21:91 6/64/6 TIME S DATE 5000 COLLECTED Posca RELINGUISHED BY (AFFILIATION 0%:01 W/st/u 15.38 TIME Lauren Petty, Geosyntec SCS10382775 START Plant Hammond DATE 6 7/2/19 Required Project Information: Grucs (C) Report To: Joju Abraham ৩ ೨ **34YT 3J9MA**2 (GEGRAB C=COMP) Purchase Order #: **Y**3 Ą 4 (200 ASHQ COQUE TO 1811) **MATRIX CODE** Project Name: Project #: Copy To: Section B CODE DWW WWY SPL SPL OPL ARR MATRIX
Drinking Water
Water
Water
Product
Sou'Solid
Oil
Wipe
Air
Air
Other
Tasue Georgia Power - Coal Combustion Residuals #0#: 2623638 ADDITIONAL COMMENTS (A-Z, 0-9 / , -) Sample Ids must be unique One Character per box. Fax: SAMPLE ID Requested Due Date: Saudord Email: jabraham@southernco.com 91-7M9H 2480 Maner Road HGWC-17 (404)506-7239 MW-21d Required Client Information: 2623638 4llanta, GA 30339 8 8 111 Company: **(0)** 9 9 2 Address: 9 ø # MBTI



CHAIN-OF-CUSTODY / Analytical Request Document
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| Section A | | Section B | | | | | | | | Secti | Section C | • | • | | | | | | | | | | | | | | | | | 6 | | | ١٢ | | |
|-----------|---|-------------------------------|--|--------------|-------------------------------|------------------------------|------------------------|----------------------|-----------------|--------------|-----------------|-----------------------|----------------------------|-----------|------------------------------|--|------------------|----------------|-------------|------------------|------------------|-----------------|--------------------------|-----------------|-----------------------------------|----------------|--------------|---------------|--------------------|-------------|---------------|-------------------|-------------------|--------------|----------|
| Require | | Required Project Information: | 70 | it Info | rmation: | | | ļ | ſ | Š | 를 8 | Invoice information: | | | 1 | ı | ı | ١ | ١ | ı | ı | | | Г | | | | Page: | | ᅦ | | ă | ١ | ٦ | |
| Company: | Georgia Power - Coal Combustion Residuals | Report To: | - 1 | Joju Abraham | tham | | | ļ | | Attention: | | š | scsinvolces@southernco.com | 98@8 | South | 91 | 8 | 1 | | ١ | | 1 | ١ | _ | | | | | | | | | | | |
| Address: | 0 Maner Road | Copy To: | - 1 | uren P | Lauren Petty, Geosyntec | syntec | | | | Ë S | am | Company Name: | | | | | | | 1 | 1 | | | | 1 | | | | | 30,1 | | | | | | |
| Atlanta, | | | | l | | | | | | Address | SS: | | | | | | | | l | | ŀ | | | Ni. | | | | 2 | Regulatory, Apendy | 8 | è | | | 體 | |
| Email: | @southernco.com | Purchase Order #: | rder t | | SCS10382775 | 82775 | | | | ag B | Pace Cuote: | | | | | 1 | | | | | | | | 4 | | | ı | | | | | | | | |
| Phone: | 6-7239 Fax: | Project Name: | | 흅 | Plant Hammond | puo | | | | Pace | Prop | Pace Project Manager: | nager: | | betsy.mcdaniel@pacelabs.com, | mcda | inie B | bace | labs. | Ë | | ı | | | | | | 8 | State //Location | ğ | | | | 雅 | |
| Request | Requested Due Date: Standord Thr | Project #: | יט | 3 | SWC5B(| | | | | Pace | Pace Profile #: | 0 | 327 (AP | (AP) | | ١ | l | | | ı | | ı | | 4 | | | | | ğ | اړ | | | | | |
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| | | | (their c | | | Š | COLLECTED | | | | | ā | Preservatives | vativ | es Se | | N/A | > | | 3 | | <u>×</u> × | | <u> </u> | 5 | 18 | 2 | ~ | | | | | | | |
| | SAMPLEID Sol'Solid | CODE WT Inter WW SL OL WP | (see valid codes to | C=GHAB C=CC | ST | START | | END - | P AT COLLECTION | SHE | | | |)-\ | | | teal as | y, bicarbonate | | muizengam.eeenag | muissatoq,suotor | onis,asenbran | nodiso oins | | esidual Clorine | ođeu, TKN, TON | | | (N/A) ĐƯỢC | 77 | \sim | 122 | 262 3638 | 00 | |
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| 48 | Opposition | | | | | | | | - | | | - | _ | | | \dashv | { | _ | _ | | | _ | -1 | _ | | | | | | | ı | | | _ | |
| | Abornowell comments | | 포(| INBINI | AS CORS | RELINGUISHED BY / AFFICATION | INO. | DATE | 巴 | | RIME | | | | ACCEPTED BY (AFFILIATION | 9 | 17/A | | ATTO | | | (480) (1975) | DATE | 쁜 | | TIME | - Control of | | 8 | | 8 | SAMBLE CONDITIONS | | | |
| | | 1 | Ŋ | h | ./60% | 34.40 | | 61/53/6 | 51 | - | 54% | | 2 | 3 | ٠,5 | 7 | 1 | 3 | n | | | 3 | 13, | 125/19 | | 1745 | Š | | - | | | | | | |
| | | | 78 | .ક | M | mym | Georg | یا | 9/zs/m | | 1915 | $\frac{1}{2}$ | Мŧ | | ان | | V) | गु | | | | _ a | প্র | 9,26,19 | | 1135 | | | | | | | | | |
| Pa | | ייעם | W | | 1, 20 | Parco | | 8.36.19 | g | Ø | 77 | | 2/4 | 3 | A | [4] | ** | 4 | 3 | A | ٦l | 0 | 200 | 2/3 | ≅ | 17 | \supset | 40 | ۲ | | | | ኢ | | |
| ge 2 | | _ |) | | • |) | | | • | | | | ; | | | | = | | | | ı | - | , | , | | | | | _ | | , | | | | |
| 29 of | | | | | | SAMPILE | BRINKE | RINAME AND SIRMATURE | 劃 | 婁 | | | | | | | | | | | | | | | | | | : | uo | | | | | \dashv | - 1 |
| 30 | | | | | | | PRINT Name of SAMPLER: | e of SAM | | B | 12 | And Gross | a | | | | | ╷╽┝ | | | | | d l' | | 1 | | | ᆘᄱ | bevie: | | tody tody | 6d 19t () | selqr ‡ | (1 | |
| | | | | | | <u></u> | SIGNATURE of SAMPLER | of SAM | Z. | ١. | 1 | ^ | , | | | | | | DA | E Sig | .ped | 8, | 5 | 1,8 | DATE Signed: 09-25-2019 | 5 | _ | LEN | | ۸/۸ :e | isu5 ilse | N/Y | msč itaci | N/A | |

| San | nple Condition l | Jpon Rece | MO# | :2623638 | |
|--|----------------------|---------------------------------------|---------------|---|----------|
| Face Analytical Client Name: | EA Par | 111 | PM · RM | Due Date: 10/03/ | 10 |
| Onorit Ivanio. | <u> </u> | / C V | CLIENT: | GAPouer-CCR | |
| Courier: | at Commercial | Pace Othe | 1 | Proj. Due Date: | |
| Custody Seal on Cooler/Box Present: | ☐ no Seals in | ntact: | ☐ no | Proj. Name: | Ш |
| Packing Material: Bubble Wrap Bubble | Bags None _ | Other | | | |
| Thermometer Used 214 | Type of Ice: Vet | Blue None | ☐ Samı | ples on ice, cooling process has begun | |
| Cooler Temperature | Biological Tissue is | s Frozen: Yes | No C | Date and Initials of person examining contents: | \prod |
| Temp should be above freezing to 6°C | | Comments: | | contents. | Ш |
| Chain of Custody Present: | EYes ONO ON/A | 1. | | | |
| Chain of Custody Filled Out: | DX€S □NO □N/A | 2. | | | Щ |
| Chain of Custody Relinquished: | □X€S □No □N/A | 3. | | | ↓ |
| Sampler Name & Signature on COC: | DYES DNO DN/A | 4. | | | |
| Samples Arrived within Hold Time: | √2Yes □No □N/A | 5. | | | |
| Short Hold Time Analysis (<72hr): | □Yes □No □N/A | 6. | | | Щ |
| Rush Turn Around Time Requested: | □Yes ੴNo □N/A | 7. | | | Ш |
| Sufficient Volume: | 4EYes □No □N/A | 8. | | • | |
| Correct Containers Used: | Yes ONO ON/A | 9. | | | |
| -Pace Containers Used: | Yes ONO ON/A | | | | Ш |
| Containers Intact: | tiyes □No □N/A | 10. | | | Ш |
| 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: | <u> </u> | | | | |
| All containers needing preservation have been checked. | □Yes □No □N/A | 13. | | | |
| All containers needing preservation are found to be in | Yes ONO ON/A | | | | |
| compliance with EPA recommendation. | | Initial when | Lot | # of added | |
| exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) | □Yes □No | completed | pre | servative | |
| Samples checked for dechlorination: | ☐Yes ☐No ☑MA | 14. | | | |
| Headspace in VOA Vials (>6mm): | □Yes □No □NA | 15. | • | | |
| Trip Blank Present: | □Yes □No ŒN/A | 16. | | | |
| Trip Blank Custody Seals Present | □Yes □No □N/A | | | • | |
| Pace Trip Blank Lot # (if purchased): | | | | | |
| Client Notification/ Resolution: | | · · · · · · · · · · · · · · · · · · · | Fie | eld Data Required? Y / N | |
| Person Contacted: | Date | /Time: | | · | |
| Comments/ Resolution: | | | | | |
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| | | <u></u> | | | - |
| 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)





November 11, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond GW6581

Pace Project No.: 2623704

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 27, 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,

Kevin Herring for Betsy McDaniel betsy mcdaniel@pac

Kein Slury

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



(770)734-4200



CERTIFICATIONS

Project: Plant Hammond GW6581

Pace Project No.: 2623704

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

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST

Alabama Certification #: 41320 Arizona Certification# AZ0819

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079 Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity

Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383

Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007 Maryland Certification: #346

Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074

Nebraska Certification: NE-OS-28-14

New Hampshire Certification #: 2958

New Jersey Certification #: FL022

New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710

North Dakota Certification #: R-216

Oklahoma Certification #: D9947

Pennsylvania Certification #: 68-00547 Puerto Rico Certification #: FL01264

South Carolina Certification: #96042001

Tennessee Certification #: TN02974

Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C

Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity





SAMPLE SUMMARY

Project: Plant Hammond GW6581

Pace Project No.: 2623704

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2623704001 | EB-02 | Water | 09/26/19 17:50 | 09/27/19 13:15 |
| 2623704002 | FB-02 | Water | 09/26/19 18:25 | 09/27/19 13:15 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond GW6581

Pace Project No.: 2623704

| ab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-----------|-----------|---------------------|----------|----------------------|------------|
| 623704001 | EB-02 | EPA 6010D | KLH | 7 | PASI-GA |
| | | EPA 6020B | CSW | 2 | PASI-GA |
| | | EPA 7470A | DRB | 1 | PASI-GA |
| | | EPA 1664B | SJS | 1 | PASI-GA |
| | | SM 2320B | S1A | 2 | PASI-GA |
| | | SM 2540C | ALW | 1 | PASI-GA |
| | | SM 2540D | ALW | 1 | PASI-GA |
| | | SM 4500-CI G | KN | 1 | PASI-GA |
| | | SM 4500-P | JAD | 1 | PASI-GA |
| | | SM 4500-S2 D | KN | 1 | PASI-GA |
| | | SM 5210B | KN | 1 | PASI-GA |
| | | TKN-NH3 Calculation | LPH | 1 | PASI-GA |
| | | EPA 300.0 | MWB | 2 | PASI-GA |
| | | EPA 350.1 | ANB | 1 | PASI-GA |
| | | EPA 351.2 | ANB | 1 | PASI-GA |
| | | SM 5310B | SA1 | 1 | PASI-O |
| 323704002 | FB-02 | EPA 6010D | KLH | 7 | PASI-GA |
| | | EPA 6020B | CSW | 2 | PASI-GA |
| | | EPA 7470A | DRB | 1 | PASI-GA |
| | | EPA 1664B | SJS | 1 | PASI-GA |
| | | SM 2320B | S1A | 2 | PASI-GA |
| | | SM 2540C | ALW | 1 | PASI-GA |
| | | SM 2540D | ALW | 1 | PASI-GA |
| | | SM 4500-CI G | KN | 1 | PASI-GA |
| | | SM 4500-P | JAD | 1 | PASI-GA |
| | | SM 4500-S2 D | KN | 1 | PASI-GA |
| | | SM 5210B | KN | 1 | PASI-GA |
| | | TKN-NH3 Calculation | LPH | 1 | PASI-GA |
| | | EPA 300.0 | MWB | 2 | PASI-GA |
| | | EPA 350.1 | ANB | 1 | PASI-GA |
| | | EPA 351.2 | ANB | 1 | PASI-GA |
| | | SM 5310B | SA1 | 1 | PASI-O |



Project: Plant Hammond GW6581

Pace Project No.: 2623704

Date: 11/11/2019 10:30 AM

| Sample: EB-02 | Lab ID: | 2623704001 | Collecte | d: 09/26/19 | 17:50 | Received: 09/ | 27/19 13:15 Ma | atrix: Water | | |
|--------------------------------|------------|--------------|------------|--------------|---------|----------------|----------------|--------------|-------|--|
| | Report | | | | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qua | |
| 6010D MET ICP | Analytical | Method: EPA | 6010D Prep | paration Met | hod: EF | PA 3010A | | | | |
| Iron | ND | mg/L | 0.040 | 0.015 | 1 | 10/01/19 12:18 | 10/06/19 16:59 | 7439-89-6 | | |
| Magnesium | ND | mg/L | 0.050 | 0.011 | 1 | 10/01/19 12:18 | 10/06/19 16:59 | 7439-95-4 | | |
| Manganese | ND | mg/L | 0.040 | 0.0061 | 1 | 10/01/19 12:18 | 10/06/19 16:59 | | | |
| Phosphorus | 0.041J | mg/L | 0.050 | 0.023 | 1 | 10/01/19 12:18 | 10/06/19 16:59 | | | |
| Potassium | ND | mg/L | 0.20 | 0.026 | 1 | 10/01/19 12:18 | 10/06/19 16:59 | | | |
| Sodium | ND | mg/L | 1.0 | 0.19 | 1 | 10/01/19 12:18 | 10/06/19 16:59 | 7440-23-5 | | |
| Total Hardness by 2340B | ND | mg/L | 2.7 | 0.40 | 1 | 10/01/19 12:18 | 10/06/19 16:59 | | | |
| 6020B MET ICPMS | Analytical | Method: EPA | 6020B Prep | aration Met | hod: EF | 'A 3005A | | | | |
| Copper | ND | mg/L | 0.025 | 0.00019 | 1 | 09/30/19 13:30 | 10/03/19 20:25 | | | |
| Zinc | 0.0016J | mg/L | 0.010 | 0.0015 | 1 | 09/30/19 13:30 | 10/03/19 20:25 | 7440-66-6 | В | |
| 7470 Mercury | Analytical | Method: EPA | 7470A Prep | aration Met | hod: EP | A 7470A | | | | |
| Mercury | ND | mg/L | 0.00050 | 0.00014 | 1 | 10/03/19 17:10 | 10/04/19 11:50 | 7439-97-6 | | |
| HEM, Oil and Grease | Analytical | Method: EPA | 1664B | | | | | | | |
| Oil and Grease | ND | mg/L | 4.9 | 4.9 | 1 | | 10/02/19 08:00 | | | |
| 2320B Alkalinity Low Level | Analytical | Method: SM 2 | 320B | | | | | | | |
| Alkalinity,Bicarbonate (CaCO3) | ND | mg/L | 1.0 | 1.0 | 1 | | 10/04/19 14:47 | | | |
| Alkalinity, Total as CaCO3 | ND | mg/L | 1.0 | 1.0 | 1 | | 10/04/19 14:47 | | | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | | |
| Total Dissolved Solids | 16.0 | mg/L | 10.0 | 10.0 | 1 | | 10/03/19 16:28 | | | |
| 2540D Total Suspended Solids | Analytical | Method: SM 2 | 540D | | | | | | | |
| Total Suspended Solids | ND | mg/L | 5.0 | 5.0 | 1 | | 09/30/19 12:16 | | | |
| 4500CL G Chlorine, Residual | Analytical | Method: SM 4 | 500-CI G | | | | | | | |
| Chlorine, Total Residual | ND | mg/L | 0.1 | 0.1 | 1 | | 10/01/19 12:28 | 7782-50-5 | H3,H6 | |
| 4500PE Ortho Phosphorus | Analytical | Method: SM 4 | 500-P | | | | | | | |
| Orthophosphate as P | ND | mg/L | 0.020 | 0.020 | 1 | | 09/28/19 13:59 | | | |
| 4500S2D Sulfide Water | Analytical | Method: SM 4 | 500-S2 D | | | | | | | |
| Sulfide | ND | mg/L | 0.20 | 0.20 | 1 | | 09/30/19 17:42 | 18496-25-8 | | |
| 5210B BOD, 5 day | Analytical | Method: SM 5 | 210B Prepa | aration Meth | od: SM | 5210B | | | | |
| BOD, 5 day | ND | mg/L | 2.0 | 2.0 | 1 | 09/27/19 21:37 | 10/02/19 14:49 | | 1A | |
| Total Organic Nitrogen Calc. | Analytical | Method: TKN- | NH3 Calcul | ation | | | | | | |
| Total Organic Nitrogen | ND | mg/L | 0.40 | 0.40 | 1 | | 10/03/19 22:50 | | | |



Project: Plant Hammond GW6581

Pace Project No.: 2623704

Date: 11/11/2019 10:30 AM

| Sample: EB-02 | Lab ID: | 2623704001 | Collected | d: 09/26/19 | 17:50 | Received: 09/ | /27/19 13:15 Ma | atrix: Water | • |
|--------------------------------|------------|--------------|-------------|--------------|--------|----------------|-----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 300.0 IC Anions | Analytical | Method: EPA | 300.0 | | | | | | |
| Nitrate as N | ND | mg/L | 0.050 | 0.0050 | 1 | | 09/28/19 10:57 | 14797-55-8 | |
| Nitrite as N | 0.017J | mg/L | 0.050 | 0.011 | 1 | | 09/28/19 10:57 | 14797-65-0 | |
| 350.1 Ammonia | Analytical | Method: EPA | 350.1 | | | | | | |
| Nitrogen, Ammonia | ND | mg/L | 0.10 | 0.10 | 1 | | 09/30/19 11:30 | 7664-41-7 | |
| 351.2 Total Kjeldahl Nitrogen | Analytical | Method: EPA | 351.2 Prepa | aration Meth | od: EP | A 351.2 | | | |
| Nitrogen, Kjeldahl, Total | ND | mg/L | 0.40 | 0.40 | 1 | 10/01/19 09:05 | 10/01/19 13:15 | 7727-37-9 | |
| 5310B Dissolved Organic Carbon | Analytical | Method: SM 5 | 310B | | | | | | |
| Dissolved Organic Carbon | 0.65J | mg/L | 1.0 | 0.50 | 1 | | 10/02/19 15:32 | | |



Project: Plant Hammond GW6581

Pace Project No.: 2623704

Date: 11/11/2019 10:30 AM

| Sample: FB-02 | Lab ID: | 2623704002 | Collecte | d: 09/26/19 | 18:25 | Received: 09/ | 27/19 13:15 M | atrix: Water | |
|--------------------------------|--------------|--------------|-----------------|---------------|---------|----------------------------------|----------------------------------|--------------|-------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6010D MET ICP | Analytical I | Method: EPA | 6010D Prep | aration Met | hod: EF | A 3010A | | | |
| Iron | ND | mg/L | 0.040 | 0.015 | 1 | 10/01/19 12:18 | 10/06/19 17:04 | 7439-89-6 | |
| Magnesium | ND | mg/L | 0.050 | 0.011 | 1 | 10/01/19 12:18 | 10/06/19 17:04 | 7439-95-4 | |
| Manganese | ND | mg/L | 0.040 | 0.0061 | 1 | 10/01/19 12:18 | 10/06/19 17:04 | | |
| Phosphorus | ND | mg/L | 0.050 | 0.023 | 1 | 10/01/19 12:18 | 10/06/19 17:04 | | |
| Potassium Sodium | ND ND | mg/L mg/L | 0.20 1.0 | 0.026 0.19 | 1 1 | 10/01/19 12:18 10/01/19 12:18 | 10/06/19 17:04 10/06/19 17:04 | | |
| Total Hardness by 2340B | ND | mg/L | 2.7 | 0.40 | 1 | 10/01/19 12:18 | 10/06/19 17:04 | | |
| 6020B MET ICPMS | Analytical I | Method: EPA | 6020B Prep | aration Met | hod: EF | A 3005A | | | |
| Copper | 0.00030J | mg/L | 0.025 | 0.00019 | 1 | 09/30/19 13:30 | 10/03/19 20:30 | 7440-50-8 | |
| Zinc | 0.0019J | mg/L | 0.010 | 0.0015 | 1 | 09/30/19 13:30 | 10/03/19 20:30 | 7440-66-6 | В |
| 7470 Mercury | Analytical I | Method: EPA | 7470A Prep | aration Met | hod: EP | A 7470A | | | |
| Mercury | ND | mg/L | 0.00050 | 0.00014 | 1 | 10/03/19 17:10 | 10/04/19 11:53 | 7439-97-6 | |
| HEM, Oil and Grease | Analytical I | Method: EPA | 1664B | | | | | | |
| Oil and Grease | ND | mg/L | 4.9 | 4.9 | 1 | | 10/02/19 08:00 | | |
| 2320B Alkalinity Low Level | Analytical I | Method: SM 2 | 320B | | | | | | |
| Alkalinity,Bicarbonate (CaCO3) | ND | mg/L | 1.0 | 1.0 | 1 | | 10/04/19 15:01 | | |
| Alkalinity, Total as CaCO3 | ND | mg/L | 1.0 | 1.0 | 1 | | 10/04/19 15:01 | | |
| 2540C Total Dissolved Solids | Analytical I | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | ND | mg/L | 10.0 | 10.0 | 1 | | 10/03/19 16:28 | | |
| 2540D Total Suspended Solids | Analytical I | Method: SM 2 | 540D | | | | | | |
| Total Suspended Solids | ND | mg/L | 5.0 | 5.0 | 1 | | 09/30/19 12:16 | | |
| 4500CL G Chlorine, Residual | Analytical I | Method: SM 4 | 500-CI G | | | | | | |
| Chlorine, Total Residual | ND | mg/L | 0.1 | 0.1 | 1 | | 10/01/19 12:29 | 7782-50-5 | H3,H6 |
| 4500PE Ortho Phosphorus | Analytical I | Method: SM 4 | 500-P | | | | | | |
| Orthophosphate as P | ND | mg/L | 0.020 | 0.020 | 1 | | 09/28/19 13:59 | | |
| 4500S2D Sulfide Water | Analytical I | Method: SM 4 | 500-S2 D | | | | | | |
| Sulfide | ND | mg/L | 0.20 | 0.20 | 1 | | 09/30/19 17:43 | 18496-25-8 | |
| 5210B BOD, 5 day | Analytical I | Method: SM 5 | 210B Prepa | aration Meth | od: SM | 5210B | | | |
| BOD, 5 day | ND | mg/L | 2.0 | 2.0 | 1 | 09/27/19 21:37 | 10/02/19 14:50 | | 1A |
| Total Organic Nitrogen Calc. | Analytical I | Method: TKN- | NH3 Calcula | ation | | | | | |
| Total Organic Nitrogen | ND | mg/L | 0.40 | 0.40 | 1 | | 10/03/19 22:50 | | |
| | | | | | | | | | |



Project: Plant Hammond GW6581

Pace Project No.: 2623704

Date: 11/11/2019 10:30 AM

| Sample: FB-02 | Lab ID: | 2623704002 | Collecte | d: 09/26/19 | 18:25 | Received: 09/ | /27/19 13:15 Ma | atrix: Water | |
|--------------------------------|------------|--------------|-------------|--------------|--------|----------------|-----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 300.0 IC Anions | Analytical | Method: EPA | 300.0 | | | | | | |
| Nitrate as N | 0.011J | mg/L | 0.050 | 0.0050 | 1 | | 09/28/19 11:39 | 14797-55-8 | |
| Nitrite as N | 0.018J | mg/L | 0.050 | 0.011 | 1 | | 09/28/19 11:39 | 14797-65-0 | |
| 350.1 Ammonia | Analytical | Method: EPA | 350.1 | | | | | | |
| Nitrogen, Ammonia | 0.16 | mg/L | 0.10 | 0.10 | 1 | | 09/30/19 11:31 | 7664-41-7 | |
| 351.2 Total Kjeldahl Nitrogen | Analytical | Method: EPA | 351.2 Prepa | aration Meth | od: EP | A 351.2 | | | |
| Nitrogen, Kjeldahl, Total | ND | mg/L | 0.40 | 0.40 | 1 | 10/01/19 09:05 | 10/01/19 13:16 | 7727-37-9 | |
| 5310B Dissolved Organic Carbon | Analytical | Method: SM 5 | 310B | | | | | | |
| Dissolved Organic Carbon | ND | mg/L | 1.0 | 0.50 | 1 | | 10/02/19 16:13 | | |



Project: Plant Hammond GW6581

Pace Project No.: 2623704

Date: 11/11/2019 10:30 AM

QC Batch: 36428 Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury

Associated Lab Samples: 2623704001, 2623704002

METHOD BLANK: 164509 Matrix: Water

Associated Lab Samples: 2623704001, 2623704002

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Mercury mg/L ND 0.00050 0.00014 10/04/19 10:46

LABORATORY CONTROL SAMPLE: 164510

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Mercury mg/L 0.0025 0.0025 101 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 164511 164512

MSD MS MSD MSD 2623696001 Spike Spike MS MS % Rec Max RPD Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** Qual ND 0.0025 0.0025 0.0022 0.0022 88 88 75-125 0 20 Mercury mg/L

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



Project: Plant Hammond GW6581

Pace Project No.: 2623704

Date: 11/11/2019 10:30 AM

QC Batch: 36168 Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A Analysis Description: 6010D MET

Associated Lab Samples: 2623704001, 2623704002

METHOD BLANK: 163328 Matrix: Water

Associated Lab Samples: 2623704001, 2623704002

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-------------------------|-------|-----------------|--------------------|--------|----------------|------------|
| Iron | mg/L | ND | 0.040 | 0.015 | 10/06/19 16:50 | |
| Magnesium | mg/L | ND | 0.050 | 0.011 | 10/06/19 16:50 | |
| Manganese | mg/L | ND | 0.040 | 0.0061 | 10/06/19 16:50 | |
| Phosphorus | mg/L | ND | 0.050 | 0.023 | 10/06/19 16:50 | |
| Potassium | mg/L | ND | 0.20 | 0.026 | 10/06/19 16:50 | |
| Sodium | mg/L | ND | 1.0 | 0.19 | 10/06/19 16:50 | |
| Total Hardness by 2340B | mg/L | ND | 2.7 | 0.40 | 10/06/19 16:50 | |

| _ABORATORY CONTROL SAMPLE: | 163329 | | | | | |
|----------------------------|--------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| ron | mg/L | 1 | 1.0 | 100 | 80-120 | |
| /lagnesium | mg/L | 1 | 1.0 | 102 | 80-120 | |
| langanese | mg/L | 1 | 1.0 | 100 | 80-120 | |
| osphorus | mg/L | 1 | 1.0 | 103 | 80-120 | |
| otassium | mg/L | 1 | 1.1 | 110 | 80-120 | |
| odium | mg/L | 1 | 1.1 | 108 | 80-120 | |
| tal Hardness by 2340B | mg/L | 6.6 | 6.8 | 103 | 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.



EPA 6020B

6020B MET

Project: Plant Hammond GW6581

Pace Project No.: 2623704

Date: 11/11/2019 10:30 AM

QC Batch: 36173 Analysis Method:
QC Batch Method: EPA 3005A Analysis Description:

Associated Lab Samples: 2623704001, 2623704002

METHOD BLANK: 163347 Matrix: Water

Associated Lab Samples: 2623704001, 2623704002

Blank Reporting Limit MDL Parameter Qualifiers Units Result Analyzed Copper ND 0.025 0.00019 10/03/19 16:32 mg/L Zinc mg/L 0.0016J 0.010 0.0015 10/03/19 16:32

LABORATORY CONTROL SAMPLE: 163348 Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Copper 0.1 0.099 99 80-120 mg/L Zinc mg/L 0.1 0.10 100 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 163349 163350 MSD MS 2623696001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD RPD** Qual Copper mg/L ND 0.1 0.1 0.088 0.090 88 90 75-125 3 20 Zinc 5 mg/L 0.0040J 0.1 0.1 0.091 0.096 87 91 75-125 20

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



Project: Plant Hammond GW6581

Pace Project No.: 2623704

QC Batch: 36282 Analysis Method: EPA 1664B

QC Batch Method: EPA 1664B Analysis Description: 1664 HEM, Oil and Grease

Associated Lab Samples: 2623704001, 2623704002

METHOD BLANK: 163839 Matrix: Water

Associated Lab Samples: 2623704001, 2623704002

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Oil and Grease mg/L ND 5.0 5.0 10/02/19 08:00

LABORATORY CONTROL SAMPLE: 163840

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Oil and Grease mg/L 40 39.8 100 78-114

MATRIX SPIKE SAMPLE: 163842

2623558001 Spike MS MS % Rec Parameter Units Result Conc. Result % Rec Limits Qualifiers 23.1 Oil and Grease 40 80.3 143 78-114 M3 mg/L

SAMPLE DUPLICATE: 163841

Date: 11/11/2019 10:30 AM

Parameter Units Result Result RPD Max
Oil and Grease mg/L ND ND T5



Project: Plant Hammond GW6581

Pace Project No.: 2623704

QC Batch: 36503 Analysis Method: SM 2320B

QC Batch Method: SM 2320B Alkalinity, Low Level

Associated Lab Samples: 2623704001, 2623704002

METHOD BLANK: 164938 Matrix: Water

Associated Lab Samples: 2623704001, 2623704002

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Alkalinity, Total as CaCO3 mg/L ND 1.0 1.0 10/04/19 14:44

LABORATORY CONTROL SAMPLE: 164939

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Alkalinity, Total as CaCO3 47.5 95 85-115 mg/L 50

SAMPLE DUPLICATE: 164940

Date: 11/11/2019 10:30 AM

Parameter Units Result Result RPD Max Alkalinity, Total as CaCO3 mg/L ND ND ND 10 Max Result RPD Qualifiers



Project: Plant Hammond GW6581

Pace Project No.: 2623704

QC Batch: 36437 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 2623704001, 2623704002

LABORATORY CONTROL SAMPLE: 164569

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers **Total Dissolved Solids** mg/L 400 412 103 84-108

SAMPLE DUPLICATE: 164570

2623700006 Dup Max RPD **RPD** Parameter Units Result Result Qualifiers **Total Dissolved Solids** 225 219 3 10 mg/L

SAMPLE DUPLICATE: 164571

Date: 11/11/2019 10:30 AM

2623710002 Dup Max Result RPD RPD Qualifiers Parameter Units Result 1450 **Total Dissolved Solids** mg/L 1330 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.



Project: Plant Hammond GW6581

Pace Project No.: 2623704

QC Batch: 36165 Analysis Method: SM 2540D

QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids

Associated Lab Samples: 2623704001, 2623704002

METHOD BLANK: 163320 Matrix: Water

Associated Lab Samples: 2623704001, 2623704002

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Total Suspended Solids mg/L ND 5.0 09/30/19 12:16

LABORATORY CONTROL SAMPLE: 163321

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers 90-110 Total Suspended Solids mg/L 100 99.5 100

SAMPLE DUPLICATE: 163322

Parameter Units Result Result RPD Max
Total Suspended Solids mg/L 10.0 ND 10

Max
Result RPD Qualifiers

SAMPLE DUPLICATE: 163323

Date: 11/11/2019 10:30 AM

Parameter Units 2623682001 Dup Max
Result Result RPD RPD Qualifiers

Total Suspended Solids mg/L 6.5 ND 10

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



Project: Plant Hammond GW6581

Pace Project No.: 2623704

QC Batch Method:

QC Batch: 36248

SM 4500-CI G

Analysis Method: Analysis Description:

Matrix: Water

SM 4500-CI G

4500CL G Chlorine, Total Residual

0.1

Associated Lab Samples: 2623704001, 2623704002

METHOD BLANK: 163705

Associated Lab Samples:

Chlorine, Total Residual

2623704001, 2623704002

163706

Blank Result Reporting

Parameter

Units mg/L Limit

LCS

MDL

Analyzed 10/01/19 12:26 H6

Qualifiers

LABORATORY CONTROL SAMPLE:

Parameter

Spike Units Conc. mg/L

Result

ND

LCS % Rec 1

0.1

% Rec Limits

Qualifiers

86-116 H6

SAMPLE DUPLICATE: 163724

Date: 11/11/2019 10:30 AM

Chlorine, Total Residual

Parameter Units 2623782001 Result

Dup Result **RPD**

100

Max **RPD**

Qualifiers

Chlorine, Total Residual 0.3 0.3 0 10 H3,H6 mg/L

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



Project: Plant Hammond GW6581

Pace Project No.: 2623704

Date: 11/11/2019 10:30 AM

QC Batch: 36125 Analysis Method: SM 4500-P

QC Batch Method: SM 4500-P Analysis Description: 4500PE Ortho Phosphorus

Associated Lab Samples: 2623704001, 2623704002

METHOD BLANK: 163138 Matrix: Water

Associated Lab Samples: 2623704001, 2623704002

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Orthophosphate as P mg/L ND 0.020 0.020 09/28/19 13:30

LABORATORY CONTROL SAMPLE: 163139

Parameter Units Spike LCS LCS % Rec
Conc. Result % Rec Limits Qualifiers

Orthophosphate as P mg/L 0.5 0.51 101 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 163140 163141

MSD MS MSD MS MSD 2623698004 Spike Spike MS % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Orthophosphate as P ND 0.5 0.5 0.50 0.50 100 101 80-120 10 mg/L

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



SM 4500-S2 D

Project: Plant Hammond GW6581

Pace Project No.: 2623704

Date: 11/11/2019 10:30 AM

QC Batch: 36187 Analysis Method:

QC Batch Method: SM 4500-S2 D Analysis Description: 4500S2D Sulfide Water

Associated Lab Samples: 2623704001, 2623704002

METHOD BLANK: 163403 Matrix: Water

Associated Lab Samples: 2623704001, 2623704002

Blank Reporting Parameter Units Result Limit MDL Analyzed Qualifiers

Sulfide mg/L ND 0.20 0.20 09/30/19 17:04

LABORATORY CONTROL SAMPLE: 163404

Spike LCS LCS % Rec
Parameter Units Conc. Result % Rec Limits Qualifiers

Sulfide mg/L 0.5 0.45 90 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 163405 163406

MS MSD MSD 2623614004 Spike Spike MS MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Sulfide ND 0.5 0.40 0.40 81 80 30-129 mg/L 0.5 10

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



SM 5210B

Project: Plant Hammond GW6581

Pace Project No.: 2623704

QC Batch: 36102 Analysis Method:

QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day

Associated Lab Samples: 2623704001, 2623704002

METHOD BLANK: 162918 Matrix: Water

Associated Lab Samples: 2623704001, 2623704002

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

BOD, 5 day mg/L ND 2.0 2.0 10/02/19 14:17 1A

LABORATORY CONTROL SAMPLE: 162920

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers BOD, 5 day 85-115 1A mg/L 198 205 104

SAMPLE DUPLICATE: 163019

Date: 11/11/2019 10:30 AM

2623686001 Dup Max **RPD RPD** Parameter Units Result Result Qualifiers 831 690 BOD, 5 day 19 20 1A mg/L

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



Plant Hammond GW6581 Project:

Pace Project No.: 2623704

QC Batch: 36067

LABORATORY CONTROL SAMPLE:

Parameter

Analysis Method:

EPA 300.0

QC Batch Method: EPA 300.0 Analysis Description:

Matrix: Water

300.0 IC Anions

Associated Lab Samples: 2623704001, 2623704002

METHOD BLANK: 162737

Associated Lab Samples:

2623704001, 2623704002

Blank

Reporting

Parameter Units Nitrate as N mg/L mg/L

Result ND

ND

Limit 0.050 0.050

MDL 0.0050 0.011 09/27/19 18:48

Analyzed 09/27/19 18:48 Qualifiers

Nitrite as N

Nitrate as N

Nitrite as N

162738

Units

mg/L

mg/L

2623562005

Result

Units

mg/L

mg/L

0.74

Spike Conc. 10

10

LCS Result 10.5 10.7

LCS % Rec 105

107

% Rec Limits 90-110

90-110

Qualifiers

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

162739

MSD

Spike

0.017J

MS MSD Result Result

MS MSD % Rec

% Rec Limits

Max

2

Qual

15 H1

Parameter Nitrate as N Nitrite as N

Nitrate as N

Nitrite as N

0.030J

Units

mg/L

mg/L

Conc. Conc.

MS

Spike

11.2 10.7

10

162740

11.2 10.5

10.5

10.8

% Rec

105

108

RPD RPD 0 15 H1

MATRIX SPIKE SAMPLE:

Date: 11/11/2019 10:30 AM

Parameter

163021

2623704001 Result ND

Spike Conc. 10

MS

Result

MS % Rec

% Rec Limits

90-110

Qualifiers 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.



Project: Plant Hammond GW6581

Pace Project No.: 2623704

QC Batch: 36150 Analysis Method: EPA 350.1

QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia

Associated Lab Samples: 2623704001, 2623704002

METHOD BLANK: 163273 Matrix: Water

Associated Lab Samples: 2623704001, 2623704002

ParameterUnitsBlank Reporting ResultReporting LimitMDLAnalyzedQualifiersNitrogen, Ammoniamg/LND0.100.1009/30/19 11:18

LABORATORY CONTROL SAMPLE: 163274

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers 90-110 Nitrogen, Ammonia mg/L 10 10.3 103

MATRIX SPIKE SAMPLE: 163275

2623698001 MS MS Spike % Rec Parameter Units Result Conc. Result % Rec Limits Qualifiers 1.4 10 12.0 106 90-110 Nitrogen, Ammonia mg/L

MATRIX SPIKE SAMPLE: 163276

Date: 11/11/2019 10:30 AM

2623682001 Spike MS MS % Rec Parameter Units Result Conc. Result % Rec Limits Qualifiers 0.96 Nitrogen, Ammonia mg/L 10 11.5 105 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.



Project: Plant Hammond GW6581

Pace Project No.: 2623704

QC Batch: 36222 Analysis Method: EPA 351.2 QC Batch Method: EPA 351.2 Analysis Description: 351.2 TKN

Associated Lab Samples: 2623704001, 2623704002

METHOD BLANK: 163614 Matrix: Water

Associated Lab Samples: 2623704001, 2623704002

Blank Reporting Limit MDL Parameter Result Qualifiers Units Analyzed ND 0.40 0.40 10/01/19 13:03

Nitrogen, Kjeldahl, Total mg/L

LABORATORY CONTROL SAMPLE: 163615

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Nitrogen, Kjeldahl, Total 90-110 mg/L 10 10.7 107

MATRIX SPIKE SAMPLE: 163616

2623680001 MS MS Spike % Rec Parameter Units Result Conc. Result % Rec Limits Qualifiers 2.3 10 10.5 82 90-110 M1 Nitrogen, Kjeldahl, Total mg/L

MATRIX SPIKE SAMPLE: 163621

Date: 11/11/2019 10:30 AM

2623680003 Spike MS MS % Rec Parameter Units Result Conc. Result % Rec Limits Qualifiers 3.5 Nitrogen, Kjeldahl, Total mg/L 10 12.3 88 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.



Project: Plant Hammond GW6581

Pace Project No.: 2623704

Date: 11/11/2019 10:30 AM

QC Batch: 575017 Analysis Method: SM 5310B

QC Batch Method: SM 5310B Analysis Description: 5310B Dissolved Organic Carbon

Associated Lab Samples: 2623704001, 2623704002

METHOD BLANK: 3124986 Matrix: Water

Associated Lab Samples: 2623704001, 2623704002

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Dissolved Organic Carbon mg/L ND 1.0 0.50 10/02/19 15:06

LABORATORY CONTROL SAMPLE: 3124987

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Dissolved Organic Carbon mg/L 20 19.0 95 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3124988 3124989

MS MSD MSD MS MSD 2623704001 Spike Spike MS % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Dissolved Organic Carbon 0.65J 20 20 19.6 95 80-120 20 19.8 96 mg/L

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3124990 3124991

MS MSD 2623708004 MS MSD MS MSD Spike Spike % Rec Max RPD Parameter Units Conc. Conc. Result % Rec % Rec **RPD** Result Result Limits Qual 20 Dissolved Organic Carbon ND 20 19.6 19.4 96 96 80-120 20 mg/L

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



QUALIFIERS

Project: Plant Hammond GW6581

Pace Project No.: 2623704

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-GA Pace Analytical Services - Atlanta, GA
PASI-O Pace Analytical Services - Ormond Beach

BATCH QUALIFIERS

Batch: 36345

[1] The calculated SCF was below the desired range of 0.6 to 1.0 mg/L. All other QC indicators, including the LCS, were within acceptance criteria

ANALYTE QUALIFIERS

Date: 11/11/2019 10:30 AM

| 1A | The calculated SCF was below the desired range of 0.6 to 1.0 mg/L. All other QC indicators, including the LCS, were |
|----|---|
| | within acceptance criteria |
| В | Analyte was detected in the associated method blank. |

H1 Analysis conducted outside the EPA method holding time.

H3 Sample was received or analysis requested beyond the recognized method holding time.

H6 Analysis initiated outside of the 15 minute EPA required holding time.

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

M3 Matrix spike recovery was outside laboratory control limits due to matrix interferences.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond GW6581

Pace Project No.: 2623704

Date: 11/11/2019 10:30 AM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|--------------------------|----------------|---|------------------|------------------------|---------------------|
| 2623704001 2623704002 | EB-02 FB-02 | EPA 3010A EPA 3010A | 36168 36168 | EPA 6010D EPA 6010D | 36254 36254 |
| 2623704001 2623704002 | EB-02 FB-02 | EPA 3005A EPA 3005A | 36173 36173 | EPA 6020B EPA 6020B | 36203 36203 |
| 2623704001 2623704002 | EB-02 FB-02 | EPA 7470A EPA 7470A | 36428 36428 | EPA 7470A EPA 7470A | 36481 36481 |
| 2623704001 2623704002 | EB-02 FB-02 | EPA 1664B EPA 1664B | 36282 36282 | | |
| 2623704001 2623704002 | EB-02 FB-02 | SM 2320B SM 2320B | 36503 36503 | | |
| 2623704001 2623704002 | EB-02 FB-02 | SM 2540C SM 2540C | 36437 36437 | | |
| 2623704001 2623704002 | EB-02 FB-02 | SM 2540D SM 2540D | 36165 36165 | | |
| 2623704001 2623704002 | EB-02 FB-02 | SM 4500-CI G SM 4500-CI G | 36248 36248 | | |
| 2623704001 2623704002 | EB-02 FB-02 | SM 4500-P SM 4500-P | 36125 36125 | | |
| 2623704001 2623704002 | EB-02 FB-02 | SM 4500-S2 D SM 4500-S2 D | 36187 36187 | | |
| 2623704001 2623704002 | EB-02 FB-02 | SM 5210B SM 5210B | 36102 36102 | SM 5210B SM 5210B | 36345 36345 |
| 2623704001 2623704002 | EB-02 FB-02 | TKN-NH3 Calculation TKN-NH3 Calculation | 36472 36472 | | |
| 2623704001 2623704002 | EB-02 FB-02 | EPA 300.0 EPA 300.0 | 36067 36067 | | |
| 2623704001 2623704002 | EB-02 FB-02 | EPA 350.1 EPA 350.1 | 36150 36150 | | |
| 2623704001 2623704002 | EB-02 FB-02 | EPA 351.2 EPA 351.2 | 36222 36222 | EPA 351.2 EPA 351.2 | 36226 36226 |
| 2623704001 2623704002 | EB-02 FB-02 | SM 5310B SM 5310B | 575017 575017 | | |



CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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| company: | Georgia Power - Coal Combustion Residuals | Report To: | Joju A | Joju Abraham | | | | | Attention: | fjon: | scsin | scsinvoices@southernco.com | ® south | Jernco. | E 0 | | | l | | | Г | | • | | | | ł | | | | _ |
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| hone: | (404)506-7239 Fax: | Project Name: | i i | Plant Hammond | mond | | | | Pace | Project | Pace Project Manager: | Jer: | betsy | betsy.mcdaniel@pacelabs.com | aniel@ | pacel | abs.cc | Ē. | | | | | | | Sta | 97/10 | State / Location | | | | _ |
| 3equested | Requested Due Date: Standord TRT | Project #: | 3 | 6w 6581 | ب | | | | Pace | Pace Profile #: | | 327 (AP) | ٦ | | | | | | | | Н | | | | | ξ | | | | | |
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| # MaTI | One Character per box. Wee (A-Z, 0-9 /) Cher Sample Ids must be unique Tissue | | | SAYTELYMAS | TIME | E DATE | | A 9MBT BJ9MA2 | # OF CONTAINER | Unpreserved | 60ИН | HCI NgOH + Zn Ac | NazS2O3 | Methanol | Other SesylenA | Total alkalinity, b | оцрорноѕрнате | negnem,noni,neggoo | ned latot,muibos | ebillus | dissolved organi | TDS, TSS, Resi | egontin sinomms | BOD (5-day) | Oil and grease b | | | | | | |
| Ţ | EB-07 | | \$ | 12/p 2 | (43) | 5 9/2/19 | | 1750 TF | ೭ | 3 1 | | 5 | | | | 7 | 7 | 7 | الم | ۲ | ٨١ | ٨ | ٨ | | F | | | | | - | |
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| | АВВПОНАЛ СОМИЕНТВ | | RELING | HELINGUISHED BY / ABRILLATION | Y// ABRIUM | VTION. | | DATE | - | TIME | | | AGGE | AGGERTED BY// AREIL/ATION | W K | AEIIU. | <u>8</u> | | | ¥ū. | рате | | STONE . | | | 88 | NEGO. | BAMPLE CONDITIONS | SS . | | |
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| Page | JO#: 2623704 | _ | | | | | - | | _ | | | | | | • | | | | | . | | | | + | | | | | +- | | |
| 26 0 | | | | | TO S | зипачиюю оку авукта втопув | 2 × 3 | SIGNA | 雅 | | | | | | | | | | | | | | 4 | | ∥ : | uo | | | | | I |
| of 27 | | | | | - " | PRINT Name of SAMPLER: SIGNATURE of SAMPLER: | ame of S | AMPLE | 16 | | gg : | ,4, | 7 | 5 | 3 | | DATE | DATE Signed: | 9 | 1 | 1/1 | 1/2 | | \vdash | ni 9ME | эсеілеа | (N/ | aled | səldmı | (N) | |
| 7 | 2623704 | | | | | | | | | allic | 2 | 1 | 1 | | | 4 | | . | | _ | į | ` | | ┥ | 31 | | _ | 98 | w | | |

WO#: 2623 Sample Condition Upon Receipt Due Date: 10/04/19 **Client Name:** Courier: Fed Ex UPS USPS Client Commercial Pace Other Proj. Due Date: Tracking #: Proj. Name: Seals intact: Custody Seal on Cooler/Box Present: yes Packing Material: | Bubble Wrap বিBubble Bags Type of ice: Wet Blue None Samples on ice, cooling process has begur Thermometer Used Date and Initials of person examining Biological Tissue is Frozen: Yes No **Cooler Temperature** contents: Temp should be above freezing to 6°C Comments: Mes □No □N/A Chain of Custody Present: Yes DNo □N/A Chain of Custody Filled Out: ☐Yes ☐No □N/A Chain of Custody Relinquished: Yes DNo □N/A 4. Sampler Name & Signature on COC: ØYes □No □N/A 5. Samples Arrived within Hold Time: □N/A 6. ØYes □No Short Hold Time Analysis (<72hr): ☐Yes ☐No □N/A **Rush Turn Around Time Requested:** PYes □No □n/A Sufficient Volume: ØYes □No □N/A Correct Containers Used: ØYes □No □N/A -Pace Containers Used: ØYes □No □N/A 10. Containers Intact: ☐Yes ☐No DAN/A Filtered volume received for Dissolved tests **∐**Yęs □No □N/A Sample Labels match COC: -Includes date/time/ID/Analysis All containers needing preservation have been checked. EYes □No □N/A All containers needing preservation are found to be in ØYes □No □N/A compliance with EPA recommendation. Initial when Lot # of added exceptions: VOA, coliform, TOQ O&G WI-DRO (water) preservative completed □Yes □No ☑N/A 14. Samples checked for dechlorination: ZINIA ☐Yes ☐No Headspace in VOA Vials (>6mm): ☐Yes ☐No ØN/A Trip Blank Present: ☐Yes ☐No Trip Blank Custody Seals Present **☑**N/A Pace Trip Blank Lot # (if purchased): Field Data Required? Client Notification/ Resolution: Person Contacted: Date/Time: Comments/ Resolution: ...

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

Project Manager Review:

Date:





November 02, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond GW6581

Pace Project No.: 2623705

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 27, 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

Beton M Damil

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



(770)734-4200



CERTIFICATIONS

Project: Plant Hammond GW6581

Pace Project No.: 2623705

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

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST Alabama Certification #: 41320

Arizona Certification# AZ0819

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079 Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity

Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383

Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007

Maryland Certification: #346 Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074

Nebraska Certification: NE-OS-28-14

New Hampshire Certification #: 2958 New Jersey Certification #: FL022

New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710

North Dakota Certification #: R-216

Oklahoma Certification #: D9947

Pennsylvania Certification #: 68-00547

Puerto Rico Certification #: FL01264

South Carolina Certification: #96042001

Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Wyoming (EPA Region 8): FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C

Wisconsin Certification #: 399079670





SAMPLE SUMMARY

Project: Plant Hammond GW6581

Pace Project No.: 2623705

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2623705001 | MW-23d | Water | 09/26/19 10:25 | 09/27/19 13:15 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond GW6581

Pace Project No.: 2623705

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|--------------|----------|----------------------|------------|
| 2623705001 | MW-23d | EPA 6010D | KLH | 6 | PASI-GA |
| | | SM 2320B | S1A | 2 | PASI-GA |
| | | SM 4500-P | MWB | 1 | PASI-GA |
| | | SM 4500-S2 D | KN | 1 | PASI-GA |
| | | SM 5310B | SA1 | 1 | PASI-O |



ANALYTICAL RESULTS

Project: Plant Hammond GW6581

Pace Project No.: 2623705

Date: 11/02/2019 09:09 PM

| Sample: MW-23d | Lab ID: | 2623705001 | Collecte | d: 09/26/19 | 10:25 | Received: 09/ | 27/19 13:15 Ma | atrix: Water | |
|--------------------------------|------------|---------------|------------|-------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6010D MET ICP | Analytical | Method: EPA 6 | 6010D Prep | aration Met | hod: EF | PA 3010A | | | |
| Iron | 0.17 | mg/L | 0.040 | 0.015 | 1 | 10/31/19 16:05 | 11/01/19 01:03 | 7439-89-6 | |
| Magnesium | 35.4 | mg/L | 0.050 | 0.011 | 1 | 10/31/19 16:05 | 11/01/19 01:03 | 7439-95-4 | M1 |
| Manganese | 9.0 | mg/L | 0.040 | 0.0061 | 1 | 10/31/19 16:05 | 11/01/19 01:03 | 7439-96-5 | M1 |
| Phosphorus | 0.025J | mg/L | 0.050 | 0.023 | 1 | 10/31/19 16:05 | 11/01/19 01:03 | 7723-14-0 | |
| Potassium | 2.1 | mg/L | 0.20 | 0.026 | 1 | 10/31/19 16:05 | 11/01/19 01:03 | 7440-09-7 | |
| Sodium | 13.1 | mg/L | 1.0 | 0.19 | 1 | 10/31/19 16:05 | 11/01/19 01:03 | 7440-23-5 | |
| 2320B Alkalinity | Analytical | Method: SM 2 | 320B | | | | | | |
| Alkalinity,Bicarbonate (CaCO3) | 216 | mg/L | 20.0 | 20.0 | 1 | | 10/01/19 18:59 | | |
| Alkalinity, Total as CaCO3 | 216 | mg/L | 20.0 | 20.0 | 1 | | 10/01/19 18:59 | | |
| 4500PE Ortho Phosphorus | Analytical | Method: SM 4 | 500-P | | | | | | |
| Orthophosphate as P | ND | mg/L | 0.020 | 0.020 | 1 | | 09/27/19 20:41 | | |
| 4500S2D Sulfide Water | Analytical | Method: SM 4 | 500-S2 D | | | | | | |
| Sulfide | ND | mg/L | 0.20 | 0.20 | 1 | | 09/30/19 17:44 | 18496-25-8 | |
| 5310B Dissolved Organic Carbon | Analytical | Method: SM 5 | 310B | | | | | | |
| Dissolved Organic Carbon | ND | mg/L | 1.0 | 0.50 | 1 | | 10/02/19 16:31 | | |
| | | | | | | | | | |



Project: Plant Hammond GW6581

Pace Project No.: 2623705

Date: 11/02/2019 09:09 PM

QC Batch: 37765 Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A Analysis Description: 6010D MET

Associated Lab Samples: 2623705001

METHOD BLANK: 171372 Matrix: Water

Associated Lab Samples: 2623705001

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analvzed | Qualifiers |
|------------|--------|-----------------|--------------------|--------|----------------|------------|
| | Office | | | IVIDL | | |
| Iron | mg/L | ND | 0.040 | 0.015 | 11/01/19 00:53 | |
| Magnesium | mg/L | ND | 0.050 | 0.011 | 11/01/19 00:53 | |
| Manganese | mg/L | ND | 0.040 | 0.0061 | 11/01/19 00:53 | |
| Phosphorus | mg/L | ND | 0.050 | 0.023 | 11/01/19 00:53 | |
| Potassium | mg/L | ND | 0.20 | 0.026 | 11/01/19 00:53 | |
| Sodium | mg/L | ND | 1.0 | 0.19 | 11/01/19 00:53 | |

| LABORATORY CONTROL SAMPLE: | 171373 | | | | | |
|----------------------------|--------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | 0 "" |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Iron | mg/L | 1 | 1.0 | 103 | 80-120 | |
| /lagnesium | mg/L | 1 | 1.0 | 104 | 80-120 | |
| anganese | mg/L | 1 | 1.0 | 104 | 80-120 | |
| osphorus | mg/L | 1 | 1.0 | 104 | 80-120 | |
| otassium | mg/L | 1 | 0.99 | 99 | 80-120 | |
| Sodium | mg/L | 1 | 1.0 | 103 | 80-120 | |

| MATRIX SPIKE & MATRIX S | PIKE DUPL | ICATE: 1713 | 74 | | 171375 | | | | | | | |
|-------------------------|-----------|-------------|-------|-------|--------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2623705001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Iron | mg/L | 0.17 | 1 | 1 | 1.2 | 1.2 | 104 | 102 | 75-125 | 2 | 20 | |
| Magnesium | mg/L | 35.4 | 1 | 1 | 36.7 | 36.1 | 130 | 75 | 75-125 | 2 | 20 | M1 |
| Manganese | mg/L | 9.0 | 1 | 1 | 10.3 | 10.1 | 126 | 110 | 75-125 | 2 | 20 | M1 |
| Phosphorus | mg/L | 0.025J | 1 | 1 | 1.1 | 1.1 | 107 | 107 | 75-125 | 0 | 20 | |
| Potassium | mg/L | 2.1 | 1 | 1 | 3.3 | 3.3 | 119 | 119 | 75-125 | 0 | 20 | |
| Sodium | mg/L | 13.1 | 1 | 1 | 14.3 | 14.1 | 125 | 100 | 75-125 | 2 | 20 | |

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



Project: Plant Hammond GW6581

Pace Project No.: 2623705

QC Batch: 36284 Analysis Method: SM 2320B QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity

Associated Lab Samples: 2623705001

METHOD BLANK: 163853 Matrix: Water

Associated Lab Samples: 2623705001

Blank Reporting Limit MDL Parameter Units Result Analyzed Qualifiers ND 20.0

Alkalinity, Total as CaCO3 20.0 10/01/19 17:35 mg/L

LABORATORY CONTROL SAMPLE: 163854

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Alkalinity, Total as CaCO3 98 85-115 mg/L 100 98.0

SAMPLE DUPLICATE: 163855

Date: 11/02/2019 09:09 PM

2623635002 Dup Max RPD **RPD** Qualifiers Parameter Units Result Result Alkalinity, Total as CaCO3 165 164 10 1 mg/L

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



Project: Plant Hammond GW6581

Pace Project No.: 2623705

Date: 11/02/2019 09:09 PM

QC Batch: 36119 Analysis Method: SM 4500-P

QC Batch Method: SM 4500-P Analysis Description: 4500PE Ortho Phosphorus

Associated Lab Samples: 2623705001

METHOD BLANK: 163046 Matrix: Water

Associated Lab Samples: 2623705001

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Orthophosphate as P mg/L ND 0.020 0.020 09/27/19 20:37

LABORATORY CONTROL SAMPLE: 163047

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Orthophosphate as P 80-120 mg/L 0.5 0.52 105

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 163048 163049

MSD MS MSD MS MSD 2623707001 Spike Spike MS % Rec Max RPD Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** Qual Orthophosphate as P ND 0.5 0.5 0.50 0.51 100 102 80-120 2 10 mg/L

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



SM 4500-S2 D

4500S2D Sulfide Water

Project: Plant Hammond GW6581

Pace Project No.: 2623705

METHOD BLANK: 163403

Date: 11/02/2019 09:09 PM

QC Batch: 36187

QC Batch Method: SM 4500-S2 D

Associated Lab Samples: 2623705001

2020700001

Associated Lab Samples: 2623705001

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Matrix: Water

Analysis Method:

Analysis Description:

Sulfide mg/L ND 0.20 0.20 09/30/19 17:04

LABORATORY CONTROL SAMPLE: 163404

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Sulfide mg/L 0.5 0.45 90 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 163405 163406

MS MSD MSD 2623614004 Spike Spike MS MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Sulfide ND 0.5 0.5 0.40 0.40 81 80 30-129 mg/L 10

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



Project: Plant Hammond GW6581

Pace Project No.: 2623705

Date: 11/02/2019 09:09 PM

QC Batch: 575017 Analysis Method: SM 5310B

QC Batch Method: SM 5310B Analysis Description: 5310B Dissolved Organic Carbon

Associated Lab Samples: 2623705001

METHOD BLANK: 3124986 Matrix: Water

Associated Lab Samples: 2623705001

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Dissolved Organic Carbon mg/L ND 1.0 0.50 10/02/19 15:06

LABORATORY CONTROL SAMPLE: 3124987

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Dissolved Organic Carbon mg/L 20 19.0 95 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3124988 3124989

MS MSD MSD MS MSD 2623704001 Spike Spike MS % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Dissolved Organic Carbon 0.65J 20 20 19.6 95 80-120 20 19.8 96 mg/L

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3124990 3124991

MS MSD 2623708004 MS MSD MS MSD % Rec Spike Spike Max RPD Parameter Units Conc. Conc. Result % Rec % Rec **RPD** Result Result Limits Qual 20 Dissolved Organic Carbon ND 20 19.6 19.4 96 96 80-120 1 20 mg/L

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



QUALIFIERS

Project: Plant Hammond GW6581

Pace Project No.: 2623705

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-GA Pace Analytical Services - Atlanta, GA
PASI-O Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

Date: 11/02/2019 09:09 PM

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



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond GW6581

Pace Project No.: 2623705

Date: 11/02/2019 09:09 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|-----------------|----------|-------------------|---------------------|
| 2623705001 | MW-23d | EPA 3010A | 37765 | EPA 6010D | 37960 |
| 2623705001 | MW-23d | SM 2320B | 36284 | | |
| 2623705001 | MW-23d | SM 4500-P | 36119 | | |
| 2623705001 | MW-23d | SM 4500-S2 D | 36187 | | |
| 2623705001 | MW-23d | SM 5310B | 575017 | | |

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| - 4 | | a rijiray | Section C | |
|-----------|---|--|--|-----------------------------------|
| Required | Required Client Information: | Required Project Information: | formation: | Page: 1 Of / |
| Company: | Georgia Power - Coal Combustion Residuals | Report To: Joju Abraham | sinvoices@southernco.com | |
| Address: | | | Name: | |
| | A 30339 | | | Reguldför/Agensy |
| Email: ja | @southernco.com | # | | |
| Phone: | Phone: (404)506-7239 Fax: | Project Name: Plant Hammond Project #: (1.10,0,0,0,0) | Pace Project Manager: betsy.mcdaniel@pacelabs.com, Pace Profile #: 327 (AP) | State/Logation |
| | S) June | | | |
| | | (their o | Preservatives | |
| | SAMPLE ID | W W W W W W W W W W W W W W W W W W W | 256 Tr TBBT: | (V/V) e |
| # M3TI | One Character per box. Who (A-Z, 0-9 /, -) Oner Sample Ids must be unique Issue | SAMPLE TYPE COMPLETYPE CONTRIBUTION CONTRIBU | SAMPLE TEMP A # OF CONTAINER # OF CONTAINER H2SO4 H0G3 H2SO4 HCI NaOH + Zn Ac | Residual Chlorin |
| | MW-23J | 101 6/24/10 09:40 03:40 D 1/8 | 1 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 | N TOC Freib Filter |
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| 13 (| | DAMPILE BURE LAND | NGANETANID SIGNATURE: | |
| of 14 | | PRINT Name of SAMPLER: | OAN GEBIES | tody ed ber () |
| | 69 / 67 o | SIGNATURE OF SAMPLER | DATE Signed: 08-26-2019 | Rec (Y/A Cus Seal Cos |

| Sam | iple Condition U | Jpon Receip | WO#: 2623705 | 5 |
|--|----------------------|------------------------|------------------------------------|----------------------|
| Face Analytical Client Name: | CAR. | 01/CR | PM: BM Due Date: | |
| | 91100 | | CLIENT: GAPower-CCR | |
| Courier: 1] Fed Ex | t Commercial | Pace Other | Proj. Due Date: | |
| Custody Seal on Cooler/Box Present: | ์ ⊟ mõ Sepalsii | ntact: yes | no Proj. Name: | |
| Packing Material: Bubble Wrap Bubble | Bags ☐ Nor ☐ | Other | | |
| Thermometer Used 214 | Type of Ice: Wet | | Samples on ice, cooling process ha | ıs begun |
| Cooler Temperature | Biological Tissue is | | Date and Initials of person ex | |
| Temp should be above freezing to 6°C | - | Comments: | contents: 4/2-7/10 | |
| Chain of Custody Present: | ØYes □No □N/A | 1. | | |
| Chain of Custody Filled Out: | (Yes ONO ON/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: | ØYes □No □N/A | 5. | | |
| Short Hold Time Analysis (<72hr): | ØYes □No □N/A | 6. | | |
| Rush Turn Around Time Requested: | □Yes ☑No □N/A | 7. | | |
| Sufficient Volume: | ☑Yes □No □N/A | 8. | ŧ | |
| Correct Containers Used: | Yes ONO ON/A | 9. | | 1 1 |
| -Pace Containers Used: | ØYes □No □N/A | | | |
| Containers Intact: | ØYes □No □N/A | 10. | | |
| Filtered volume received for Dissolved tests | □Yes □No CAN/A | 11. | · | |
| Sample Labels match COC: | ☐Yes ☐No ☐N/A | 12. | | |
| -Includes date/time/ID/Analysis Matrix: | <u> W</u> | | | |
| All containers needing preservation have been checked. | ØYes □No □N/A | 13. | | |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ØYes □No □N/A | | | |
| exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) | □Yes 124No | Initial when completed | Lot # of added preservative | |
| Samples checked for dechlorination: | □Yes □No ØÑ/A | 14. | | |
| Headspace in VOA Vials (>6mm): | □Yes □No ŒMÂ | 15. | | |
| Trip Blank Present: | □Yes □No ☑N/A | 16. | | |
| Trip Blank Custody Seals Present | □Yes □No ☑N/A | 1 . | • | |
| Pace Trip Blank Lot # (if purchased): | | | | |
| Client Notification/ Resolution: | | | Field Data Required? Y | , , , - |
| 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)





October 07, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2623750

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 30, 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

Beton M Damil

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



(770)734-4200



CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2623750

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

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST Alabama Certification #: 41320 Arizona Certification# AZ0819

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079 Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383 Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007 Maryland Certification: #346

Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074 Nebraska Certification: NE-OS-28-14 New Hampshire Certification #: 2958

New Jersey Certification #: FL022

New York Certification #: 11608 North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710 North Dakota Certification #: R-216 Oklahoma Certification #: D9947

Pennsylvania Certification #: 68-00547 Puerto Rico Certification #: FL01264 South Carolina Certification: #96042001 Tennessee Certification #: TN02974

Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity





SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2623750

| Lab ID | Sample ID | Matrix | Date Collected | Date Received | | |
|------------|-----------|--------|----------------|----------------|--|--|
| 2623750001 | MW-22 | Water | 09/27/19 10:55 | 09/30/19 12:39 | | |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2623750

| Lab ID Sample ID | | Method | Analysts | Analytes Reported | Laboratory | |
|------------------|-------|--------------|----------|----------------------|------------|--|
| 2623750001 | MW-22 | EPA 6010D | KLH | 6 | PASI-GA | |
| | | SM 2320B | S1A | 2 | PASI-GA | |
| | | SM 4500-P | JAD | 1 | PASI-GA | |
| | | SM 4500-S2 D | KN | 1 | PASI-GA | |
| | | SM 5310B | SA1 | 1 | PASI-O | |



ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2623750

Date: 10/07/2019 05:30 PM

| Sample: MW-22 | Lab ID: | 2623750001 | Collecte | Collected: 09/27/19 10:55 | | Received: 09/ | | | | |
|--------------------------------|------------|--------------|------------|---------------------------|---------|----------------|----------------|------------|------|--|
| Report | | | | | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual | |
| 6010D MET ICP | Analytical | Method: EPA | 6010D Prep | aration Met | hod: El | PA 3010A | | | | |
| Iron | 0.66 | mg/L | 0.040 | 0.015 | 1 | 10/02/19 13:49 | 10/06/19 16:25 | 7439-89-6 | | |
| Magnesium | 46.3 | mg/L | 0.050 | 0.011 | 1 | 10/02/19 13:49 | 10/06/19 16:25 | 7439-95-4 | M1 | |
| Manganese | 16.7 | mg/L | 0.040 | 0.0061 | 1 | 10/02/19 13:49 | 10/06/19 16:25 | 7439-96-5 | M1 | |
| Phosphorus | 0.054 | mg/L | 0.050 | 0.023 | 1 | 10/02/19 13:49 | 10/06/19 16:25 | 7723-14-0 | | |
| Potassium | 1.0 | mg/L | 0.20 | 0.026 | 1 | 10/02/19 13:49 | 10/06/19 16:25 | 7440-09-7 | | |
| Sodium | 15.0 | mg/L | 1.0 | 0.19 | 1 | 10/02/19 13:49 | 10/06/19 16:25 | 7440-23-5 | M1 | |
| 2320B Alkalinity | Analytical | Method: SM 2 | 320B | | | | | | | |
| Alkalinity,Bicarbonate (CaCO3) | 93.0 | mg/L | 20.0 | 20.0 | 1 | | 10/03/19 14:24 | | | |
| Alkalinity, Total as CaCO3 | 93.0 | mg/L | 20.0 | 20.0 | 1 | | 10/03/19 14:24 | | | |
| 4500PE Ortho Phosphorus | Analytical | Method: SM 4 | 500-P | | | | | | | |
| Orthophosphate as P | ND | mg/L | 0.020 | 0.020 | 1 | | 10/01/19 15:37 | | H3 | |
| 4500S2D Sulfide Water | Analytical | Method: SM 4 | 500-S2 D | | | | | | | |
| Sulfide | ND | mg/L | 0.20 | 0.20 | 1 | | 10/03/19 13:49 | 18496-25-8 | | |
| 5310B Dissolved Organic Carbon | Analytical | Method: SM 5 | 310B | | | | | | | |
| Dissolved Organic Carbon | ND | mg/L | 1.0 | 0.50 | 1 | | 10/04/19 09:43 | | | |



Project: Plant Hammond

Pace Project No.: 2623750

Date: 10/07/2019 05:30 PM

QC Batch: 36332 Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A Analysis Description: 6010D MET

Associated Lab Samples: 2623750001

METHOD BLANK: 164020 Matrix: Water

Associated Lab Samples: 2623750001

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------|-------|-----------------|--------------------|--------|----------------|------------|
| Iron | mg/L | ND | 0.040 | 0.015 | 10/06/19 16:06 | |
| Magnesium | mg/L | ND | 0.050 | 0.011 | 10/06/19 16:06 | |
| Manganese | mg/L | ND | 0.040 | 0.0061 | 10/06/19 16:06 | |
| Phosphorus | mg/L | ND | 0.050 | 0.023 | 10/06/19 16:06 | |
| Potassium | mg/L | ND | 0.20 | 0.026 | 10/06/19 16:06 | |
| Sodium | mg/L | ND | 1.0 | 0.19 | 10/06/19 16:06 | |

| LABORATORY CONTROL SAMPLE: 164021 | | | | | | | | | |
|-----------------------------------|-------|-------|--------|-------|--------|------------|--|--|--|
| | | Spike | LCS | LCS | % Rec | | | | |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers | | | |
| Iron | mg/L | | 0.96 | 96 | 80-120 | | | | |
| Magnesium | mg/L | 1 | 0.98 | 98 | 80-120 | | | | |
| Manganese | mg/L | 1 | 0.96 | 96 | 80-120 | | | | |
| Phosphorus | mg/L | 1 | 1.0 | 102 | 80-120 | | | | |
| Potassium | mg/L | 1 | 1.0 | 103 | 80-120 | | | | |
| Sodium | mg/L | 1 | 1.0 | 101 | 80-120 | | | | |
| | | | | | | | | | |

| MATRIX SPIKE & MATRIX | SPIKE DUPL | ICATE: 1640 | | 164023 | | | | | | | | |
|-----------------------|------------|----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|------|
| Parameter | Units | 2623750001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
| Iron | mg/L | 0.66 | 1 | 1 | 1.7 | 1.7 | 105 | 100 | 75-125 | 3 | 20 | |
| Magnesium | mg/L | 46.3 | 1 | 1 | 50.2 | 48.4 | 389 | 209 | 75-125 | 4 | 20 | M1 |
| Manganese | mg/L | 16.7 | 1 | 1 | 18.6 | 17.7 | 189 | 101 | 75-125 | 5 | 20 | M1 |
| Phosphorus | mg/L | 0.054 | 1 | 1 | 1.1 | 1.1 | 109 | 109 | 75-125 | 0 | 20 | |
| Potassium | mg/L | 1.0 | 1 | 1 | 2.3 | 2.2 | 122 | 113 | 75-125 | 4 | 20 | |
| Sodium | mg/L | 15.0 | 1 | 1 | 16.8 | 16.3 | 184 | 131 | 75-125 | 3 | 20 | M1 |

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



Project: Plant Hammond

Pace Project No.: 2623750

QC Batch: 36366 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity

Associated Lab Samples: 2623750001

METHOD BLANK: 164227 Matrix: Water

Associated Lab Samples: 2623750001

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Alkalinity, Total as CaCO3 mg/L ND 20.0 20.0 10/03/19 11:56

LABORATORY CONTROL SAMPLE: 164228

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Alkalinity, Total as CaCO3 96 85-115 mg/L 100 96.0

SAMPLE DUPLICATE: 164468

Date: 10/07/2019 05:30 PM

2623706006 Dup Max **RPD RPD** Qualifiers Parameter Units Result Result Alkalinity, Total as CaCO3 173 172 10 1 mg/L

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



Project: Plant Hammond

Pace Project No.:

2623750

QC Batch:

36245

QC Batch Method:

SM 4500-P

Analysis Method:

SM 4500-P

Analysis Description:

Matrix: Water

4500PE Ortho Phosphorus

Associated Lab Samples: 2623750001

METHOD BLANK: 163688

Orthophosphate as P

Orthophosphate as P

Orthophosphate as P

Date: 10/07/2019 05:30 PM

Parameter

Associated Lab Samples: 2623750001

Blank

Parameter

Units

mg/L

Units

mg/L

2623750001

Result

Units

mg/L

Result

0.5

ND

Reporting Limit

0.020

MDL 0.020

Analyzed 10/01/19 15:34 Qualifiers

LABORATORY CONTROL SAMPLE:

Parameter

163689

Spike Conc.

MS

Spike

Conc.

0.5

LCS Result

LCS % Rec

MSD

Result

0.51

103

% Rec Limits

Qualifiers

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

163690

ND

163691

0.5

MSD Spike

Conc.

MS Result

0.50

0.52

MS % Rec

100

MSD % Rec

101

80-120

% Rec Limits

80-120

Max **RPD** RPD

2 10 H3

Qual

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



QUALITY CONTROL DATA

Plant Hammond Project:

Pace Project No.: 2623750

QC Batch: 36416

Analysis Method:

QC Batch Method: SM 4500-S2 D Analysis Description:

SM 4500-S2 D

4500S2D Sulfide Water

MDL

87

0.20

Associated Lab Samples: 2623750001

METHOD BLANK: 164448

Matrix: Water

ND

Associated Lab Samples:

Sulfide

Sulfide

Sulfide

2623750001

Units

mg/L

Blank Result

0.5

Reporting

Parameter

Units mg/L Limit

0.20

Analyzed 10/03/19 13:40 Qualifiers

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

Date: 10/07/2019 05:30 PM

164449

Units

mg/L

2623698001

Result

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

80-120

Qualifiers

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

164450

ND

164451

0.43

MS

Conc.

MSD

MS

MS

MSD % Rec

Max RPD

Spike

0.5

Spike Conc.

0.5

Result Result ND ND

MSD

% Rec 17 % Rec Limits 15 30-129

RPD

10 M1

Qual

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



QUALITY CONTROL DATA

SM 5310B

Project: Plant Hammond

Pace Project No.: 2623750

Date: 10/07/2019 05:30 PM

QC Batch: 575346

QC Batch Method: SM 5310B Analysis Description: 5310B Dissolved Organic Carbon

Associated Lab Samples: 2623750001

METHOD BLANK: 3126906 Matrix: Water

Associated Lab Samples: 2623750001

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Analysis Method:

Dissolved Organic Carbon mg/L ND 1.0 0.50 10/04/19 06:33

LABORATORY CONTROL SAMPLE: 3126907

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Dissolved Organic Carbon 90-110 mg/L 20 18.9 95

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3126908 3126909

MS MSD MSD MS MSD 2623752004 Spike Spike MS % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Dissolved Organic Carbon 1.8 20 20 20.9 97 96 80-120 20 mg/L 21.1

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



QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2623750

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-GA Pace Analytical Services - Atlanta, GA
PASI-O Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

Date: 10/07/2019 05:30 PM

H3 Sample was received or analysis requested beyond the recognized method holding time.

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



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2623750

Date: 10/07/2019 05:30 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|-----------------|----------|-------------------|---------------------|
| 2623750001 | MW-22 | EPA 3010A | 36332 | EPA 6010D | 36376 |
| 2623750001 | MW-22 | SM 2320B | 36366 | | |
| 2623750001 | MW-22 | SM 4500-P | 36245 | | |
| 2623750001 | MW-22 | SM 4500-S2 D | 36416 | | |
| 2623750001 | MW-22 | SM 5310B | 575346 | | |



CHAIN-OF-CUSTODY / Analytical Request Document

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

Intact (V/V) Samples (N/A) SAMPLE CONDITIONS Cooler ð belse2 Custody State / Location (N/A) JO#: 2623750 Received on à 7 Residual Chlorine (Y/N) Page: D vi dWB1 ONIE (INC 1034 3 मास्रीम 100/10 थ.के. <u>₹</u> 2623750 nodisc cinagio bevioseit ર フ epigns 2 Q шпіроя ァ DATE Signed: muissatog, sucrondqsof man เมาเรอบชิยเมาอรอบชิวิยเมานา. betsy.modaniel@pacelabs.com, ACCEPTED BY LAFFILLATION Poce 2 оциориогрия フ \overline{z} otal alkalinity, bicarbonate N/A Ace Lessyland ttention: scsinvoices@southernco.com Other λ Methanol SIGNATURE OF SAMPLEPY DECLICY Whenhard J Preservatives Nazszos 327 (AP) oA nZ + HOsN Pace Project Manager: 3 ЮН Invoice Information: Noella EONH Company Name: Pace Profile #: 2130 452O4 1239 Pace Quote: Section C a milie Address: Nubreserved ᢗᡏ ত SAMPLER NAME AND SIGNATURE OF CONTAINERS PRINT Name of SAMPLER: 929/19 9,55,9 ટ્ર DATE SAMPLE TEMP AT COLLECTION SSO TIME S 9/2/R DATE COLLECTED alia Whaha Geografic # PELEMONISHED BY / ATTREMENTOR 10 TIME #: SCS10382775 Plant Hammond Lauren Petty, Geosyntec START Paree (5W6881 मुख्या । DATE Required Project Information: Report To: Joju Abraham Purchase Order #: Project Name: Plan ত (GEGRAB CECOMP) BOYT BURNE 3 (see valid codes to fell) BOOD XIBTAN Section B Project #: Copy To: CODE WY WY SP SP WY TS CODE MATTEX Diricting Water Water Water Water Product Soi Soi Soid Oil Work An Chier Tesse Georgia Power - Coal Combustion Residuals Requested Due Date: Skundery, TPY One Character per box. (A-2, 0-9 / , -) Sample Ids must be unique SAMPLE ID Email: jabraham@southernco.com MW-27 2480 Maner Road (404)506-7239 Required Client Information: Atlanta, GA 30339 2 . 6 6 Q 8 • 9 10 a) ILEM # 13 of 14

Sample Condition Upon Receipt Client Name: Project # WO#: 2623750 Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other Due Date: 10/07/19 Tracking #: Custody Seal on Cooler/Box Present: Yes CLIENT: GRPower-CCR ☐ no Seals intact: yes Packing Material: Bubble Wrap Bubble Bags . None Other Type of Ice: Wet Blue None Thermometer Used ☐ Samples on ice, cooling process has begun Date and Initials of person examining Biological Tissue is Frozen: Yes Cooler Temperature contents: Temp should be above freezing to 6°C Comments: JEYes □No □N/A 1. Chain of Custody Present: Chain of Custody Filled Out: -⊟Yes □No □N/A 2. □N/A 3. Chain of Custody Relinquished: --DYes □No □N/A 4. Sampler Name & Signature on COC: Oretuo-Samples Arrived within Hold Time: □Yes □Mo □n/A Short Hold Time Analysis (<72hr): ☐Yes ☐No ☐N/A **l**6. ☐Yes →☐No □N/A 7. Rush Turn Around Time Requested: →BYes □No □N/A 8. Sufficient Volume: FYes □No Correct Containers Used: □N/A |9. -Pace Containers Used: -⊟Yes □No □N/A Containers Intact: __EPes □No □N/A 110. ₽Yes □No □N/A Filtered volume received for Dissolved tests l11. Yes □No □N/A Sample Labels match COC: -Includes date/time/ID/Analysis All containers needing preservation have been checked. -EYes □No □N/A 13. All containers needing preservation are found to be in Tes □No □N/A compliance with EPA recommendation. Initial when Lot # of added ☐Yes ☐No completed preservative exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) □Yes □No •□NA Samples checked for dechlorination: 14. □Yes □No ₽NA 15. Headspace in VOA Vials (>6mm): □Yes □No →□N/Ā 16. Trip Blank Present: 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:

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)

Project Manager Review:

Date:





October 09, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond AP GW6581

Pace Project No.: 2623792

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on October 01, 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

Beton M Damil

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







CERTIFICATIONS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623792

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





SAMPLE SUMMARY

Project: Plant Hammond AP GW6581

Pace Project No.: 2623792

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2623792001 | PMW-04 | Water | 09/30/19 14:32 | 10/01/19 12:05 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond AP GW6581

Pace Project No.: 2623792

| Lab ID | Sample ID | Method | Analysts | Analytes Reported |
|------------|-----------|-----------|----------|----------------------|
| 2623792001 | PMW-04 | EPA 6020B | CSW | 2 |
| | | EPA 300.0 | MWB | 1 |



ANALYTICAL RESULTS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623792

Date: 10/09/2019 07:48 PM

| Sample: PMW-04 | Lab ID: | 2623792001 | Collecte | d: 09/30/19 | 14:32 | Received: 10/ | 01/19 12:05 Ma | atrix: Water | |
|-------------------------|------------|-------------|------------|-------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA | 6020B Prep | aration Met | hod: Ef | PA 3005A | | | |
| Boron | 20.6 | mg/L | 2.0 | 0.25 | 50 | 10/03/19 17:28 | 10/07/19 14:30 | 7440-42-8 | |
| Cobalt | ND | mg/L | 0.0025 | 0.00030 | 1 | 10/03/19 17:28 | 10/05/19 16:51 | 7440-48-4 | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Sulfate | 880 | mg/L | 100 | 1.7 | 100 | | 10/09/19 00:46 | 14808-79-8 | |



QUALITY CONTROL DATA

Plant Hammond AP GW6581 Project:

Pace Project No.:

2623792

QC Batch:

36434

QC Batch Method: **EPA 3005A** Analysis Method:

EPA 6020B

Analysis Description:

6020B MET

Associated Lab Samples: 2623792001

METHOD BLANK: 164547

Matrix: Water

Associated Lab Samples:

2623792001

Blank

Reporting

Result

Limit ND 0.040

MDL 0.0049

Qualifiers Analyzed

Boron Cobalt

ND

0.0025

0.00030

10/05/19 14:53 10/05/19 14:53

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

Parameter

164548

Units

mg/L

mg/L

Units

mg/L

mg/L

2623793002

Result

Spike Conc.

LCS LCS Result % Rec 1.0

Limits 80-120

% Rec

Qualifiers

Boron Cobalt

Units

mg/L

mg/L

164549

164550

0.099

104

99

80-120

Boron

Cobalt

MSD Spike

0.1

MS MSD

MS % Rec

MSD % Rec % Rec Limits

Max **RPD**

RPD

Qual

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

MS Spike Conc. Conc.

Result Result 1.1

103

100

75-125

4 20 6

0.025J 0.00042J

0.1 0.1

1.0 0.10 0.097

102

96 75-125

20

Date: 10/09/2019 07:48 PM

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



QUALITY CONTROL DATA

EPA 300.0

300.0 IC Anions

26.4

89

90-110 M1

Project: Plant Hammond AP GW6581

Pace Project No.: 2623792

Sulfate

Date: 10/09/2019 07:48 PM

QC Batch: 36584 QC Batch Method: EPA 300.0 Analysis Method: Analysis Description:

Associated Lab Samples: 2623792001

METHOD BLANK: 165271 Matrix: Water

Associated Lab Samples: 2623792001

ParameterUnitsBlank Reporting ResultReporting LimitMDLAnalyzedQualifiersSulfatemg/LND1.00.01710/09/19 00:04

LABORATORY CONTROL SAMPLE: 165272

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Sulfate mg/L 10 10.4 104 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 165273 165274

mg/L

MS MSD 2623792001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Sulfate 1000 1860 98 90-110 0 15 mg/L 880 1000 1860 98

MATRIX SPIKE SAMPLE: 165275

2623793001 Spike MS MS % Rec
Parameter Units Result Conc. Result % Rec Limits Qualifiers

17.5

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.



QUALIFIERS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623792

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

Date: 10/09/2019 07:48 PM

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





QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond AP GW6581

Pace Project No.: 2623792

Date: 10/09/2019 07:48 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|-----------------|----------|-------------------|---------------------|
| 2623792001 | PMW-04 | EPA 3005A | 36434 | EPA 6020B | 36455 |
| 2623792001 | PMW-04 | EPA 300.0 | 36584 | | |



CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| Section A | | Section B | | | | | | Section C | ပ | | | | | | | | | | L | | ' | | - | Г |
|-------------------|---|----------------------------|---------------------------|----------------------------|------------|---|---------------|-----------------------|--------------|--|---------|------------------------------|-----------------|----------|--------------|----------|-------------|------------------------------------|------|-------------------|-------------------------|-----------------------------|----------------------------|------------|
| Required Clie | Required Client Information: | ۲I | ct Inform | ation: | | | | Invoice Information: | ē | ţja: | | | | | | | ſ | | ق | Page: | | ŏ | - | |
| Company: | Georgia Power - Coal Combustion Residuals | | Joju Abraham | Ę | | | | Attention: | S | scsinvoices@southernco.com | @ south | emco.cc | Ę | | | | | | | | | | | |
| Address: | 2480 Maner Road | Copy To: La | Suren Pett | Lauren Petty, Geosyntec | | | | Company Name: | y Name: | | | | | | | | | | | | | | | |
| Allanta, GA 30339 | 1339 | | | | | | | Address: | | | | | | | | | | | | Regula | Regulationy/Agenty | 101 | | |
| Email: jabra | jabraham@southernco.com | Purchase Order #: | | SCS10382775 | | | | Pace Quote: | ote: | | | | | | | | _ | | | | | | | |
| Phone: | (404)506-7239 Fax: | Project Name: | Plant ! | Plant Hammond | | | | Pace Project Manager: | ject Maı | падет: | betsy. | betsy.mcdaniel@pacelabs.com, | 31@pace | elabs.co | Ę | | | | | State | State / Location | e. | | |
| Requested Du | Requested Due Date: Sturdond TRT | Project #: 🖒 | ENUGSON | / | | | | Pace Profile #: | file #: | 327 (AP) | | | | | | | | | | | Ą | | | |
| | | | | | | | | | | | | | | 훒 | queste | Anely | ats Fifts | Requested (Analysis Filtered (V/N) |] | $\overline{\Box}$ | | | | |
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| | SAMPLE ID Sol'Sold | Mator DW WI WW SI'd codes | -CHAB C-CO | TABT | | 2 | СОГГЕСТІОЙ | | | | | | 150 | | | <u> </u> | | | | (N/A) | | | | |
| TEM # | enb | OL WP AR OT TS | a) BAYT BJAMA: | 1 | | | TA 9M9T 3J9MA | OF CONTAINERS | 103 15204 | ICI | laOH | lonarhanol Jeher | Analyses T | 0100 | olybdenum | eifate | | | | lesidual Chlorine | | | | |
| | Ha-mind | 3 | <u>ق</u> با | | 1425 9019 | | | + | + | 1 | | +- | ∀ 1 | 9 7 | +- | s ~ | | 1 | 1 | 1 3 | L | | 7 | <u></u> |
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| Pag | 0#:2623792 | - | | | | | | | <u> </u> | \$ | 3 | 1 | 3 | 3 | | 4 | 5 <i> </i> | * | 02 | 2,1 | > | <u> </u> | \ | |
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| | 3792 | | | | SIGNATU | URE of SAMPLER: | APLER: | 1 Jack | 3 | N | 1 2 5 V | | $ \mid$ | DATE | DATE Signed: | 6 | 30 | 6 | | i 9M3T | Receive lce (Y/N) | Custody Sealed Cooler | (Y/V) Samples Intact | (N/A) |
| | | | |] | | | | - | | * | | | 1 | | | 1 | | | 1 | | | ; - | ı | |

Sample Condition Upon Receipt Due Date: 10/08/19 Client Name: 6 CLIENT: GRPower-CCR Courier: Fed Ex UPS USPS Client Commercial Pace Other Optional Proj. Due Date: Proj. Name: **∃** yes Seals intact: ☐ no Custody Seal on Cooler/Box Present: ☐ yes ☐ no _ Other Packing Material: Grabble Wrap ☐ Bubble Bags ☐ None Type of Ice: Wet Blue None Samples on ice, cooling process has begur Thermometer Used Date and Initials of person examining Biological Tissue is Frozen: Yes No **Cooler Temperature** contents:_ Comments: Temp should be above freezing to 6°C □Yes □No □N/A Chain of Custody Present: ☑Yes □No Chain of Custody Filled Out: □N/A Dres ,□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 □™o □N/A Short Hold Time Analysis (<72hr): ☐Yes ☐ No □N/A Rush Turn Around Time Requested: ∕□№ □N/A Sufficient Volume: ØYes □No □N/A Correct Containers Used: □¥es □No -Pace Containers Used: □N/A □Xes □No □N/A Containers Intact: .DN/A 111. ☐Yes ☐No Filtered volume received for Dissolved tests Tyes DNo DN/A 12. Sample Labels match COC: -Includes date/time/ID/Analysis All containers needing preservation have been checked. □Yes □No □N/A 13. All containers needing preservation are found to be in Pres □No □N/A compliance with EPA recommendation. Lot # of added Initial when preservative completed exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) □Yes □No Ū⁄Ν/A Samples checked for dechlorination: ☐Yes ☐No ☐N/A Headspace in VOA Vials (>6mm): □Yes □No ÆN/A Trip Blank Present: □Yes □No ☑N/A Trip Blank Custody Seals Present Pace Trip Blank Lot # (if purchased): Client Notification/ Resolution: Field Data Required? Person Contacted: Date/Time: Comments/ Resolution:

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

Project Manager Review:

Date:





October 15, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond AP GW6581

Pace Project No.: 2623869

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on October 02, 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

Beton M Damil

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





CERTIFICATIONS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623869

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





SAMPLE SUMMARY

Project: Plant Hammond AP GW6581

Pace Project No.: 2623869

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2623869001 | PMW-03 | Water | 10/01/19 09:04 | 10/02/19 13:52 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond AP GW6581

Pace Project No.: 2623869

| | | | | Analytes | |
|------------|-----------|------------------------|----------|----------|------------|
| Lab ID | Sample ID | Method | Analysts | Reported | Laboratory |
| 2623869001 | PMW-03 | EPA 6020B | CSW | 2 | PASI-GA |
| | | EPA 300.0 Rev 2.1 1993 | CDC | 1 | PASI-A |



ANALYTICAL RESULTS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623869

Date: 10/15/2019 04:07 PM

| Sample: PMW-03 | Lab ID: | 2623869001 | Collecte | d: 10/01/19 | 09:04 | Received: 10/ | 02/19 13:52 Ma | atrix: Water | |
|-------------------------|------------|-------------|-------------|-------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA | 6020B Prep | aration Met | hod: EF | PA 3005A | | | |
| Boron | 2.8 | mg/L | 0.040 | 0.0049 | 1 | 10/04/19 14:03 | 10/07/19 19:16 | 7440-42-8 | |
| Cobalt | 0.053 | mg/L | 0.0025 | 0.00030 | 1 | 10/04/19 14:03 | 10/07/19 19:16 | 7440-48-4 | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 Rev 2 | .1 1993 | | | | | |
| Sulfate | 420 | mg/L | 14.0 | 7.0 | 14 | | 10/13/19 10:30 | 14808-79-8 | |



QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581

Pace Project No.: 2623869

QC Batch: 36492 QC Batch Method: EPA 3005A Analysis Method:
Analysis Description:

EPA 6020B

6020B MET

Associated Lab Samples: 2623869001

METHOD BLANK: 164870

Matrix: Water

Associated Lab Samples:

Date: 10/15/2019 04:07 PM

2623869001

Blank Reporting

Limit MDL Parameter Units Result Analyzed Qualifiers Boron ND 0.040 0.0049 10/07/19 17:47 mg/L Cobalt mg/L ND 0.0025 0.00030 10/07/19 17:47

LABORATORY CONTROL SAMPLE: 164871

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Boron mg/L 1.0 101 80-120 Cobalt mg/L 0.1 0.10 100 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 164872 164873

| Parameter | Units | 2623808004 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|-----------------|--------------|----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|------------------|------------|------------|------|
| Boron Cobalt | mg/L mg/L | 0.048 0.00049J | 0.1 | 1 0.1 | 1.0 | 1.0 0.10 | 99 94 | 99 99 | 75-125 75-125 | 0 5 | 20 20 | |

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



QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581

Pace Project No.: 2623869

Date: 10/15/2019 04:07 PM

QC Batch: 503241

QC Batch Method: EPA 300.0 Rev 2.1 1993

Associated Lab Samples: 2623869001

Analysis Method: E Analysis Description: 3

EPA 300.0 Rev 2.1 1993

300.0 IC Anions

METHOD BLANK: 2705166 Matrix: Water

Associated Lab Samples: 2623869001

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Sulfate mg/L ND 1.0 0.50 10/12/19 15:31

LABORATORY CONTROL SAMPLE: 2705167

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Sulfate mg/L 50 50.3 101 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2705168 2705169

MS MSD 2624007001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Sulfate 50 50 62.1 97 90-110 6 10 13.6 58.4 90 mg/L

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2705170 2705171

MS MSD 92449004022 MS MSD MS MSD Spike Spike % Rec Max Conc. % Rec % Rec **RPD** RPD Parameter Units Result Conc. Result Result Limits Qual Sulfate 70 79 466 50 50 501 506 90-110 10 M6 mg/L

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



QUALIFIERS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623869

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

Date: 10/15/2019 04:07 PM

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.





QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond AP GW6581

Pace Project No.: 2623869

Date: 10/15/2019 04:07 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|------------------------|----------|-------------------|---------------------|
| 2623869001 | PMW-03 | EPA 3005A | 36492 | EPA 6020B | 36507 |
| 2623869001 | PMW-03 | EPA 300.0 Rev 2.1 1993 | 503241 | | |



CHAIN-OF-CUSTODY / Analytical Request Document

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

(N/A) intact SAMPLE CONDITIONS (N/Y) Cooler ð pelses Custody Regulatory Apendy State / Location (N/A) 90 ξ Received on Residual Chlorine (Y/N) 2 Page: ni 9M9T 130 Requested Analysis Filtered (Y/N) 1917a 7 DATE 0 etettuc DATE Signed: Nolybdenum betsy.mcdaniel@pacelabs.com, Sobalt 7 (ACCEPTED, BY// APPILLATION) Boton Pereco Arsenic NA Analyses Test Attention: scsinvoices@southernco.com 145 KVS Other Methanol Mulpm Preservatives Na2S2O3 327 (AP) иаОн Pace Project Manager: Pace Profile #: 327 (A Invoice Information: ЮН Nocha EONH Company Name: Pace Quote: 4SSO4 1387 SIGNATURE of SAMPLER: MOULS Section C 3.3 Address: TIME Unpreserved OF CONTAINERS SAMPLEH NAME/AND SIGNATURE જ Worthon / Graning 10/02/19 SAMPLE TEMP AT COLLECTION PRINT Name of SAMPLER: **B1.4.9** DATE 6/10/18/0856/10/2/19 090v TIME ENO B DATE COLLECTED RELINGUISHED BY LAFFILLATION TIME LPerso Lauren Petty, Geosyntec ourchase Order #: SCS10382775 START Plant Hammond DATE Required Project Information: Project #: GNO 635 \ Report To: Joju Abraham (G=GRAB C=COMP) 支 MATRIX CODE (see valid codes to left) Project Name: Copy To: Section B CODE DWW WWW P P P OU OU OU OU OU OU OU MATRIX
Dimking Water
Water
Waste Water
Product
SoluSolid
Od
Wipe
An MO#: 2623869 Georgia Power - Coal Combustion Residuals ADDITIONAL COMMENTS (A-Z, 0-9/, -) Sample Ids must be unique (404)506-7239 Fax: One Character per box. SAMPLE ID Email: jabraham@southernco.com 2480 Maner Road PMW-07 Required Client Information: Requested Due Date Atlanta, GA 30339 6 œ • Ľ 10 Ш # MBT æ e 9 8 10 Page 10 of 11

U# : 2623 Sample Condition Upon Receipt CLIENT: GAPower-CCR Client Name: Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other Optional ___ Proj. Due Date: Tracking #: Proj. Name: **Custody Seal on Cooler/Box Present:** ☐ no □ no Seals intact: ✓ yes Bubble Bags 4 None ☐ Other Packing Material: Bubble Wrap Type of Ice: (Wet) Blue None Samples on ice, cooling process has begun Thermometer Used Date and Initials of person examining Biological Tissue is Frozen: Yes **Cooler Temperature** contents: **Comments:** Temp should be above freezing to 6°C ☑Yes DNo Chain of Custody Present: □n/a ☑Yes □No □N/A Chain of Custody Filled Out: □N/A 3. QYes □No Chain of Custody Relinquished: Sampler Name & Signature on COC: ☑Yes □No □N/A ☑Yes □No □N/A Samples Arrived within Hold Time: □Yes ENo □N/A Short Hold Time Analysis (<72hr): □Yes □No □N/A Rush Turn Around Time Requested: ☐Yes □No □N/A Sufficient Volume: Correct Containers Used: □Yes □No □N/A ØYes □No □N/A -Pace Containers Used: DE INO □N/A 10. Containers Intact: ☐Yes ☐No **□**N/A 11. Filtered volume received for Dissolved tests Sample Labels match COC: Pres □No □N/A 12. -Includes date/time/ID/Analysis All containers needing preservation have been checked. No No □N/A 13. All containers needing preservation are found to be in ØYes □No □N/A compliance with EPA recommendation. Lot # of added Initial when ☐Yes ☑No completed preservative exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) **□**N/A Samples checked for dechlorination: ☐Yes ☐No 14. ØN/A Headspace in VOA Vials (>6mm): ☐Yes ☐No 15. Trip Blank Present: ☐Yes ☐No D/N/A 16. Trip Blank Custody Seals Present ☐Yes ☐No IZÍN/A Pace Trip Blank Lot # (if purchased): Client Notification/ Resolution: Field Data Required? Y / N Person Contacted: 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)

Project Manager Review:

Date:

APPENDIX E

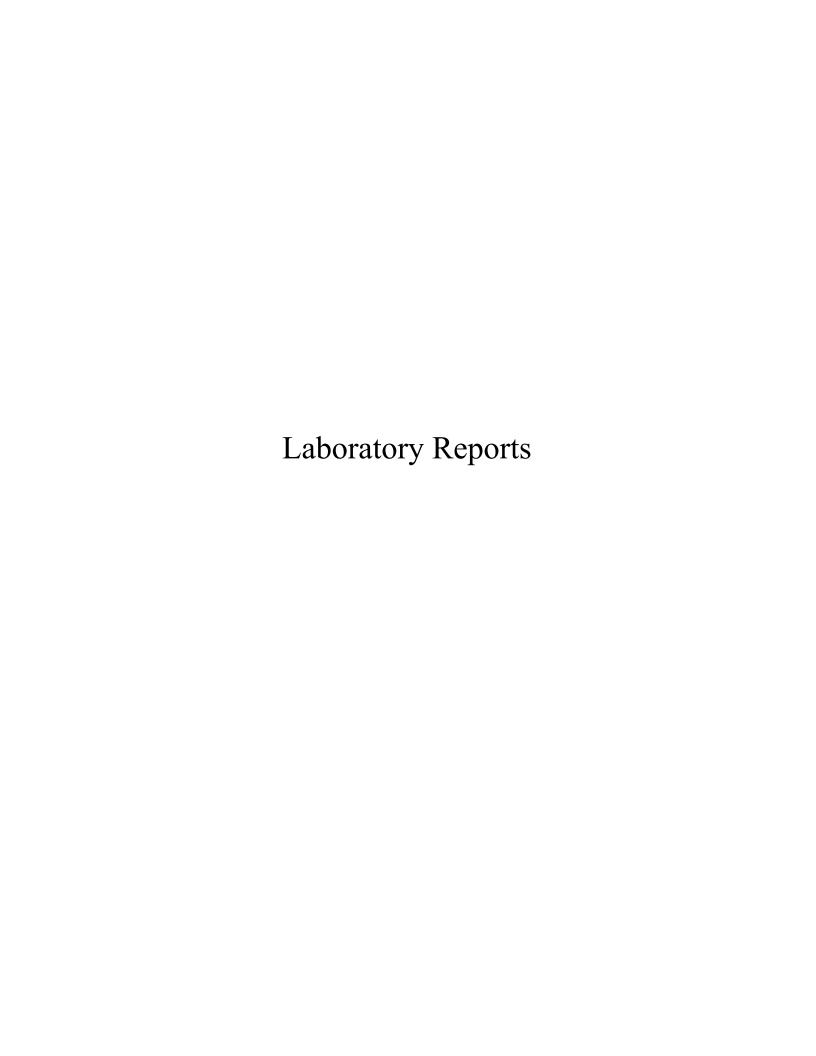
Laboratory Analytical and Field Sampling Reports

Appendix E1: Laboratory Analytical Data Packages and Data Validation Reports

Appendix E2: Field Data Sheets

APPENDIX E1

Laboratory Analytical Data Packages and Data Validation Reports







March 20, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2616036

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on March 13, 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

Beton M Damil

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







CERTIFICATIONS

Project: Plant Hammond
Pace Project No.: 2616036

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



SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2616036

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2616036001 | HGWA-1 | Water | 03/12/19 14:31 | 03/13/19 14:00 |
| 2616036002 | HGWA-2 | Water | 03/12/19 10:45 | 03/13/19 14:00 |
| 2616036003 | HGWA-3 | Water | 03/12/19 10:00 | 03/13/19 14:00 |
| 2616036004 | FB-01 | Water | 03/12/19 19:15 | 03/13/19 14:00 |
| 2616036005 | EB-01 | Water | 03/12/19 19:50 | 03/13/19 14:00 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2616036

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | |
|------------|-----------|-----------|----------|----------------------|--|
| 2616036001 | HGWA-1 | EPA 6020B | CSW | 12 | |
| | | EPA 7470A | DRB | 1 | |
| | | EPA 300.0 | RLC | 1 | |
| 2616036002 | HGWA-2 | EPA 6020B | CSW | 12 | |
| | | EPA 7470A | DRB | 1 | |
| | | EPA 300.0 | RLC | 1 | |
| 2616036003 | HGWA-3 | EPA 6020B | CSW | 12 | |
| | | EPA 7470A | DRB | 1 | |
| | | EPA 300.0 | RLC | 1 | |
| 2616036004 | FB-01 | EPA 6020B | CSW | 12 | |
| | | EPA 7470A | DRB | 1 | |
| | | EPA 300.0 | RLC | 1 | |
| 2616036005 | EB-01 | EPA 6020B | CSW | 12 | |
| | | EPA 7470A | DRB | 1 | |
| | | EPA 300.0 | RLC | 1 | |



ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2616036

Date: 03/20/2019 03:29 PM

| Sample: HGWA-1 | Lab ID: | 2616036001 | Collecte | ed: 03/12/19 | 14:31 | Received: 03/ | 13/19 14:00 Ma | atrix: Water | |
|-------------------------|------------|---------------|-----------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA 6 | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00078 | 1 | 03/14/19 14:26 | 03/15/19 23:24 | 7440-36-0 | |
| Arsenic | ND | mg/L | 0.0050 | 0.00057 | 1 | 03/14/19 14:26 | 03/15/19 23:24 | 7440-38-2 | |
| Barium | 0.042 | mg/L | 0.010 | 0.00078 | 1 | 03/14/19 14:26 | 03/15/19 23:24 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000050 | 1 | 03/14/19 14:26 | 03/15/19 23:24 | 7440-41-7 | |
| Cadmium | ND | mg/L | 0.0010 | 0.000093 | 1 | 03/14/19 14:26 | 03/15/19 23:24 | 7440-43-9 | |
| Chromium | ND | mg/L | 0.010 | 0.0016 | 1 | 03/14/19 14:26 | 03/15/19 23:24 | 7440-47-3 | |
| Cobalt | ND | mg/L | 0.010 | 0.00052 | 1 | 03/14/19 14:26 | 03/15/19 23:24 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.00027 | 1 | 03/14/19 14:26 | 03/15/19 23:24 | 7439-92-1 | |
| Lithium | 0.0010J | mg/L | 0.050 | 0.00097 | 1 | 03/14/19 14:26 | 03/15/19 23:24 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.0019 | 1 | 03/14/19 14:26 | 03/15/19 23:24 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0014 | 1 | 03/14/19 14:26 | 03/15/19 23:24 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.00014 | 1 | 03/14/19 14:26 | 03/15/19 23:24 | 7440-28-0 | |
| 7470 Mercury | Analytical | Method: EPA 7 | 7470A Pre | paration Met | hod: EF | PA 7470A | | | |
| Mercury | ND | mg/L | 0.00050 | 0.000036 | 1 | 03/15/19 12:10 | 03/15/19 17:47 | 7439-97-6 | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA 3 | 300.0 | | | | | | |
| Fluoride | 0.29J | mg/L | 0.30 | 0.029 | 1 | | 03/16/19 05:19 | 16984-48-8 | |



ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2616036

Date: 03/20/2019 03:29 PM

| Sample: HGWA-2 | Lab ID: | 2616036002 | Collecte | ed: 03/12/19 | 10:45 | Received: 03/ | 13/19 14:00 Ma | atrix: Water | |
|-------------------------|------------|---------------|-----------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL . | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA 6 | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00078 | 1 | 03/15/19 12:41 | 03/18/19 17:46 | 7440-36-0 | |
| Arsenic | 0.00069J | mg/L | 0.0050 | 0.00057 | 1 | 03/15/19 12:41 | 03/18/19 17:46 | 7440-38-2 | В |
| Barium | 0.12 | mg/L | 0.010 | 0.00078 | 1 | 03/15/19 12:41 | 03/18/19 17:46 | 7440-39-3 | |
| Beryllium | 0.00017J | mg/L | 0.0030 | 0.000050 | 1 | 03/15/19 12:41 | 03/18/19 17:46 | 7440-41-7 | |
| Cadmium | 0.00013J | mg/L | 0.0010 | 0.000093 | 1 | 03/15/19 12:41 | 03/18/19 17:46 | 7440-43-9 | |
| Chromium | ND | mg/L | 0.010 | 0.0016 | 1 | 03/15/19 12:41 | 03/18/19 17:46 | 7440-47-3 | |
| Cobalt | 0.017 | mg/L | 0.010 | 0.00052 | 1 | 03/15/19 12:41 | 03/18/19 17:46 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.00027 | 1 | 03/15/19 12:41 | 03/18/19 17:46 | 7439-92-1 | |
| Lithium | 0.0018J | mg/L | 0.050 | 0.00097 | 1 | 03/15/19 12:41 | 03/18/19 17:46 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.0019 | 1 | 03/15/19 12:41 | 03/18/19 17:46 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0014 | 1 | 03/15/19 12:41 | 03/18/19 17:46 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.00014 | 1 | 03/15/19 12:41 | 03/18/19 17:46 | 7440-28-0 | |
| 7470 Mercury | Analytical | Method: EPA 7 | 7470A Pre | paration Met | hod: EF | PA 7470A | | | |
| Mercury | ND | mg/L | 0.00050 | 0.000036 | 1 | 03/15/19 12:10 | 03/15/19 17:50 | 7439-97-6 | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA 3 | 300.0 | | | | | | |
| Fluoride | 0.038J | mg/L | 0.30 | 0.029 | 1 | | 03/16/19 05:42 | 16984-48-8 | |



ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2616036

Date: 03/20/2019 03:29 PM

| Sample: HGWA-3 | Lab ID: | 2616036003 | Collecte | ed: 03/12/19 | 10:00 | Received: 03/ | 13/19 14:00 Ma | atrix: Water | |
|-------------------------|------------|---------------|-----------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL . | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA 6 | 8020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00078 | 1 | 03/15/19 12:41 | 03/18/19 17:51 | 7440-36-0 | |
| Arsenic | 0.00063J | mg/L | 0.0050 | 0.00057 | 1 | 03/15/19 12:41 | 03/18/19 17:51 | 7440-38-2 | В |
| Barium | 0.13 | mg/L | 0.010 | 0.00078 | 1 | 03/15/19 12:41 | 03/18/19 17:51 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000050 | 1 | 03/15/19 12:41 | 03/18/19 17:51 | 7440-41-7 | |
| Cadmium | ND | mg/L | 0.0010 | 0.000093 | 1 | 03/15/19 12:41 | 03/18/19 17:51 | 7440-43-9 | |
| Chromium | ND | mg/L | 0.010 | 0.0016 | 1 | 03/15/19 12:41 | 03/18/19 17:51 | 7440-47-3 | |
| Cobalt | ND | mg/L | 0.010 | 0.00052 | 1 | 03/15/19 12:41 | 03/18/19 17:51 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.00027 | 1 | 03/15/19 12:41 | 03/18/19 17:51 | 7439-92-1 | |
| Lithium | 0.0032J | mg/L | 0.050 | 0.00097 | 1 | 03/15/19 12:41 | 03/18/19 17:51 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.0019 | 1 | 03/15/19 12:41 | 03/18/19 17:51 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0014 | 1 | 03/15/19 12:41 | 03/18/19 17:51 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.00014 | 1 | 03/15/19 12:41 | 03/18/19 17:51 | 7440-28-0 | |
| 7470 Mercury | Analytical | Method: EPA 7 | 7470A Pre | paration Met | nod: EF | PA 7470A | | | |
| Mercury | ND | mg/L | 0.00050 | 0.000036 | 1 | 03/15/19 12:10 | 03/15/19 17:52 | 7439-97-6 | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA 3 | 300.0 | | | | | | |
| Fluoride | 0.072J | mg/L | 0.30 | 0.029 | 1 | | 03/16/19 07:36 | 16984-48-8 | |



Date: 03/20/2019 03:29 PM

ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2616036

| Sample: FB-01 | Lab ID: | 2616036004 | Collecte | ed: 03/12/19 | 19:15 | Received: 03/ | 13/19 14:00 Ma | atrix: Water | |
|-------------------------|------------|---------------|-----------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA 6 | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00078 | 1 | 03/15/19 12:41 | 03/18/19 17:57 | 7440-36-0 | |
| Arsenic | ND | mg/L | 0.0050 | 0.00057 | 1 | 03/15/19 12:41 | 03/18/19 17:57 | 7440-38-2 | |
| Barium | ND | mg/L | 0.010 | 0.00078 | 1 | 03/15/19 12:41 | 03/18/19 17:57 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000050 | 1 | 03/15/19 12:41 | 03/18/19 17:57 | 7440-41-7 | |
| Cadmium | ND | mg/L | 0.0010 | 0.000093 | 1 | 03/15/19 12:41 | 03/18/19 17:57 | 7440-43-9 | |
| Chromium | ND | mg/L | 0.010 | 0.0016 | 1 | 03/15/19 12:41 | 03/18/19 17:57 | 7440-47-3 | |
| Cobalt | ND | mg/L | 0.010 | 0.00052 | 1 | 03/15/19 12:41 | 03/18/19 17:57 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.00027 | 1 | 03/15/19 12:41 | 03/18/19 17:57 | 7439-92-1 | |
| Lithium | ND | mg/L | 0.050 | 0.00097 | 1 | 03/15/19 12:41 | 03/18/19 17:57 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.0019 | 1 | 03/15/19 12:41 | 03/18/19 17:57 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0014 | 1 | 03/15/19 12:41 | 03/18/19 17:57 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.00014 | 1 | 03/15/19 12:41 | 03/18/19 17:57 | 7440-28-0 | |
| 7470 Mercury | Analytical | Method: EPA | 7470A Pre | paration Met | hod: EF | PA 7470A | | | |
| Mercury | ND | mg/L | 0.00050 | 0.000036 | 1 | 03/15/19 12:10 | 03/15/19 17:59 | 7439-97-6 | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Fluoride | ND | mg/L | 0.30 | 0.029 | 1 | | 03/16/19 07:59 | 16984-48-8 | |



Date: 03/20/2019 03:29 PM

ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2616036

| Sample: EB-01 | Lab ID: | 2616036005 | Collecte | ed: 03/12/19 | 19:50 | Received: 03/ | 13/19 14:00 Ma | atrix: Water | |
|-------------------------|------------|---------------|-----------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA 6 | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00078 | 1 | 03/15/19 12:41 | 03/18/19 18:03 | 7440-36-0 | |
| Arsenic | ND | mg/L | 0.0050 | 0.00057 | 1 | 03/15/19 12:41 | 03/18/19 18:03 | 7440-38-2 | |
| Barium | ND | mg/L | 0.010 | 0.00078 | 1 | 03/15/19 12:41 | 03/18/19 18:03 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000050 | 1 | 03/15/19 12:41 | 03/18/19 18:03 | 7440-41-7 | |
| Cadmium | ND | mg/L | 0.0010 | 0.000093 | 1 | 03/15/19 12:41 | 03/18/19 18:03 | 7440-43-9 | |
| Chromium | ND | mg/L | 0.010 | 0.0016 | 1 | 03/15/19 12:41 | 03/18/19 18:03 | 7440-47-3 | |
| Cobalt | ND | mg/L | 0.010 | 0.00052 | 1 | 03/15/19 12:41 | 03/18/19 18:03 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.00027 | 1 | 03/15/19 12:41 | 03/18/19 18:03 | 7439-92-1 | |
| Lithium | ND | mg/L | 0.050 | 0.00097 | 1 | 03/15/19 12:41 | 03/18/19 18:03 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.0019 | 1 | 03/15/19 12:41 | 03/18/19 18:03 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0014 | 1 | 03/15/19 12:41 | 03/18/19 18:03 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.00014 | 1 | 03/15/19 12:41 | 03/18/19 18:03 | 7440-28-0 | |
| 7470 Mercury | Analytical | Method: EPA 7 | 7470A Pre | paration Met | hod: EP | PA 7470A | | | |
| Mercury | ND | mg/L | 0.00050 | 0.000036 | 1 | 03/15/19 12:10 | 03/15/19 18:02 | 7439-97-6 | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA 3 | 300.0 | | | | | | |
| Fluoride | ND | mg/L | 0.30 | 0.029 | 1 | | 03/16/19 08:22 | 16984-48-8 | |



Project: Plant Hammond

Pace Project No.: 2616036

Date: 03/20/2019 03:29 PM

QC Batch: 24380 Analysis Method: EPA 7470A QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury

Associated Lab Samples: 2616036001, 2616036002, 2616036003, 2616036004, 2616036005

METHOD BLANK: 109357 Matrix: Water

Associated Lab Samples: 2616036001, 2616036002, 2616036003, 2616036004, 2616036005

Blank Reporting

Parameter Units Result Limit MDL Analyzed Qualifiers

Mercury mg/L ND 0.00050 0.000036 03/15/19 17:12

LABORATORY CONTROL SAMPLE: 109358

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Mercury mg/L 0.0025 0.0025 100 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 109378 109379

MS MSD 2615967001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD RPD Qual 0.0025 0.0025 0.0025 0.0026 75-125 3 20 Mercury mg/L ND 100 102

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



Project: Plant Hammond

Pace Project No.: 2616036

Date: 03/20/2019 03:29 PM

QC Batch: 24312 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET

Associated Lab Samples: 2616036001

METHOD BLANK: 108896 Matrix: Water

Associated Lab Samples: 2616036001

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------|-------|-----------------|--------------------|----------|----------------|------------|
| | | | | IVIDL | Allalyzeu | Qualificis |
| Antimony | mg/L | ND | 0.0030 | 0.00078 | 03/15/19 18:30 | |
| Arsenic | mg/L | ND | 0.0050 | 0.00057 | 03/15/19 18:30 | |
| Barium | mg/L | ND | 0.010 | 0.00078 | 03/15/19 18:30 | |
| Beryllium | mg/L | ND | 0.0030 | 0.000050 | 03/15/19 18:30 | |
| Cadmium | mg/L | ND | 0.0010 | 0.000093 | 03/15/19 18:30 | |
| Chromium | mg/L | ND | 0.010 | 0.0016 | 03/15/19 18:30 | |
| Cobalt | mg/L | ND | 0.010 | 0.00052 | 03/15/19 18:30 | |
| Lead | mg/L | ND | 0.0050 | 0.00027 | 03/15/19 18:30 | |
| Lithium | mg/L | ND | 0.050 | 0.00097 | 03/15/19 18:30 | |
| Molybdenum | mg/L | ND | 0.010 | 0.0019 | 03/15/19 18:30 | |
| Selenium | mg/L | ND | 0.010 | 0.0014 | 03/15/19 18:30 | |
| Thallium | mg/L | ND | 0.0010 | 0.00014 | 03/15/19 18:30 | |

| LABORATORY CONTROL SAMPLE: | 108897 | | | | | |
|----------------------------|--------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Antimony | mg/L | 0.1 | 0.11 | 110 | 80-120 | |
| Arsenic | mg/L | 0.1 | 0.10 | 102 | 80-120 | |
| Barium | mg/L | 0.1 | 0.10 | 104 | 80-120 | |
| Beryllium | mg/L | 0.1 | 0.099 | 99 | 80-120 | |
| Cadmium | mg/L | 0.1 | 0.10 | 102 | 80-120 | |
| Chromium | mg/L | 0.1 | 0.10 | 103 | 80-120 | |
| Cobalt | mg/L | 0.1 | 0.10 | 102 | 80-120 | |
| Lead | mg/L | 0.1 | 0.10 | 102 | 80-120 | |
| Lithium | mg/L | 0.1 | 0.10 | 100 | 80-120 | |
| Molybdenum | mg/L | 0.1 | 0.10 | 105 | 80-120 | |
| Selenium | mg/L | 0.1 | 0.11 | 107 | 80-120 | |
| Thallium | mg/L | 0.1 | 0.10 | 103 | 80-120 | |

| MATRIX SPIKE & MATRIX S | SPIKE DUPLIC | CATE: 10889 | 8 | | 108899 | | | | | | | |
|-------------------------|--------------|----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|------|
| Parameter | Units | 2616034004 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
| Antimony | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.11 | 112 | 109 | 75-125 | 2 | 20 | |
| Arsenic | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 102 | 103 | 75-125 | 1 | 20 | |
| Barium | mg/L | 0.029 | 0.1 | 0.1 | 0.13 | 0.13 | 106 | 102 | 75-125 | 3 | 20 | |
| Beryllium | mg/L | 0.0024J | 0.1 | 0.1 | 0.098 | 0.098 | 95 | 95 | 75-125 | 0 | 20 | |
| Cadmium | mg/L | 0.0024 | 0.1 | 0.1 | 0.10 | 0.11 | 102 | 103 | 75-125 | 1 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2616036

Date: 03/20/2019 03:29 PM

| MATRIX SPIKE & MATRIX S | SPIKE DUPLIC | ATE: 108898 | 3 | | 108899 | | | | | | | |
|-------------------------|--------------|----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|------|
| Parameter | Units | 2616034004 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
| Chromium | mg/L | ND | 0.1 | 0.1 | 0.095 | 0.097 | 95 | 97 | 75-125 | 2 | 20 | |
| Cobalt | mg/L | 0.062 | 0.1 | 0.1 | 0.16 | 0.16 | 99 | 95 | 75-125 | 2 | 20 | |
| Lead | mg/L | ND | 0.1 | 0.1 | 0.097 | 0.099 | 97 | 99 | 75-125 | 2 | 20 | |
| Lithium | mg/L | 0.0053J | 0.1 | 0.1 | 0.099 | 0.10 | 93 | 95 | 75-125 | 1 | 20 | |
| Molybdenum | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.11 | 106 | 106 | 75-125 | 0 | 20 | |
| Selenium | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.10 | 104 | 102 | 75-125 | 2 | 20 | |
| Thallium | mg/L | 0.00025J | 0.1 | 0.1 | 0.098 | 0.098 | 98 | 98 | 75-125 | 0 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2616036

Date: 03/20/2019 03:29 PM

QC Batch: 24384 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET

Associated Lab Samples: 2616036002, 2616036003, 2616036004, 2616036005

METHOD BLANK: 109374 Matrix: Water
Associated Lab Samples: 2616036002, 2616036003, 2616036004, 2616036005

| | | Blank | Reporting | | | |
|------------|-------|----------|-----------|----------|----------------|------------|
| Parameter | Units | Result | Limit | MDL | Analyzed | Qualifiers |
| Antimony | mg/L | ND | 0.0030 | 0.00078 | 03/18/19 17:34 | |
| Arsenic | mg/L | 0.00071J | 0.0050 | 0.00057 | 03/18/19 17:34 | |
| Barium | mg/L | ND | 0.010 | 0.00078 | 03/18/19 17:34 | |
| Beryllium | mg/L | ND | 0.0030 | 0.000050 | 03/18/19 17:34 | |
| Cadmium | mg/L | ND | 0.0010 | 0.000093 | 03/18/19 17:34 | |
| Chromium | mg/L | ND | 0.010 | 0.0016 | 03/18/19 17:34 | |
| Cobalt | mg/L | ND | 0.010 | 0.00052 | 03/18/19 17:34 | |
| Lead | mg/L | ND | 0.0050 | 0.00027 | 03/18/19 17:34 | |
| Lithium | mg/L | ND | 0.050 | 0.00097 | 03/18/19 17:34 | |
| Molybdenum | mg/L | ND | 0.010 | 0.0019 | 03/18/19 17:34 | |
| Selenium | mg/L | ND | 0.010 | 0.0014 | 03/18/19 17:34 | |
| Thallium | mg/L | ND | 0.0010 | 0.00014 | 03/18/19 17:34 | |

| LABORATORY CONTROL SAMPLE: | 109375 | | | | | |
|----------------------------|--------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Antimony | mg/L | 0.1 | 0.11 | 109 | 80-120 | |
| Arsenic | mg/L | 0.1 | 0.10 | 104 | 80-120 | |
| Barium | mg/L | 0.1 | 0.10 | 102 | 80-120 | |
| Beryllium | mg/L | 0.1 | 0.11 | 108 | 80-120 | |
| Cadmium | mg/L | 0.1 | 0.11 | 105 | 80-120 | |
| Chromium | mg/L | 0.1 | 0.11 | 107 | 80-120 | |
| Cobalt | mg/L | 0.1 | 0.10 | 102 | 80-120 | |
| Lead | mg/L | 0.1 | 0.10 | 104 | 80-120 | |
| Lithium | mg/L | 0.1 | 0.11 | 107 | 80-120 | |
| Molybdenum | mg/L | 0.1 | 0.10 | 104 | 80-120 | |
| Selenium | mg/L | 0.1 | 0.10 | 105 | 80-120 | |
| Thallium | mg/L | 0.1 | 0.10 | 103 | 80-120 | |

| MATRIX SPIKE & MATRIX S | SPIKE DUPLIC | CATE: 10937 | 6 | | 109377 | | | | | | | |
|-------------------------|--------------|----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|------|
| Parameter | Units | 2616039003 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
| Antimony | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.11 | 106 | 107 | 75-125 | 1 | 20 | |
| Arsenic | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.10 | 106 | 103 | 75-125 | 3 | 20 | |
| Barium | mg/L | 0.20 | 0.1 | 0.1 | 0.29 | 0.30 | 95 | 103 | 75-125 | 2 | 20 | |
| Beryllium | mg/L | ND | 0.1 | 0.1 | 0.097 | 0.094 | 97 | 94 | 75-125 | 3 | 20 | |
| Cadmium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 104 | 101 | 75-125 | 3 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2616036

Date: 03/20/2019 03:29 PM

| MATRIX SPIKE & MATRIX S | SPIKE DUPLIC | ATE: 109376 | 6 | | 109377 | | | | | | | |
|-------------------------|--------------|----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|------|
| Parameter | Units | 2616039003 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
| Chromium | mg/L | | 0.1 | 0.1 | 0.10 | 0.10 | 104 | 103 | 75-125 | 1 | 20 | |
| Cobalt | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.098 | 101 | 98 | 75-125 | 3 | 20 | |
| Lead | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.096 | 101 | 95 | 75-125 | 5 | 20 | |
| Lithium | mg/L | 0.011J | 0.1 | 0.1 | 0.11 | 0.10 | 97 | 91 | 75-125 | 5 | 20 | |
| Molybdenum | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 103 | 104 | 75-125 | 2 | 20 | |
| Selenium | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.10 | 106 | 102 | 75-125 | 4 | 20 | |
| Thallium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.097 | 100 | 97 | 75-125 | 3 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2616036

Date: 03/20/2019 03:29 PM

QC Batch: 24402 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 2616036001, 2616036002, 2616036003, 2616036004, 2616036005

METHOD BLANK: 109496 Matrix: Water

Associated Lab Samples: 2616036001, 2616036002, 2616036003, 2616036004, 2616036005

Blank Reporting

 Parameter
 Units
 Result
 Limit
 MDL
 Analyzed
 Qualifiers

 Fluoride
 mg/L
 ND
 0.30
 0.029
 03/15/19 20:10

LABORATORY CONTROL SAMPLE: 109497

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Fluoride mg/L 10 10.4 104 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 109498 109499

MS MSD 2616034001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Fluoride 0.052J 10 10.4 90-110 0 mg/L 10 10.4 103 103 15

MATRIX SPIKE SAMPLE: 109500

2616034002 MS Spike MS % Rec Result Parameter Units Conc. Result % Rec Limits Qualifiers 0.082J 10.1 100 90-110 Fluoride mg/L 10

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



QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2616036

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

Date: 03/20/2019 03:29 PM

B Analyte was detected in the associated method blank.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2616036

Date: 03/20/2019 03:29 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch | |
|-------------------|-----------|-----------------|----------|-------------------|---------------------|--|
| 2616036001 HGWA-1 | | EPA 3005A | 24312 | EPA 6020B | 24340 | |
| 2616036002 | HGWA-2 | EPA 3005A | 24384 | EPA 6020B | 24419 | |
| 2616036003 | HGWA-3 | EPA 3005A | 24384 | EPA 6020B | 24419 | |
| 2616036004 | FB-01 | EPA 3005A | 24384 | EPA 6020B | 24419 | |
| 2616036005 | EB-01 | EPA 3005A | 24384 | EPA 6020B | 24419 | |
| 2616036001 | HGWA-1 | EPA 7470A | 24380 | EPA 7470A | 24416 | |
| 2616036002 | HGWA-2 | EPA 7470A | 24380 | EPA 7470A | 24416 | |
| 2616036003 | HGWA-3 | EPA 7470A | 24380 | EPA 7470A | 24416 | |
| 2616036004 | FB-01 | EPA 7470A | 24380 | EPA 7470A | 24416 | |
| 2616036005 | EB-01 | EPA 7470A | 24380 | EPA 7470A | 24416 | |
| 2616036001 | HGWA-1 | EPA 300.0 | 24402 | | | |
| 2616036002 | HGWA-2 | EPA 300.0 | 24402 | | | |
| 2616036003 | HGWA-3 | EPA 300.0 | 24402 | | | |
| 616036004 | FB-01 | EPA 300.0 | 24402 | | | |
| 2616036005 | EB-01 | EPA 300.0 | 24402 | | | |

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

占

(N/A) Intact Samples (N/A) SAMPLE CONDITIONS Cooler palee State / Location Custody 10#:2616036 (N/A) 90| Received on ð Residual Chlorine (Y/N) Page: TEMP in C 11/2/14 14do 3/12/19/2205 7,13, PO 1944 (E) TIME DATE DATE Signed: 3/12 2 2 0.005 yd etsilu2 Metals (As, B. Co, Mo) **822/922** muibaA belsy.mcdaniel@pacelabs.com. mon ACCEPTED BY / AFFILIATION Fluorida by 300.0 scsinvoices@southernco.com App. IV Metals 180T seavibnA Ñ٨ 327.4 (AP) or 328.5 (Huff) A SSEVS Muston Ne2S2O3 Preservatives HOBN Pace Quote:
Pace Project Manager:
Pace Profile #: 327.4 (нсі Invoice Information: PRINT Name of SAMPLER: NOOLIA EONH Company Name SIGNATURE OF SAMPLER: NOULLA 3/17/19/19/505 H2804 Section C 943 Unpreserved SAMPLER NAME AND SIGNATURE # OF CONTAINERS 3/13/19 DATE SAMPLE TEMP AT COLLECTION किसियान १५१० अयान १५३१ ह Ę 8 DATE gas, the COLLECTED RELINDUSHED BY / AFFILIATION Joju Abraham / Lauren Petty ij. SCS10348606 Plant Hammond START Required Project Information: Mostia Off Geosyntec SAMPLE TYPE (G=GRAB C=COMP) Purchase Order #: MATRIX CODE (see valid codes to left) Project Name: Project #: Report To: Copy To: Section B MATRIX
Drinking Water
Water
Water
Water
Product
Solifsolid
Oli
Wipe
Alt
Chhor
Fissue Georgia Power - Coal Combustion Residuals Phone: (404)506-7239 Fax: Requested Due Date: Standouck THT ADDITIONAL COMMENTS One Character per box. (A-2, 0-9 / , -) Sample Ids must be unique Email: jabraham@southemco.com SAMPLE ID 2480 Maner Road Allanta, GA 30339 十つですー equired Client Information: -(e, Page 18 of 2 .6 'e| + ILEW #

Pace Analytical

1

CHAIN-OF-CUSTODY / Analytical Request Document

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

Z

(N/A) Due Date: 03/20/19 ntact SAUPLE CONDITIONS (N/A) Cooler Sealed Custody MO#:2616036 State / Location Regulation Agency (N/Y) 80 Received on প্ত CLIENT: GAPower-CCR Residual Chlorine (Y/N) D rii GMBT 3/h | 1950 2/15/19/4 12 A TAKE 3/12/19 2005 Requested Analysis Filtered (Y/N) DATE Signed: 08/12/19 5,15,19 PATE Suffate by 300.0 Metals (As, B, Co, Mo) 3 betsy.modaniel@pacelabs.com, Radium 226/228 ACCEPTED BY JAFFILLATION Maclia Musha <u>ス</u>マ man Fluoride by 300.0 ices@southemco.com alsteM VI .qqA Parce ŇĀ daoT seavionA Pace Project Manager. betsy modaniel@ Pace Profile #: 327.4 (AP) or 328.5 (Huff) Other Methanol Preservatives Ressos <u>ج</u> HOBN нсі Invoice Information EONH Company Name: 037DM 1950 Pace Quote: #OSZH 3/12/14 2205 5 943 Unpreserved SAMPLER NAME AND SIGNATURE # OF CONTAINERS PRINT Name of SAMPLER: 16/51/5 SIGNATURE of SAMPLER: DATE SAMPLE TEMP AT COLLECTION G-BOARM DOLD BRAND 10:45 1 TIME. S authorizatec DATE Small Valles/Georganies COLLECTED RELINGUISHED BY / AFFILIATION Report To: Joju Abraham / Lauren Petty 5 TIME Marian SCS10348606 START Plant Hammond DATE Required Project Information: Geosyntec (G=GRAB C=COMP) **34YT 3J4MA2** Medla Purchase Order #: Project Name: (see valid codes to left) **BCOD XINTAM** Copy To: Section B MATRIX
Distring Water
Water
Waste Woter
Wasse Woter
Product
Product
Qu
Wipe
Aur
Coher
Tissuo Georgia Power - Coal Combustion Residuals Phone: (404)506-7239 Fax: Requested Due Date: Standard TRT One Character per box. (A-Z, 0-9 /, -) Sample kds must be unique ADDITIONAL COMMENTS Atlanta, GA 30339
Email: jabraham@southemco.com SAMPLE ID 2480 Maner Road HCWA-2 Required Client Information: ompany. Page 19 of 2 9 9 . 10 # M3TI

CHAIN-OF-CUSTODY / Analytical Request Document

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

Due Date: 03/20/19 (N/A) ntact SAMPLE CONDITIONS (N/A) 4000 Cooler peleas WO# : 2616036 State / Location Cnarogy Regulatory Agency (N/Y) 60 Received on CLIENT: GAPower-CCR Residual Chlorine (Y/N) 7 Page: Dig 9MBT TIME 5460 13/19/1400 3/12/10 1950 5/12/19 5205 * Requested Analysis Filtered (Y/N) 13,13,19 12 DATE 内屋している人工な 1 Sulfate by 300.0 03/ Metals (As, B, Co, Mo) DATE Signed: Z Radium 226/228 betsy.mcdaniel@pacelabs.com. Z ACCEPTED BY / AFFILIATION 0.00€ yd ebiroul∓ scsinvoices@southernco.com て App. IV Metals NΆ JeeT sesyland Pace Quote:
Pace Project Manager. betsy.modaniel@g.
Pace Profile #: 327.4 (AP) or 328.5 (Huff) Methanol N92S2O3 Preservatives 各ちらみはい HOBN нсі Involce Information: Br S EONH стралу Nате: 3/14/5 1980 3/14/9/2/05 POSZH SAWPLER NAME AND SIGNATURE 943 Address: Unpreserved OF CONTAINERS 25 3/13/19 PRINT Name of SAMPLER: SAMPLE TEMP AT COLLECTION DATE SIGNATURE of SAMPLER: <u>5</u> 1/2/2 1980 \$.C 8 10% | Sept. ett lanteemte DATE COLLECTED RELINGUISHED BY LAFFILLATION Madia Menten Joju Abraham / Lauren Petty <u>3</u> 3/12/M1750 SCS10348606 START Plant Hammond Required Project Information: Copy To: Geosyntec ঠ ۹ 9 Purchase Order #: MATRIX CODE (see valid codes to left) Project Name: Section B MATRIX
Dirixing Water
Water
Wate Water
Waste Water
Product
SouvSoid
Oil
Wipe
Air
Cother
Cother Georgia Power - Coal Combustion Residuals ADDITIONAL COMMENTS One Character per box. (A-2, 0-9 /, -). Sample Ids must be unique Allanta, GA 30339
iabraham@southernco.com Phone: (404)506-7239 Fax: Requested Due Date: STANOADA SAMPLE ID 2480 Maner Road equired Client Information: SWIT TIMES 0-9 Page 20 of 2 Address: 6 . # Mati

| Carried St. | Sampi | Condition | Opon Receipt | | |
|--|--|----------------|------------------------|-----------------------------|-----------------------|
| Pace Analy | tical Client Name: | GLA 1 | Power | Project # | |
| Tracking #: | x 🔲 UPS 🗍 USPS 🗍 Client | | | WO#: 26 | 16036 |
| Custody Seal on C | poler/Box Present: yes | no Seals | intact:yes | PM: BM | Due Date: 03/20/ |
| Packing Material: | │ │☐ Bubble Wrap │☐ Bubble Bag | S None | Other | CLIENT: GAPo | Rel-for |
| Thermometer Used | . A | | | | ing process has begun |
| Cooler Temperatur | A A 13: | • | is Frozen: Yes No | Date and Initials | of person/examining |
| Temp should be above | freezing to 6°C | ļ., | Comments: | 001101131 | |
| Chain of Custody Po | esent: | Yes □No □N/A | 1. | | |
| Chain of Custody Fi | led Out: | Yes □No □N/A | 2. | | |
| Chain of Custody R | elinguished: | Yes □No □N/A | 3. | | |
| Sampler Name & Si | gnature on COC: | TES ONO ON/A | 4. | | |
| Samples Arrived wit | hin Hold Time: | Yes DNo DN/A | 5. | | |
| Short Hold Time A | nalysis (<72hr): | Yes DING DINA | 6. | | |
| Rush Turn Around | Time Requested: | YPS DING DN/A | 7. | | |
| Sufficient Volume: | ي | YES DNO DN/A | 8. | | |
| Correct Containers | Used: | TES DNO DN/A | 9. | | |
| -Pace Container | s Used: | Yes □No □N/A | | | |
| Containers Intact: | ع. | Yes Ono On/A | 10. | | |
| Filtered volume rec | eived for Dissolved tests | Yes □No ÆMTĀ | 11. | | |
| Sample Labels mat | h COC: | Hes □No □N/A | 12. | | |
| -Includes date/ti | | \mathcal{W} | | | |
| All containers needing | reservation have been checked. | Nes □No □N/A | 13. | | |
| All containers needing compliance with EPA | preservation are found to be in ecommendation. | Mes Ono On/A | 1-141-1 | I state of ordered | |
| exceptions: VOA, colifor | m, TOC, O&G, WI-DRO (water) | Ives DNo | Initial when completed | Lot # of added preservative | |
| Samples checked for | or dechlorination: | lyes □No ĐN/A | 14. | | |
| Headspace in VOA | Vials (>6mm): | iyes □No ÆNÃ | 15. | | |
| Trip Blank Present: | | Ives □no ØNÃ | 16. | | |
| Trip Blank Custody | Seals Present | Tyes DNo -DN/A | 1 | | |
| Pace Trip Blank Lo | # (if purchased): | | | | |
| Client Notification | I Pasalution: | | | Field Data Required | ? Y / N |
| | acted: | Date | Time: | Field Data Required | 1 / 14 |
| Comments/ Reso | | - Date | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Project Manage | r Review: | | | Date: | |
| | e is a discrepancy affecting North Caro | | | m will be sent to the Nort | n Carolina DEHNR |

F-ALLC003rev.3, 11September 2006





March 29, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2616037

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on March 13, 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

Beton M Damil

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



(770)734-4200



CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2616037

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



SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2616037

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2616037001 | HGWA-1 | Water | 03/12/19 14:31 | 03/13/19 14:00 |
| 2616037002 | HGWA-2 | Water | 03/12/19 10:45 | 03/13/19 14:00 |
| 2616037003 | HGWA-3 | Water | 03/12/19 10:00 | 03/13/19 14:00 |
| 2616037004 | FB-01 | Water | 03/12/19 19:15 | 03/13/19 14:00 |
| 2616037005 | EB-01 | Water | 03/12/19 19:50 | 03/13/19 14:00 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2616037

| Lab ID Sample ID | | Sample ID Method | | Analytes Reported | Laboratory | |
|-------------------|----------|--------------------------|-----|----------------------|------------|--|
| 2616037001 | HGWA-1 | EPA 9315 | LAL | 1 | PASI-PA | |
| | | EPA 9320 | JLW | 1 | PASI-PA | |
| | | Total Radium Calculation | CMC | 1 | PASI-PA | |
| 2616037002 | HGWA-2 | EPA 9315 | LAL | 1 | PASI-PA | |
| | EPA 9320 | JLW | 1 | PASI-PA | | |
| | | Total Radium Calculation | CMC | 1 | PASI-PA | |
| 2616037003 HGWA-3 | EPA 9315 | LAL | 1 | PASI-PA | | |
| | | EPA 9320 | JLW | 1 | PASI-PA | |
| | | Total Radium Calculation | CMC | 1 | PASI-PA | |
| 2616037004 | FB-01 | EPA 9315 | LAL | 1 | PASI-PA | |
| | | EPA 9320 | JLW | 1 | PASI-PA | |
| | | Total Radium Calculation | CMC | 1 | PASI-PA | |
| 2616037005 | EB-01 | EPA 9315 | LAL | 1 | PASI-PA | |
| | | EPA 9320 | JLW | 1 | PASI-PA | |
| | | Total Radium Calculation | CMC | 1 | PASI-PA | |



Project: Plant Hammond

Pace Project No.: 2616037

Sample: HGWA-1 Lab ID: 2616037001 Collected: 03/12/19 14:31 Received: 03/13/19 14:00 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 | 0.263 ± 0.240 (0.452) C:82% T:NA | pCi/L | 03/25/19 08:34 | 13982-63-3 | |
| Radium-228 | EPA 9320 | 0.0637 ± 0.372 (0.848) C:72% T:83% | pCi/L | 03/26/19 12:54 | 15262-20-1 | |
| Total Radium | Total Radium Calculation | 0.327 ± 0.612 (1.30) | pCi/L | 03/27/19 11:32 | 7440-14-4 | |



Project: Plant Hammond

Pace Project No.: 2616037

Sample: HGWA-2 Lab ID: 2616037002 Collected: 03/12/19 10:45 Received: 03/13/19 14:00 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 | 0.228 ± 0.190 (0.332) C:94% T:NA | pCi/L | 03/25/19 08:34 | 13982-63-3 | |
| Radium-228 | EPA 9320 | 0.226 ± 0.318 (0.681) C:74% T:89% | pCi/L | 03/26/19 12:54 | 15262-20-1 | |
| Total Radium | Total Radium Calculation | 0.454 ± 0.508 (1.01) | pCi/L | 03/27/19 11:32 | 7440-14-4 | |



Project: Plant Hammond

Pace Project No.: 2616037

| Sample: HGWA-3 PWS: | Lab ID: 26160370 Site ID: | O03 Collected: 03/12/19 10:00 Sample Type: | Received: | 03/13/19 14:00 | Matrix: Water | |
|------------------------|-------------------------------------|---|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | EPA 9315 | 0.387 ± 0.232 (0.327) C:90% T:NA | pCi/L | 03/25/19 08:33 | 13982-63-3 | |
| Radium-228 | | 0.626 ± 0.376 (0.699) C:78% T:84% | pCi/L | 03/26/19 12:54 | 15262-20-1 | |
| Total Radium | Total Radium Calculation | 1.01 ± 0.608 (1.03) | pCi/L | 03/27/19 11:32 | 7440-14-4 | |



Project: Plant Hammond

Pace Project No.: 2616037

Total Radium

| Sample: FB-01 Lab ID: 26160370 PWS: Site ID: | | Collected: 03/12/19 19:15 Sample Type: | Received: | 03/13/19 14:00 N | latrix: Water | |
|--|----------|--|-----------|------------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | EPA 9315 | 0.248 ± 0.204 (0.334) C:79% T:NA | pCi/L | 03/25/19 08:34 | 13982-63-3 | |
| Radium-228 | EPA 9320 | $0.111 \pm 0.352 (0.792)$ | pCi/L | 03/26/19 12:54 | 15262-20-1 | |

pCi/L

03/27/19 11:32 7440-14-4

C:76% T:82%

 $0.359 \pm 0.556 \quad (1.13)$

Total Radium

Calculation



Project: Plant Hammond

Calculation

Pace Project No.: 2616037

| Sample: EB-01 PWS: | Lab ID: 26160370 Site ID: | O5 Collected: 03/12/19 19:50 Sample Type: | Received: | 03/13/19 14:00 | Matrix: Water | |
|-----------------------|-------------------------------------|--|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | | 0.160 ± 0.197 (0.405) C:82% T:NA | pCi/L | 03/25/19 08:3 | 1 13982-63-3 | |
| Radium-228 | | 0.386 ± 0.383 (0.790) C:76% T:78% | pCi/L | 03/26/19 12:54 | 4 15262-20-1 | |
| Total Radium | | 0.546 ± 0.580 (1.20) | pCi/L | 03/27/19 11:32 | 2 7440-14-4 | |



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2616037

QC Batch: 334698 Analysis Method: EPA 9315

QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium

Associated Lab Samples: 2616037001, 2616037002, 2616037003, 2616037004, 2616037005

METHOD BLANK: 1628718 Matrix: Water

Associated Lab Samples: 2616037001, 2616037002, 2616037003, 2616037004, 2616037005

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-226 0.482 ± 0.254 (0.327) C:96% T:NA pCi/L 03/25/19 08:31

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.



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2616037

QC Batch: 334688 Analysis Method: EPA 9320

QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228

Associated Lab Samples: 2616037001, 2616037002, 2616037003, 2616037004, 2616037005

METHOD BLANK: 1628693 Matrix: Water

Associated Lab Samples: 2616037001, 2616037002, 2616037003, 2616037004, 2616037005

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-228 0.978 ± 0.447 (0.755) C:76% T:82% pCi/L 03/26/19 12:53

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



QUALIFIERS

Project: Plant Hammond

Pace Project No.: 2616037

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

Date: 03/29/2019 04:56 PM

PASI-PA Pace Analytical Services - Greensburg



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2616037

Date: 03/29/2019 04:56 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|--------------------------|----------|-------------------|---------------------|
| 2616037001 | HGWA-1 | EPA 9315 | 334698 | | |
| 2616037002 | HGWA-2 | EPA 9315 | 334698 | | |
| 2616037003 | HGWA-3 | EPA 9315 | 334698 | | |
| 2616037004 | FB-01 | EPA 9315 | 334698 | | |
| 2616037005 | EB-01 | EPA 9315 | 334698 | | |
| 2616037001 | HGWA-1 | EPA 9320 | 334688 | | |
| 2616037002 | HGWA-2 | EPA 9320 | 334688 | | |
| 2616037003 | HGWA-3 | EPA 9320 | 334688 | | |
| 2616037004 | FB-01 | EPA 9320 | 334688 | | |
| 2616037005 | EB-01 | EPA 9320 | 334688 | | |
| 2616037001 | HGWA-1 | Total Radium Calculation | 335714 | | |
| 2616037002 | HGWA-2 | Total Radium Calculation | 335714 | | |
| 2616037003 | HGWA-3 | Total Radium Calculation | 335714 | | |
| 2616037004 | FB-01 | Total Radium Calculation | 335714 | | |
| 2616037005 | EB-01 | Total Radium Calculation | 335714 | | |

CHAIN-OF-CUSTODY / Analytical Request Document

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

SAMPLECONDITIONS Sinta / Location Regidetory Agoncy MO#:2616037 Residual Chlorine (Y/N) Page: 1400 TIME したちゃ 3/12/19/2205 A -- Requested Analysis Filtered (Y/N) 3,13,19 DATE 3 Sulfate by 300.0 Metals (As, B, Co, Mo) man Radium 226/228 betsy.modernet@pacetabs.com ACCEPTED BY JAFFULATION 0.005 yd abitoul-Attention: <u>scsinvoices@southernco.com</u> Company Name: Address: App. IV Metals Analyses Test NIA Pace Quote: Pace Project Managar. betsy modernet@ Pace Profile ff. 327.4 (AP) or 328.5 (Huff) lcnsrtieM EOSSZ6N Preservatives HOBN НСІ Section C Invoice Information: EONH 1000 #OSZH 943 peaseadun SESMIATINOS TO 3/13/19 DATE SAMPLE TEMP AT COLLECTION जिस्तान भार श्रीयान प्राप्त HWE 읾 DATE Gas. the COLLECTED RELINGUISHED BY LAFFILLATION Required Project Information: Report To: Joju Abraham / Lauren Petty TIME SCS10348606 Plant Hammond START Martia Off Klass Copy To: Geosyntec (G=GRAB C=COMP) **34YT 3J9MA**8 Purchase Order #:
Project Name: Pr WATRIX CODE (see valid codes to leat) Section B MATRIX
Dinking Water
Wasse Water
Wasse Water
Pediod
Solu@bisd
Out
Wipe
Air
Other
Tissue repary: Georgia Power - Coal Combustion Residuals dess: 2480 Maner Road
Allanta, GA 30339
sai: jabraham@southem.co.com
core: (404)506-7239 Fax:
repressed Due Date* Standard THT ADDITIONAL COMMENTS One Character per box. (A-Z, 0-9 /, -) Sample Ids must be unique SAMPLE ID ーきると quired Client Information: 4 6 6 ITEM #

(N/A)

Sealed Cooler (V/V)

Custody (Y/N)

Received on

B

DATE Signed: 3/12

SAMPLER NAME AND SHONATURE

PRINT Name of SAMPLER: NOOLO MUSEUS

SIGNATURE OF SAMPLER: WOULE MIMMON

Page 14 of 17

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Section B

CHAIN-OF-CUSTODY / Analytical Request Document

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

例从

A

Due Date: 04/10/19 (N/A) petin Samples 210/27 SAMPLE CONDITIONS (N/A) Cooler **Pel66** MO#:2616037 Rogulatory Agency State / Location poisu (N/A) 80 Received on CLIENT: GAPouer-CCR 12 Residual Chlorina (Y/V) TEMP in C 3/13/19/14/20 3/12 19 1950 24 TIME 3/11/11 2105 DATE Signed: 02/12/19 5.15.19 DATE Sulfate by 300.0 Metals (As, B, Co, Mo) betsy modaniel@pacelabs.com 8ZZ/9ZZ Wnipex Maclia M/ waters 7 Fluoride by 300.0 ACCEPTED BY JAFFILLATION man Attention: scsinvoices@southernco.com 2 Public IV Metals Parce NY jeeT eesylanA. Pace Quote:
Pocs Project Manager: betsy moderniel@
Pace Profile #: 327.4 (AP) or 328.5 (Huff) 2 lonshieM **Suturelly** Preservatives EOZSZBN HOPN PRINT Name of SAMPLER: Great Walte Section C Invoice Information: ЮН EONH Company Name: HSSON 03/2M 1950 3/12/14/22/05 943 4ddress: SAMPLER KAME AND SIGNATURE Unpreserved # OF CONTAINERS SAMPLE TEMP AT COLLECTION Law Bearington 3/13/19 SIGNATURE of SAMPLER: DATE A CS BOTH DOTA DEATH TOTAL TIME END DATE COLLECTED man Valte / Georgotee RELINGUISHED BY LAFFILIATION Report To: Joju Abraham / Lauren Petty TIME SCS10348606 START Plant Hammond Required Project Information: Geosyntec (G=GRAB C=COMP) SAMPLE TYPE Modela Purchase Order #: MATRIX CODE (see valid codes to left) Project Name. Project # Copy To: MATRIX
Dirixing Water
Water
Water
Water
Water
Product
SoulSciid
Oid
Wive
Air
Chher
Tissue Georgia Power - Coal Combustion Residuals 2480 Maner Road TAT ADDITIONAL COMMENTS (A-Z, 0-9 / , -) Sample kds must be unique Email: jabraham@southemco.com Phone (404)506-7239 Feet Requested Due Date: 574m/a/d One Character per box. SAMPLE ID Atlanta, GA 30339 HEWA-L Required Client Information: ÷ ± Page 15 of 17 4 6 Y . 8 9 ILEM #

Section B

CHAIN-OF-CUSTODY / Analytical Request Document

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

M

40

Due Date: 04/10/19 (N/A) seldmaS SAMPLE CONDITIONS (N/A) Sealed MO#:-2616037 Custody Regulatory Agency (N/A) ð Received on CLIENT: GAPONET-CCR Residual Chlorine (Y/N) TEMP in C 力もなっ 1400 150 acs TIME · Requested Analysis Filtered (Y/N 19/19 3/12/0 5/12/19 PH. 994 3,13,19 してしてしょうからなり DATE I Sulfate by 300.0 1 Metals (As, B. Co, Mo) DATE Signed: Radium 226/228 belsy moderiel@pacelabs con Parce S ン Pluoride by 300.0 > ACCEPTED BY (AFFILLATION Attention: scsinvoices@soulhernco.com Z stateM VI .qq/ NY jaeT seavisnA Pace Quote: Pace Project Manager: belsy moderial@ Pace Profile #: 327.4 (AP) or 328.5 (Huff) IchertaM Nathia Preservatives EOZSZBN 各古のよるい HOPN HCI Section C Invoice Information: ሊባ EONH Сотралу Мате: 026/2/01/2 SAMPLER NAME AND SIGNATURE **†OSZH** 943 Address: THE pevieseidun # OF CONTAINERS Law Georntee 3/13/19 られば Х SIGNATURE of SAMPLER: SAMPLE TEMP AT COLLECTION DATE नीयान १९६० TIME 행사 DATE COLLECTED RELINDUISHED BY LAFFILLATION 12/2 5161 William Joju Abraham / Lauren Petty 4 3/12/PITSO SCS10348606 START Plani Hammond Required Project Information: dia m Geosyntec 3 <u>ی</u> 2] SAMPLE TYPE (G-GRAB C-COMP) Purchase Order #. Project Name: Serg **宏** MATRIX CODE (see valid codes to left) Copy To: 1 Project # MATRIX
Drinking Water
Water
Wase Water
Wase Water
Product
Solorocci
Old
Wipo
Wipo
Au
Ohe
Tissue Georgia Power - Coal Combustion Residuals ADDITIONAL COMMENTS One Character per box. (A-2, 0-9 / , -) Sample Ids must be unique Atlanta, GA 30339 mail jabraham@southemco.com STALMORDA SAMPLE ID 2480 Maner Road rone: (404)506-7239 Requested Due Date: lequired Client Information: STATA STATA () 72 7 . 9 8 9 ÷ . 9 Page 16 of 17 # M3TI

1781/80

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| | | | | | | opon receipt | | | |
|--------------------------|---|-------------|------------|---------------|---------|------------------------|----------|-------------------------|-----------------------|
| Pace Analy | tical Client Name: | | <u>G1</u> | A | -/ | Power | F | Project# | |
| Tracking #: | x UPS USPS Client | | | | | | - | 40#:26 | 16037 |
| Custody Seal on C | poler/Box Present: // yes | 띡 | no | | Seals i | intact: yes | (| LIENT: GAPou | er-CCR |
| Packing Material: | ☐ Bubble Wrap ☐ Bubble B | 3ags | Z | No | one [| Other | | | |
| Thermometer Used | · · · · · · · · · · · · · · · · · · · | | | | | | | | ing process has begun |
| Cooler Temperatur | | | | | • | is Frozen: Yes No | 1 | | of person/examining |
| Temp should be above | | | | | | Comments: | | contents: | |
| Chain of Custody P | resent: | Ø | . □ | 10 | □N/A | 1. | | | |
| Chain of Custody Fi | lled Out: | £29 | s □n | 4 0 | □n/a | 2. | | | |
| Chain of Custody R | elinquished: | | s 🗆 | No. | □n/a | 3. | - | - | |
| Sampler Name & Si | | | E 01 | ۷o | □n/a | 4. | | | |
| Samples Arrived wit | thin Hold Time: | -27 | s 🗆 | ۷o | □n/a | 5. | | | |
| Short Hold Time A | nalysis (<72hr): | | ıs Dı | 40 | □n/A | 6. | | | |
| Rush Turn Around | Time Requested: | ΠA | s Дн | 10 | □n/A | 7. | | | |
| Sufficient Volume: | | ۳4. | ís 🗆 | ۷o | □n/a | 8. | | | |
| Correct Containers | Used: | , D | ≅ □ | No | □n/a | 9. | | | |
| -Pace Container | s Used: | En | ãs □ | No | □n/A | | | | |
| Containers Intact: | | -BY | s 🗆 | No | □n/A | 10. | | | |
| Filtered volume rec | eived for Dissolved tests | _/ | es 🔲 | No . | -₽N/A | 11. | | | |
| Sample Labels mat | ch COC: | <u>, []</u> | s O | No | □n/a | 12. | | | |
| -Includes date/ti | me/ID/Analysis Matrix: | | L | \mathcal{I} | _ | | | | |
| All containers needing | preservation have been checked. | .0 | es 🗆 | No | □n/a | 13. | | | |
| All containers needing | preservation are found to be in | | <u> </u> | Na | □n/a | | | | |
| compliance with EPA | recommendation. | | U | NO | шил | Initial whom | + | Lot # of added | |
| exceptions: VOA, colifor | rm, TOC, O&G, WI-DRO (water) | | es 🔎 | No | | Initial when completed | | preservative | |
| Samples checked f | or dechlorination: | <u></u> | es 🗆 | No | ÐN/A | 14. | | · | |
| Headspace in VOA | Vials (>6mm): | | es 🗆 | No | -DINIA | 15. | _ | | |
| Trip Blank Present: | | | es 🗆 | No | DNA | 16. | | | |
| Trip Blank Custody | Seals Present | | es 🛘 | No | -EN/A | | | | |
| Pace Trip Blank Lo | # (if purchased): | , | | | | | | | |
| Client Notification | / Resolution: | | | | | | | Field Data Require | ? Y / N |
| | tacted: | | | | Date/ | Time: | | · | |
| | oution: | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | - | | |
| | | | | | | | | | |
| | | | | | | | <u>l</u> | | |
| | | | | | | | | | |
| Project Manage | r Review: | | | | | | | Date: | |
| | | | | | | | | | |
| | re is a discrepancy affecting North C le out of hold, incorrect preservative | | | | | | m ' | will be sent to the Nor | th Carolina DEHNR |

F-ALLCO3rev.3, 11September2008 of 17





March 20, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2616039

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on March 13, 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

Beton M Damil

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







CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2616039

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



SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2616039

| Lab ID | Sample ID | Matrix | Date Collected | Date Received | |
|------------|-----------|--------|----------------|----------------|--|
| 2616039001 | HGWA-4 | Water | 03/11/19 18:11 | 03/13/19 14:00 | |
| 2616039002 | HGWA-5 | Water | 03/12/19 13:16 | 03/13/19 14:00 | |
| 2616039003 | HGWA-6 | Water | 03/12/19 13:00 | 03/13/19 14:00 | |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2616039

| Lab ID | Sample ID | Method | Analysts | Analytes Reported |
|------------|-----------|-----------|----------|----------------------|
| 2616039001 | HGWA-4 | EPA 6020B | CSW | 12 |
| | | EPA 7470A | DRB | 1 |
| | | EPA 300.0 | RLC | 1 |
| 2616039002 | HGWA-5 | EPA 6020B | CSW | 12 |
| | | EPA 7470A | DRB | 1 |
| | | EPA 300.0 | RLC | 1 |
| 2616039003 | HGWA-6 | EPA 6020B | CSW | 12 |
| | | EPA 7470A | DRB | 1 |
| | | EPA 300.0 | RLC | 1 |



Project: Plant Hammond

Pace Project No.: 2616039

Date: 03/20/2019 03:25 PM

| Sample: HGWA-4 | Lab ID: | 2616039001 | Collecte | ed: 03/11/19 | 18:11 | Received: 03/ | 13/19 14:00 Ma | atrix: Water | • |
|-------------------------|------------|-------------|-----------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00078 | 1 | 03/15/19 12:41 | 03/18/19 18:08 | 7440-36-0 | |
| Arsenic | ND | mg/L | 0.0050 | 0.00057 | 1 | 03/15/19 12:41 | 03/18/19 18:08 | 7440-38-2 | |
| Barium | 0.029 | mg/L | 0.010 | 0.00078 | 1 | 03/15/19 12:41 | 03/18/19 18:08 | 7440-39-3 | |
| Beryllium | 0.000050J | mg/L | 0.0030 | 0.000050 | 1 | 03/15/19 12:41 | 03/18/19 18:08 | 7440-41-7 | |
| Cadmium | ND | mg/L | 0.0010 | 0.000093 | 1 | 03/15/19 12:41 | 03/18/19 18:08 | 7440-43-9 | |
| Chromium | ND | mg/L | 0.010 | 0.0016 | 1 | 03/15/19 12:41 | 03/18/19 18:08 | 7440-47-3 | |
| Cobalt | ND | mg/L | 0.010 | 0.00052 | 1 | 03/15/19 12:41 | 03/18/19 18:08 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.00027 | 1 | 03/15/19 12:41 | 03/18/19 18:08 | 7439-92-1 | |
| Lithium | ND | mg/L | 0.050 | 0.00097 | 1 | 03/15/19 12:41 | 03/18/19 18:08 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.0019 | 1 | 03/15/19 12:41 | 03/18/19 18:08 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0014 | 1 | 03/15/19 12:41 | 03/18/19 18:08 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.00014 | 1 | 03/15/19 12:41 | 03/18/19 18:08 | 7440-28-0 | |
| 7470 Mercury | Analytical | Method: EPA | 7470A Pre | paration Met | nod: EF | PA 7470A | | | |
| Mercury | ND | mg/L | 0.00050 | 0.000036 | 1 | 03/15/19 12:10 | 03/15/19 18:04 | 7439-97-6 | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Fluoride | 0.035J | mg/L | 0.30 | 0.029 | 1 | | 03/18/19 22:15 | 16984-48-8 | |



Project: Plant Hammond

Pace Project No.: 2616039

Date: 03/20/2019 03:25 PM

| Sample: HGWA-5 | Lab ID: | 2616039002 | Collecte | ed: 03/12/19 | 13:16 | Received: 03/ | 13/19 14:00 Ma | atrix: Water | |
|-------------------------|------------|---------------|-----------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA 6 | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00078 | 1 | 03/15/19 12:41 | 03/18/19 18:14 | 7440-36-0 | |
| Arsenic | ND | mg/L | 0.0050 | 0.00057 | 1 | 03/15/19 12:41 | 03/18/19 18:14 | 7440-38-2 | |
| Barium | 0.050 | mg/L | 0.010 | 0.00078 | 1 | 03/15/19 12:41 | 03/18/19 18:14 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000050 | 1 | 03/15/19 12:41 | 03/18/19 18:14 | 7440-41-7 | |
| Cadmium | ND | mg/L | 0.0010 | 0.000093 | 1 | 03/15/19 12:41 | 03/18/19 18:14 | 7440-43-9 | |
| Chromium | ND | mg/L | 0.010 | 0.0016 | 1 | 03/15/19 12:41 | 03/18/19 18:14 | 7440-47-3 | |
| Cobalt | 0.00099J | mg/L | 0.010 | 0.00052 | 1 | 03/15/19 12:41 | 03/18/19 18:14 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.00027 | 1 | 03/15/19 12:41 | 03/18/19 18:14 | 7439-92-1 | |
| Lithium | 0.0032J | mg/L | 0.050 | 0.00097 | 1 | 03/15/19 12:41 | 03/18/19 18:14 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.0019 | 1 | 03/15/19 12:41 | 03/18/19 18:14 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0014 | 1 | 03/15/19 12:41 | 03/18/19 18:14 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.00014 | 1 | 03/15/19 12:41 | 03/18/19 18:14 | 7440-28-0 | |
| 7470 Mercury | Analytical | Method: EPA 7 | 7470A Pre | paration Met | hod: EF | PA 7470A | | | |
| Mercury | ND | mg/L | 0.00050 | 0.000036 | 1 | 03/15/19 12:10 | 03/15/19 18:06 | 7439-97-6 | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA 3 | 300.0 | | | | | | |
| Fluoride | 0.079J | mg/L | 0.30 | 0.029 | 1 | | 03/18/19 23:23 | 16984-48-8 | |



Project: Plant Hammond

Pace Project No.: 2616039

Date: 03/20/2019 03:25 PM

| Sample: HGWA-6 | Lab ID: | 2616039003 | Collecte | ed: 03/12/19 | 13:00 | Received: 03/ | 13/19 14:00 Ma | atrix: Water | |
|-------------------------|------------|---------------|-----------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA 6 | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00078 | 1 | 03/15/19 12:41 | 03/18/19 18:20 | 7440-36-0 | |
| Arsenic | ND | mg/L | 0.0050 | 0.00057 | 1 | 03/15/19 12:41 | 03/18/19 18:20 | 7440-38-2 | |
| Barium | 0.20 | mg/L | 0.010 | 0.00078 | 1 | 03/15/19 12:41 | 03/18/19 18:20 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000050 | 1 | 03/15/19 12:41 | 03/18/19 18:20 | 7440-41-7 | |
| Cadmium | ND | mg/L | 0.0010 | 0.000093 | 1 | 03/15/19 12:41 | 03/18/19 18:20 | 7440-43-9 | |
| Chromium | ND | mg/L | 0.010 | 0.0016 | 1 | 03/15/19 12:41 | 03/18/19 18:20 | 7440-47-3 | |
| Cobalt | ND | mg/L | 0.010 | 0.00052 | 1 | 03/15/19 12:41 | 03/18/19 18:20 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.00027 | 1 | 03/15/19 12:41 | 03/18/19 18:20 | 7439-92-1 | |
| Lithium | 0.011J | mg/L | 0.050 | 0.00097 | 1 | 03/15/19 12:41 | 03/18/19 18:20 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.0019 | 1 | 03/15/19 12:41 | 03/18/19 18:20 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0014 | 1 | 03/15/19 12:41 | 03/18/19 18:20 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.00014 | 1 | 03/15/19 12:41 | 03/18/19 18:20 | 7440-28-0 | |
| 7470 Mercury | Analytical | Method: EPA 7 | 7470A Pre | paration Met | hod: EF | PA 7470A | | | |
| Mercury | ND | mg/L | 0.00050 | 0.000036 | 1 | 03/15/19 12:10 | 03/15/19 18:09 | 7439-97-6 | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA 3 | 300.0 | | | | | | |
| Fluoride | 0.061J | mg/L | 0.30 | 0.029 | 1 | | 03/18/19 23:46 | 16984-48-8 | |



Project:

Plant Hammond

Pace Project No.:

2616039

QC Batch: QC Batch Method: 24380

EPA 7470A

Analysis Method:

EPA 7470A

Analysis Description:

7470 Mercury

Associated Lab Samples:

2616039001, 2616039002, 2616039003

METHOD BLANK: 109357 Associated Lab Samples:

Matrix: Water 2616039001, 2616039002, 2616039003

Blank

Result

Reporting

Parameter

Units

Limit

0.0025

MS

0.00050

MDL

100

Analyzed

Qualifiers

Mercury

Mercury

Mercury

mg/L

mg/L

ND

0.000036

03/15/19 17:12

LABORATORY CONTROL SAMPLE: Parameter

Parameter

Date: 03/20/2019 03:25 PM

109358

Spike Units Conc.

LCS Result

LCS % Rec % Rec Limits

80-120

Qualifiers

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

109378

109379

MS

0.0025

MSD Spike

MSD

MS % Rec

MSD % Rec % Rec

Max Limits RPD

RPD

2615967001 Result ND

Units

mg/L

Spike Conc. Conc. 0.0025 0.0025

Result Result 0.0025 0.0026

100

102

75-125 3

20

Qual

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



Project: Plant Hammond

Pace Project No.: 2616039

Date: 03/20/2019 03:25 PM

QC Batch: 24384 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET

Associated Lab Samples: 2616039001, 2616039002, 2616039003

METHOD BLANK: 109374 Matrix: Water

Associated Lab Samples: 2616039001, 2616039002, 2616039003

| | | Blank | Reporting | | | |
|------------|-------|----------|-----------|----------|----------------|------------|
| Parameter | Units | Result | Limit | MDL | Analyzed | Qualifiers |
| Antimony | mg/L | ND | 0.0030 | 0.00078 | 03/18/19 17:34 | |
| Arsenic | mg/L | 0.00071J | 0.0050 | 0.00057 | 03/18/19 17:34 | |
| Barium | mg/L | ND | 0.010 | 0.00078 | 03/18/19 17:34 | |
| Beryllium | mg/L | ND | 0.0030 | 0.000050 | 03/18/19 17:34 | |
| Cadmium | mg/L | ND | 0.0010 | 0.000093 | 03/18/19 17:34 | |
| Chromium | mg/L | ND | 0.010 | 0.0016 | 03/18/19 17:34 | |
| Cobalt | mg/L | ND | 0.010 | 0.00052 | 03/18/19 17:34 | |
| Lead | mg/L | ND | 0.0050 | 0.00027 | 03/18/19 17:34 | |
| Lithium | mg/L | ND | 0.050 | 0.00097 | 03/18/19 17:34 | |
| Molybdenum | mg/L | ND | 0.010 | 0.0019 | 03/18/19 17:34 | |
| Selenium | mg/L | ND | 0.010 | 0.0014 | 03/18/19 17:34 | |
| Thallium | mg/L | ND | 0.0010 | 0.00014 | 03/18/19 17:34 | |

| LABORATORY CONTROL SAMPLE: | 109375 | | | | | |
|----------------------------|--------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Antimony | mg/L | 0.1 | 0.11 | 109 | 80-120 | |
| Arsenic | mg/L | 0.1 | 0.10 | 104 | 80-120 | |
| Barium | mg/L | 0.1 | 0.10 | 102 | 80-120 | |
| Beryllium | mg/L | 0.1 | 0.11 | 108 | 80-120 | |
| Cadmium | mg/L | 0.1 | 0.11 | 105 | 80-120 | |
| Chromium | mg/L | 0.1 | 0.11 | 107 | 80-120 | |
| Cobalt | mg/L | 0.1 | 0.10 | 102 | 80-120 | |
| Lead | mg/L | 0.1 | 0.10 | 104 | 80-120 | |
| Lithium | mg/L | 0.1 | 0.11 | 107 | 80-120 | |
| Molybdenum | mg/L | 0.1 | 0.10 | 104 | 80-120 | |
| Selenium | mg/L | 0.1 | 0.10 | 105 | 80-120 | |
| Thallium | mg/L | 0.1 | 0.10 | 103 | 80-120 | |

| MATRIX SPIKE & MATRIX SPI | IKE DUPLIC | CATE: 10937 | 6 | | 109377 | | | | | | | |
|---------------------------|------------|----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|--------|-----|------------|------|
| Parameter | Units | 2616039003 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec | RPD | Max RPD | Qual |
| | | | | | | | | 107 | 75-125 | | | |
| Antimony | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.11 | 106 | | | - | 20 | |
| Arsenic | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.10 | 106 | 103 | 75-125 | 3 | 20 | |
| Barium | mg/L | 0.20 | 0.1 | 0.1 | 0.29 | 0.30 | 95 | 103 | 75-125 | 2 | 20 | |
| Beryllium | mg/L | ND | 0.1 | 0.1 | 0.097 | 0.094 | 97 | 94 | 75-125 | 3 | 20 | |
| Cadmium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 104 | 101 | 75-125 | 3 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2616039

Date: 03/20/2019 03:25 PM

| MATRIX SPIKE & MATRIX S | PIKE DUPLIC | ATE: 109376 | 6 MS | MSD | 109377 | | | | | | | |
|-------------------------|-------------|----------------------|----------------|----------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|------|
| Parameter | Units | 2616039003 Result | Spike Conc. | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
| Chromium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 104 | 103 | 75-125 | 1 | 20 | |
| Cobalt | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.098 | 101 | 98 | 75-125 | 3 | 20 | |
| Lead | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.096 | 101 | 95 | 75-125 | 5 | 20 | |
| Lithium | mg/L | 0.011J | 0.1 | 0.1 | 0.11 | 0.10 | 97 | 91 | 75-125 | 5 | 20 | |
| Molybdenum | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 103 | 104 | 75-125 | 2 | 20 | |
| Selenium | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.10 | 106 | 102 | 75-125 | 4 | 20 | |
| Thallium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.097 | 100 | 97 | 75-125 | 3 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2616039

Date: 03/20/2019 03:25 PM

QC Batch: 24522 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 2616039001, 2616039002, 2616039003

METHOD BLANK: 110051 Matrix: Water

Associated Lab Samples: 2616039001, 2616039002, 2616039003

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Fluoride mg/L ND 0.30 0.029 03/18/19 21:29

LABORATORY CONTROL SAMPLE: 110052

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Fluoride mg/L 10 9.8 98 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 110053 110054

MS MSD 2616039001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Fluoride 0.035J 10 10.2 10.3 102 90-110 0 mg/L 10 102 15

MATRIX SPIKE SAMPLE: 110055 2616039002 MS Spike MS % Rec Parameter Units Result Conc. Result % Rec Limits Qualifiers 0.079J 10.3 103 90-110 Fluoride mg/L 10

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



QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2616039

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.

Date: 03/20/2019 03:25 PM



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2616039

Date: 03/20/2019 03:25 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|-----------------|----------|-------------------|---------------------|
| 2616039001 | HGWA-4 | EPA 3005A | 24384 | EPA 6020B | <u>24419</u> |
| 2616039002 | HGWA-5 | EPA 3005A | 24384 | EPA 6020B | 24419 |
| 2616039003 | HGWA-6 | EPA 3005A | 24384 | EPA 6020B | 24419 |
| 2616039001 | HGWA-4 | EPA 7470A | 24380 | EPA 7470A | 24416 |
| 2616039002 | HGWA-5 | EPA 7470A | 24380 | EPA 7470A | 24416 |
| 2616039003 | HGWA-6 | EPA 7470A | 24380 | EPA 7470A | 24416 |
| 2616039001 | HGWA-4 | EPA 300.0 | 24522 | | |
| 2616039002 | HGWA-5 | EPA 300.0 | 24522 | | |
| 2616039003 | HGWA-6 | EPA 300.0 | 24522 | | |

CHAIN-OF-CUSTODY / Analytical Request Document

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

(N/A) SAMPLECONDITIONS เมยเน Samplos も Cooler De1889 Regulatory Agoncy State? Location Custody MO#: 2646039 (N/A) 8 Received on Residual Chlorine (Y/N) TEMP IN C AYT 19 18 10/19 2205 61/11/8 3.13.P (A) DATE 2 0.005 yd etsituč Metals (As, B, Co, Mo) DATE Signed: ટ Radium 226/228 betsy modernet@pacetabs.com man ACCEPTED BY JAFFILLATION ર O.005 yd ebnauf ces@southernco.com て App. IV Metals ÑΙΧ JeeT sesylanA, Pace Oucle:
Pece Project Manager: belsy modernel@
Pace Profile #: 327.4 (AP) or 328.5 (Huff) Diner Nocla Rustus lonsrijeM SIGNATURE OF SAMPLER: 7/ JOHL ON WHAM Preservatives VB2S2O3 HOBN Wention: Scsinvo HCI Involce Information: EONH Сомралу Nаме: Sorr plup #OSZH Section C 943 Unpreserved SAMPLER NAME AND SIGNATURE # OF CONTAINERS PRINT Name of SAMPLER: \$15000 1625yute 713/19 DATE SAMPLE TEMP AT COLLECTION जान डांग निक्त के गामि है। S エス DATE COLLECTED RELINOUSHED BY / AFFILIATION Report To: Joju Abraham / Lauren Petty TIME Malix my unbers SCS10348606 START Purchase Order #: SCS1034860 Project Name Plant Hammond DATE Required Project Information: (G=GRAB C=COMP) MATRIX CODE (see valid codes to left) Copy To: Section B MATRIX
Dehtsting Water
Water
Water
Water
Product
SouldSoild
Oil
Wipe
Wipe
Ant
Char
Tissuo Georgia Power - Coal Combustion Residuals Phone: (404)506-7239 Fax. Requested Due Date: Ston Lay of 13 ADDITIONAL COMMENTS One Character por box. (A-Z, 0-91, -) Sample Ids must be unique Email: jabraham@southemco.com SAMPLE ID Hawk-4 2480 Maner Road Allanta, GA 30339 Required Client Information: **(**) Page 14 of 17 1 . . 9 10 11 # MBTI

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

かり

Due | Date: 03/20/19 ntact (Y/V) Samples SAMPLE CONDITIONS (N/A) Coolar balse3 WO#-2616039 State / Location Regulatory Agency Costody (N/A) 80 Received on CLIENT: GAPower-CCR Residual Chlorine (Y/N) Dig GMBT 1400 3/14/14 1950 244 3/14/19 1200 Requested Analysis Filtered (Y/N) DATE Signed: OZ/A/1 2/13/19 3,13,19 OATE Sulfate by 300.0 Metals (As, B, Co, Mo) 2 Radium 226/226 betsy.modaniel@pacelabs.com 之 之 ACCEPTED BY ! AFFE LATION Fluoride by 300.0 P. P. C. Invoice Information:
Attention: scsinvoices@southernco.com
Company Name: App. IV Metals Ñλ Pace Quote:
Pace Project Manager. betsy,modaniel@g
Pace Profils #: 327.4 (AP) or 328.5 (Huff) , 1897, 898 (IBRA.) Methanol Grant Walter) by Preservatives N92SZO3 HOBN And War ЮН Grant Water/Georgalize Danger 1950 14 EONH 220x HS2O4 943 SAUPI ER NAME AND SIGNATURE Address: Unpreserved 力型 OF CONTAINERS PRINT Name of SAMPLER: 2/2/2 3/13/19 SIGNATURE of SAMPLER: SAMPLE TEMP AT COLLECTION DATE 750 6- MARTE 1252, 13/2019:16 TIME DATE Con Mucombec COLLECTED RELINCUISHED BY / AFFILIATION Joju Abraham / Lauren Petty TIME Mariamone SCS10348606 START Plant Hammond Required Project Information: Copy To: Geosyntec (G#GBAB C=COMP) BAYT BJAMAS Purchase Order #: Project Name: P Project #: 1818 MATRIX CODE (see valid codes to left) Section B MATRIX
Diriting Water
Wester
Wosse Water
Wosse Water
Product
Sulficial
Cul
Whee
Aut
Chies
Tresue Georgia Power - Coal Combustion Residuals TAT ADDITIONAL COMMENTS One Character per box. (A-Z, 0-9 / , -). Sample 1ds must be unique Phone: (404)506-7239 Fax. Requested Oue Date: Standard SAMPLE ID 2480 Maner Road Atlanta, GA 30339 HEWA -S Required Client Information: Соптралу: Page 15 of 17 Address: 9 9 10 Email: # MBTI

CHAIN-OF-CUSTODY / Analytical Request Document

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

(Λ) .

(V/V) Semples 4 SAMPLE CONDITIONS Cooler pelse State / Location Custody **WO#:2616039** (V/V) Received or Residual Chlorina (Y/N) TEMP in C -TIME वडीं विद्या 13/14/40 8/14/19/2005 3,13,19, 0944 DATE 0.005 yd efelluð 2 Metals (As, B. Co, Mo) DATE Signed: <u>2</u> Radium 226/228 betsy.mcdaniet@pacetabs.com 2 Fluoride by 300.0 BY / AFFILLATION Attention: scsinvoices@southernco.com Modia Mushan stateM VI. qqA 486T sesylenA N/Ã 327.4 (AP) or 328.5 (Huff) A COLD Other lonsriteM Preservatives EOSS26N HOBN REH MALITY Pace Quote:
Pace Project Manager:
Pace Profile #: 327.4 ЮН EONH Company Name: HS2O4 2112 K 1950 THE **Jer2** 947 SAUPLER NÁME AND SIGNATURE S OF CONTAINERS PRINT Name of SAMPLER: DATE Gart 3/13/A SIGNATURE of SAMPLER: SAMPLE TEMP AT COLLECTION श्यान ᄪ 잃 DATE z COLLECTED RELINCUISHED BY / AFFILLATION Report To: Joju Abraham / Lauren Petty \$ TIME SCS10348606 3 START Purchase Order#: SCS103486 Project Name: Plant Hammond Project #: 事 Required Project Information: DATE Geosyntec 6313 (G=GRAB C=COMP) BAYT BJAMAS MATRIX CODE (see valid codes to left) Section B Copy To: MATRIX Distang Water Water Waste Water Product SoulSoid Oa Wipe Air Other Tissue I Georgia Power - Coal Combustion Residuals 1404)506-7239 19 Date: 570-1000 Арритомий соживите (A-Z, 0-9 / , -) Sample kds must be unique Email: jabraham@southernco.com One Character por box. SAMPLE ID 2480 Maner Road Allanta, GA 30339 Requested Due Date: Page 16 of 17 9 # Mati

| - recording | Sample | Condition | Opon Receipt | | |
|---|---|---------------|--|-----------------------------|----------------------------|
| Pace Analy | <i>ticai</i> Client Name: | GIA 1 | Power | Project # | |
| <pre>: Courler: ☐ Fed E Tracking #:</pre> | UPS USPS Client | | | WO#:26 | |
| | ooler/Box Present: | no Seals | intact: 🖊 yes | PM: BM CLIENT: GAPOL | Due Date: 03/20/ er-CCR |
| Packing Material: | ☐ Bubble Wrap ☐ Bubble Bags | None [| Other | | |
| Thermometer Used | - A. | | | | ing process has begun |
| Cooler Temperatur | 9:a | < | is Frozen: Yes No | Date and Initials | of person/examining |
| Temp should be above | | | Comments: | contents: | 113/14 mg |
| Chain of Custody P | resent: | es 🗆 No 🗆 N/A | 1. | | |
| Chain of Custody F | | es 🗆 No 🗆 N/A | | | |
| Chain of Custody R | | es DNo DN/A | | | |
| Sampler Name & Si | | PS No N/A | | | |
| Samples Arrived wi | | es Ono On/A | | | |
| Short Hold Time A | | es DN6 DN/A | | | |
| Rush Turn Around | | BS DING DN/A | | | |
| Sufficient Volume: | | es Ono On/A | | | |
| Correct Containers | | es DNo DN/A | | | |
| -Pace Containers | _ | es Ono On/A | J. | | |
| | | | 10 | - | |
| Containers Intact: | | es Ono On/A | | | |
| | i | | | | |
| Sample Labels mat | | es □no □n/a | 12. | | |
| -Includes date/ti All containers needing | fireservation have been checked | | | | |
| | | es □no □n/A | 13. | | |
| All containers needing compliance with EPA | preservation are found to be in recommendation. | es □no □n/a | | : | |
| exceptions: VOA, colifo | m, TOC, O&G, WI-DRO (water) | es PNo | Initial when completed | Lot # of added preservative | |
| Samples checked f | or dechlorination: | es 🗆 No 🗖 N/A | 14. | | |
| Headspace in VOA | Vials (>6mm): □ | es 🗆 No 🗷 NÃ | 15. | | |
| Trip Blank Present: | | es 🗆 No 🗷 NÃ | 16. | | |
| Trip Blank Custody | Seals Present | es 🗆 No 🗷 N/A | 1 | | |
| Pace Trip Blank Lo | # (if purchased): | | | | |
| Client Notification | Resolution: | | | Field Data Required | ? Y / N |
| | tacted: | Date/ | Time: | | |
| | lution: | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | <u> </u> | |
| Project Manage | r Review: | | | Date: | |
| | re is a discrepancy affecting North Caroli e out of hold, incorrect preservative, ou | | | m will be sent to the Nort | h Carolina DEHNR |

F-ALLC003rev.3, 11September26087 of 17





April 05, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2616040

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on March 13, 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

Beton M Damil

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



(770)734-4200



CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2616040

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



SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2616040

| Lab ID | Sample ID | Matrix | Date Collected | Date Received | |
|------------|-----------|--------|----------------|----------------|--|
| 2616040001 | HGWA-4 | Water | 03/11/19 18:11 | 03/13/19 14:00 | |
| 2616040002 | HGWA-5 | Water | 03/12/19 13:16 | 03/13/19 14:00 | |
| 2616040003 | HGWA-6 | Water | 03/12/19 13:00 | 03/13/19 14:00 | |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2616040

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|--------------------------|----------|----------------------|------------|
| 2616040001 | HGWA-4 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2616040002 | HGWA-5 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2616040003 | HGWA-6 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2616040

Sample: HGWA-4 Lab ID: 2616040001 Collected: 03/11/19 18:11 Received: 03/13/19 14:00 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 | 0.244 ± 0.108 (0.147) C:95% T:NA | pCi/L | 03/26/19 20:59 | 13982-63-3 | |
| Radium-228 | EPA 9320 | 0.537 ± 0.392 (0.762) C:70% T:87% | pCi/L | 03/29/19 11:27 | 15262-20-1 | |
| Total Radium | Total Radium Calculation | 0.781 ± 0.500 (0.909) | pCi/L | 04/02/19 13:33 | 7440-14-4 | |



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2616040

Sample: HGWA-5 Lab ID: 2616040002 Collected: 03/12/19 13:16 Received: 03/13/19 14:00 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 | 0.221 ± 0.187 (0.283) C:92% T:NA | pCi/L | 03/27/19 11:37 | 13982-63-3 | |
| Radium-228 | EPA 9320 | 0.612 ± 0.339 (0.590) C:73% T:85% | pCi/L | 03/29/19 11:28 | 15262-20-1 | |
| Total Radium | Total Radium Calculation | 0.833 ± 0.526 (0.873) | pCi/L | 04/02/19 13:33 | 7440-14-4 | |



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond

Calculation

Pace Project No.: 2616040

| Sample: HGWA-6 PWS: | Lab ID: 261604 Site ID: | 0003 Collected: 03/12/19 13:00 Sample Type: | Received: | 03/13/19 14:00 | Matrix: Water | |
|------------------------|--------------------------------|--|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | EPA 9315 | 0.242 ± 0.237 (0.451) C:91% T:NA | pCi/L | 03/27/19 07:58 | 3 13982-63-3 | |
| Radium-228 | EPA 9320 | 0.740 ± 0.412 (0.731) C:71% T:79% | pCi/L | 03/29/19 11:27 | 7 15262-20-1 | |
| Total Radium | Total Radium | 0.982 ± 0.649 (1.18) | pCi/L | 04/02/19 13:3: | 3 7440-14-4 | |



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2616040

QC Batch: 334703 Analysis Method: EPA 9320

QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228

Associated Lab Samples: 2616040001, 2616040002, 2616040003

METHOD BLANK: 1628726 Matrix: Water

Associated Lab Samples: 2616040001, 2616040002, 2616040003

 Parameter
 Act ± Unc (MDC) Carr Trac
 Units
 Analyzed
 Qualifiers

 Radium-228
 0.496 ± 0.336 (0.636) C:77% T:84%
 pCi/L
 03/29/19 11:27

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



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2616040

QC Batch: 334701 Analysis Method: EPA 9315

QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium

Associated Lab Samples: 2616040001, 2616040002, 2616040003

METHOD BLANK: 1628722 Matrix: Water

Associated Lab Samples: 2616040001, 2616040002, 2616040003

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-226 0.317 ± 0.219 (0.286) C:97% T:NA pCi/L 03/27/19 08:17

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.



QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2616040

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

Date: 04/05/2019 12:47 PM

PASI-PA Pace Analytical Services - Greensburg



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2616040

Date: 04/05/2019 12:47 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|--------------------------|----------|-------------------|---------------------|
| 2616040001 | HGWA-4 | EPA 9315 | 334701 | | |
| 2616040002 | HGWA-5 | EPA 9315 | 334701 | | |
| 2616040003 | HGWA-6 | EPA 9315 | 334701 | | |
| 2616040001 | HGWA-4 | EPA 9320 | 334703 | | |
| 2616040002 | HGWA-5 | EPA 9320 | 334703 | | |
| 2616040003 | HGWA-6 | EPA 9320 | 334703 | | |
| 2616040001 | HGWA-4 | Total Radium Calculation | 336609 | | |
| 2616040002 | HGWA-5 | Total Radium Calculation | 336609 | | |
| 2616040003 | HGWA-6 | Total Radium Calculation | 336609 | | |

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

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(N/A) hitact seldma2 SAMPLE CONDITIONS (N/A) Cooler - State / Eccabon perces ** Regulatory Agenty Custod MO#: 2616040 (N/A) Received on ð Residual Chlorine (Y/N) TEMP in C 101.50 The Co 2205 TIME DATE Signed: 3/11 /19 3.15.A 5/12/19 DATE 10 F 2 0.005 yd etattuč Metals (As, B, Co, Mo) \$ Radium 226/228 betsy.mcdaniel@pacelabs.com man ACCEPTED BY JAFFILLATION <u>২</u> O.005 yd abitoul= scsinvoices@southernco.com elateM VI .qqA N/X JaeT sesylanA. 327.4 (AP) or 328.5 (Huff) へいったりと Methanol SKGNATURE OF SAMPLER: 7/84/1,0, 11/10/1449 Na2S2O3 Preservatives HOBN Pace Project Manager. Pace Profile #: 327.4 нсі Noclia Invoice Information: EONH Company Name H5204 Pace Quote 943 TIME 3055 10 141 K nubusseuved SAMPLER NÁME AND SIGNATURE # OF CONTAINERS PRINT Name of SAMPLER: 7/13/19 DATE SAMPLE TEMP AT COLLECTION TIME 1181 12/11/d astipul 11/6/15 200 エス STS Cow beente DATE COLLECTED RELINCUISHED BY LAFFILIATION. Joju Abraham / Lauren Petty TIME May Kin Junton SCS10348606 START Plant Hammond Required Project Information: Copy To. Geosyntec SAMPLE TYPE (G-GRAB C-COMP) Purchase Order #:
Project Name: P MATRIX CODE (see valid codes to left) Report To: Section B MATRIX
Denking Weer
Wasse Wasse
Wasse Wasse
Could
SourSoid
Od
Wipe
Wipe
All
Cother
Tissue Georgia Power - Coal Combustion Residuals Phone: (404)506-7239 Fax Requested Due Date: S-Callard 197 ADDITIONAL COMMENTS. One Character per box. (A-Z, 0-9 /, -). Sample Ids must be unique Atlanta, GA 30339
Email: jabraham@southemco.com SAMPLE ID Lawk-4 2480 Maner Road Required Client Information: Company: Address: 7. 8 . 9 .10 Page 12 of 15 ILEM #

CHAIN-OF-CUSTODY / Analytical Request Document

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

N

Due Date: 04/10/19 (N/A) toetnl Samples SAMPLE CONDITIONS ال ال (N/A) Sealed Cooler **JOH: 2616040** Custod Regulatory Agency (N/A) Received on ક CLIENT: GAPower-CCR マイ Residual Chlorine (YW) TEMP in C 13/19/1400 3/12/19 1950 3,15,19 0944 700 TIME DATE Signed: 08/12/1 F. 84 3/12/19 DATE Sulfate by 300 0 Metats (As, B. Co, Mo) Address: Pace Oucle: Pace Project Manager: betsy incdantel@pacetabs com. 2 8SS/8SS muibeR ACCEPTED BY / AFFILIATION 0.005 yd ebirculii Grang Wallest Georgalice Ospiesta 1950 Modia 19/20 pm now Attention: scsinvoices@southernco.com sisieM VI .qq/ NZ Analyses Teek 327.4 (AP) or 328.5 (Huff) Other Methanol Great Walter Preservatives COSSSEN HOBN ules ЮН Invoice information: EONH Company Name H\$204 THE 220x 843 SIGNATURE OF SAMPLER: SAMPLER WAME AND SIGNATURE DevieserqnU # OF CONTAINERS PRINT Name of SAMPLER: DATE 3/3/19 SAMPLE TEMP AT COLLECTION 140 G MANY DEST, 03/24 13:16 E E 200 RELINGUISHED BY / AFFILIATION DATE Low Mecombec COLLECTED K/ Joju Abraham / Lauren Petty TIME Mariaman SCS10348606 START Purchase Order #: SCS103486 Project Name Plani Hammond Project #: DATE Required Project Information: Geosyntec SAMPLE TYPE (G-GRAB C-COMP) 138 MATRIX CODE (see valid codes to left) Report To: Section B Copy To: MATRIX
Drinking Water
Water
Water
Water
Product
Soli/Sold
OH
Wipe
Air
Cither
Tissue Georgia Power - Coal Combustion Residuals TAI ADDITIONAL COMMENTS One Character per box. (A-Z, 0-9 / , -} Sample Ids must be unique jabraham@southernco.com Phone: (404)506-7239 Fax Requested Due Date: Standard SAMPLE ID 2480 Maner Road Atlanta, GA 30339 HGWA-S Required Client information: Address: 9 9 1 10. ÷ 7 Page 13 of 15 3. Email: # MBTI

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

3 \$ W Regulationy Agency Section C
Invoice Information:
Attention: Scsinvoices@southernco.com
Company Name:
Address:
Pace Quote: Report To: Joju Abraham / Lauren Petty Copy To: Geosyntec Purchase Order # SCS10348606 Section B Section A
Required Client Information:
Company: Georgia Power - Coal Combustion Residuals
Address: 2480 Maner Road
Allanta, GA 30339
Email: jabraham@southernco.com

| SAMPLE ID One Character per box. (AZ 0-81) Sample ids must be unique Tissue Tis | (119) (1) \$ | | | | Pag | Pace Profile # | 100 | | | | | | _ | | Č | | | |
|--|--------------|-------------|--|---|----------------|----------------|-------------|-----------------------------|---------------------------|----------------|-------------------------|-----------------------------------|----------------|---|---------------|--|--|--------------|
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| MATRIX Distance Witers Water Wester Wester Wester Water Sandance Sand | <u> </u> | | | | | | | | Ž, | 11.5 | Reques | Requested Analysis Filtered (Y/N) | Filtered (V | NI . | | | を終りたがある | . 74 |
| APLE ID Source Water Wat | - | (dWO | l corri | COLLECTED | - | | Presen | Preservatives | E.W.A. | Z ŽNŽ | 2 | 1 | - | | | | | ere several |
| inacter per box. Wee 2, 0-91, -) One One One One One One One One One One | | D=D 8ARD=0) | START | END | | | | | C.W. N# 20 T. | | | | 0 | | (N/A) en: | | | |
| | MATRIX CODE | SAMPLE TYPE | E TIME | DATE TIME | A SEMPLE TEMP. | Unpreserved | HCI HNO3 | NaOH Na2S2O3 Methanot | Other Other | steteM VI .qqA | Fluoride by 300 | .8 ,zA) sisteM | Suffate by 300 | | Residual Chio | | | |
| | 2 | 11/19 | क है। प | 0-114K 13:00 | 70/2/2 | E | 60 | | \downarrow | 村 | X | 荰 | | | | | | |
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| | | <u> </u> | | _ | 3 | | | | | | | | | | | | | |
| | | <u> </u> | | 12/12 | | <u>\</u> | | | | | | | | | | | | |
| | Ë | 7 | _ | | | | | | | | | | | | <u>_</u> | | | |
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| | 1 | <u>\</u> | | | | | | | | | _ | - } - : - : | _ ; _ ; | - } - } | _ | | | |
| | | | | | | | | | Щ | Ш | | | | 3 | e e | MOR-ZOLOWAW | | |
| | | | | | | | | | | | | | | | Due | Date: (| Due Date: 04/10/19 | _ |
| | | | | | | | | | | | | 2 | CLIENT: (| GAPouer-CCR | 200 | | | |
| | | | | 1 | 1 | | | | | | | - | | | | Succession of the succession o | / / J | \ |
| ADDITIONAL COMMENTS | | Organiza | RELINGUISHED BY / AFFILIATION | · 统 | (K) | 186 Y | , , è | A LA | ACCEPTED BY I AFFILIATION | VI AFFELAT | <u>z</u> | 3/17/ | 9 | 250 | | | 6. | |
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| | 20 / | 77 / | | 7 7 | +~ | 2/1/6 | | | 7, | 9 | | 34(3,1 | | Thoo | | | | |
| | 01/01 | 2 | A STATE OF THE STA | | | | 17/2 | Lal | mon | 13 | دا | 7/6 | 3/19 | 31406 | 22.5 | 7 | X | |
| | | | SAMPL PRI | SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: - K SIGNATURE of SAMPLER: | | ASH, | A LANGE | | क्र | | 1 CALLSD DATE SIGNED | 30 CT 75 | <u>ু</u> | 5# 70 10 10 10 10 10 10 10 1 | TEMP in C | Received on ~ (Y/N) Sesied | Cooler Cooler (Y/N) Intact (Y/N) | • |
| | | | | | | | | | | 4 | | 1 | <u> </u> | | | 1 | | , |

| - Carried Street | Samp | ie Cone | illon | Opon Receipt | | | |
|--|--|----------------|------------|---------------------------|-----------------------------|-----------------------------|--------|
| Face Analy | <i>tical[¨]</i> Client Name: _ | GU | 4 | Power | Project # | | |
| Courier: ☐ Fed E | k ☐ UPS ☐ USPS ☐ Client | i | • | | MO# : 2 | 2616040 | |
| Tracking #: | | 1 | ici ciai , | A race officer | MOTT A | | 10/10 |
| | poler/Box Present: yes | no | Seals | intact: / yes | PM: BM CLIENT: GA | Due Date: 04/: Power-CCR | 10, 73 |
| Packing Material: | ☐ Bubble Wrap ☐ Bubble Ba | ıgs 📈 | None | Other | | e | |
| Thermometer Used | | | | | Samples on ice, coo | ing process has begun | |
| Cooler Temperatur | <u> </u> | | ~ | is Frozen: Yes No | Date and Initials | of person/examining | |
| Temp should be above | | | | Comments: | contents: | 113/19 mg | |
| Chain of Custody Pr | | TYES □No | □N/A | | L | | |
| Chain of Custody Fil | | TYes □No | | | | | |
| Chain of Custody Re | | TYes □No | | | | | |
| Sampler Name & Si | | Tres DNo | | - | | | |
| Samples Arrived wit | | TYPS □NO | | | | | |
| Short Hold Time A | | TYes □M6 | | <u> </u> | | | |
| | | | | | | | |
| Rush Turn Around | | □Yes □M6 | | | | | |
| Sufficient Volume: | | ayes □No | | | | | |
| Correct Containers | | ⊒YES □No | | 19. 1 | | | |
| -Pace Containers | | dYes □No | | | | | |
| Containers Intact: | | ZYES □No | | | | | |
| Filtered volume rece | | ⊒Yes □No | | | | | |
| Sample Labels mate | ير h COC: | JY#S □NG | □N/A | 12. | | | |
| -Includes date/tir | | \perp^{\sim} | | | | | |
| All containers needing p | reservation have been checked. | ZY€s □No | □N/A | 13. | | | |
| All containers needing compliance with EPA | preservation are found to be in ecommendation. | ZYES ONO | □n/a | | | | |
| exceptions: VOA, colifor | m. TOC. O&G, WI-DRO (water) | JYes √2MG | 4 | Initial when completed | Lot # of added preservative | | |
| Samples checked for | r dechlorination: | □Yes □No | € N/A | 14. | | | |
| Headspace in VOA | 1 | ⊒Yes □No | .₽N/A | 15. | | | |
| Trip Blank Present: | | □Yes □No | _ ZIN∏A | 16. | | | |
| Trip Blank Custody | i | □Yes □No | -EN/A | 1 | | | |
| Pace Trip Blank Lot | | | | | | | |
| | | | | | | | |
| Client Notification | | | D-4- | Timo | Field Data Required | ? Y / N | |
| Person Cont | | | Date/ | Time: | <u> </u> | | |
| Comments/ Reso | ution: | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | - | | | | |
| Project Manage | r Review: | | | | Date: | | |
| Note: Whenever ther | e is a discrepancy affecting North Car | olina compl | iance sa | mples, a copy of this for | m will be sent to the Nort | n Carolina DEHNR | |

F-ALLCOQ3rev.3, 11September2@065 of 15





March 25, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2616162

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on March 15, 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

Beton M Damil

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







CERTIFICATIONS

Project: Plant Hammond Pace Project No.: 2616162

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



SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2616162

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2616162001 | HGWC-15 | Water | 03/14/19 09:58 | 03/15/19 13:00 |
| 2616162002 | FD-2 | Water | 03/14/19 00:00 | 03/15/19 13:00 |
| 2616162003 | HGWC-18 | Water | 03/14/19 14:53 | 03/15/19 13:00 |
| 2616162004 | MW-23D | Water | 03/14/19 16:42 | 03/15/19 13:00 |
| 2616162005 | HGWC-14 | Water | 03/14/19 16:41 | 03/15/19 13:00 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2616162

| Lab ID | Sample ID | Method | Analysts | Analytes Reported |
|------------|-----------|-----------|----------|----------------------|
| 2616162001 | HGWC-15 | EPA 6020B | CSW | 12 |
| | | EPA 7470A | DRB | 1 |
| | | EPA 300.0 | MWB | 1 |
| 2616162002 | FD-2 | EPA 6020B | CSW | 12 |
| | | EPA 7470A | DRB | 1 |
| | | EPA 300.0 | MWB | 1 |
| 2616162003 | HGWC-18 | EPA 6020B | CSW | 12 |
| | | EPA 7470A | DRB | 1 |
| | | EPA 300.0 | MWB | 1 |
| 2616162004 | MW-23D | EPA 6020B | CSW | 12 |
| | | EPA 7470A | DRB | 1 |
| | | EPA 300.0 | MWB | 1 |
| 2616162005 | HGWC-14 | EPA 6020B | CSW | 12 |
| | | EPA 7470A | DRB | 1 |
| | | EPA 300.0 | MWB | 1 |



Project: Plant Hammond

Pace Project No.: 2616162

Date: 03/25/2019 08:20 AM

| Sample: HGWC-15 | Lab ID: | 2616162001 | Collect | ed: 03/14/19 | 09:58 | Received: 03/ | 15/19 13:00 Ma | atrix: Water | |
|-------------------------|------------|-------------|-----------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Met | hod: Ef | PA 3005A | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00078 | 1 | 03/19/19 12:14 | 03/21/19 13:35 | 7440-36-0 | |
| Arsenic | ND | mg/L | 0.0050 | 0.00057 | 1 | 03/19/19 12:14 | 03/21/19 13:35 | 7440-38-2 | |
| Barium | 0.021 | mg/L | 0.010 | 0.00078 | 1 | 03/19/19 12:14 | 03/21/19 13:35 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000050 | 1 | 03/19/19 12:14 | 03/21/19 13:35 | 7440-41-7 | |
| Cadmium | 0.0024 | mg/L | 0.0010 | 0.000093 | 1 | 03/19/19 12:14 | 03/21/19 13:35 | 7440-43-9 | |
| Chromium | ND | mg/L | 0.010 | 0.0016 | 1 | 03/19/19 12:14 | 03/21/19 13:35 | 7440-47-3 | |
| Cobalt | 0.038 | mg/L | 0.010 | 0.00052 | 1 | 03/19/19 12:14 | 03/21/19 13:35 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.00027 | 1 | 03/19/19 12:14 | 03/21/19 13:35 | 7439-92-1 | |
| Lithium | ND | mg/L | 0.050 | 0.00097 | 1 | 03/19/19 12:14 | 03/21/19 13:35 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.0019 | 1 | 03/19/19 12:14 | 03/21/19 13:35 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0014 | 1 | 03/19/19 12:14 | 03/21/19 13:35 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.00014 | 1 | 03/19/19 12:14 | 03/21/19 13:35 | 7440-28-0 | |
| 7470 Mercury | Analytical | Method: EPA | 7470A Pre | paration Met | hod: EF | PA 7470A | | | |
| Mercury | ND | mg/L | 0.00050 | 0.000036 | 1 | 03/18/19 10:52 | 03/19/19 16:39 | 7439-97-6 | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Fluoride | ND | mg/L | 0.30 | 0.029 | 1 | | 03/22/19 02:16 | 16984-48-8 | |



Date: 03/25/2019 08:20 AM

ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2616162

| Sample: FD-2 | Lab ID: | 2616162002 | Collecte | ed: 03/14/19 | 00:00 | Received: 03/ | 15/19 13:00 Ma | atrix: Water | |
|-------------------------|------------|-------------|-----------|--------------|---------|----------------|----------------|--------------|------|
| 5 . | D " | | Report | MDI | 5.5 | | | 0404 | 0 1 |
| Parameters | Results | Units | Limit | MDL_ | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00078 | 1 | 03/19/19 12:14 | 03/21/19 13:41 | 7440-36-0 | |
| Arsenic | ND | mg/L | 0.0050 | 0.00057 | 1 | 03/19/19 12:14 | 03/21/19 13:41 | 7440-38-2 | |
| Barium | 0.021 | mg/L | 0.010 | 0.00078 | 1 | 03/19/19 12:14 | 03/21/19 13:41 | 7440-39-3 | |
| Beryllium | 0.000063J | mg/L | 0.0030 | 0.000050 | 1 | 03/19/19 12:14 | 03/21/19 13:41 | 7440-41-7 | |
| Cadmium | 0.0023 | mg/L | 0.0010 | 0.000093 | 1 | 03/19/19 12:14 | 03/21/19 13:41 | 7440-43-9 | |
| Chromium | ND | mg/L | 0.010 | 0.0016 | 1 | 03/19/19 12:14 | 03/21/19 13:41 | 7440-47-3 | |
| Cobalt | 0.040 | mg/L | 0.010 | 0.00052 | 1 | 03/19/19 12:14 | 03/21/19 13:41 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.00027 | 1 | 03/19/19 12:14 | 03/21/19 13:41 | 7439-92-1 | |
| Lithium | 0.00099J | mg/L | 0.050 | 0.00097 | 1 | 03/19/19 12:14 | 03/21/19 13:41 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.0019 | 1 | 03/19/19 12:14 | 03/21/19 13:41 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0014 | 1 | 03/19/19 12:14 | 03/21/19 13:41 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.00014 | 1 | 03/19/19 12:14 | 03/21/19 13:41 | 7440-28-0 | |
| 7470 Mercury | Analytical | Method: EPA | 7470A Pre | paration Met | hod: EF | PA 7470A | | | |
| Mercury | ND | mg/L | 0.00050 | 0.000036 | 1 | 03/18/19 10:52 | 03/19/19 16:41 | 7439-97-6 | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Fluoride | ND | mg/L | 0.30 | 0.029 | 1 | | 03/22/19 04:18 | 16984-48-8 | |



Project: Plant Hammond

Pace Project No.: 2616162

Date: 03/25/2019 08:20 AM

| Sample: HGWC-18 | Lab ID: | 2616162003 | Collecte | ed: 03/14/19 | 14:53 | Received: 03/ | 15/19 13:00 Ma | atrix: Water | |
|-------------------------|------------|---------------|-----------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters — | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA 6 | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00078 | 1 | 03/19/19 12:14 | 03/21/19 13:46 | 7440-36-0 | |
| Arsenic | 0.0036J | mg/L | 0.0050 | 0.00057 | 1 | 03/19/19 12:14 | 03/21/19 13:46 | 7440-38-2 | |
| Barium | 0.029 | mg/L | 0.010 | 0.00078 | 1 | 03/19/19 12:14 | 03/21/19 13:46 | 7440-39-3 | |
| Beryllium | 0.0026J | mg/L | 0.0030 | 0.000050 | 1 | 03/19/19 12:14 | 03/21/19 13:46 | 7440-41-7 | |
| Cadmium | 0.0019 | mg/L | 0.0010 | 0.000093 | 1 | 03/19/19 12:14 | 03/21/19 13:46 | 7440-43-9 | |
| Chromium | ND | mg/L | 0.010 | 0.0016 | 1 | 03/19/19 12:14 | 03/21/19 13:46 | 7440-47-3 | |
| Cobalt | 0.16 | mg/L | 0.010 | 0.00052 | 1 | 03/19/19 12:14 | 03/21/19 13:46 | 7440-48-4 | |
| Lead | 0.0015J | mg/L | 0.0050 | 0.00027 | 1 | 03/19/19 12:14 | 03/21/19 13:46 | 7439-92-1 | |
| Lithium | 0.011J | mg/L | 0.050 | 0.00097 | 1 | 03/19/19 12:14 | 03/21/19 13:46 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.0019 | 1 | 03/19/19 12:14 | 03/21/19 13:46 | 7439-98-7 | |
| Selenium | 0.016 | mg/L | 0.010 | 0.0014 | 1 | 03/19/19 12:14 | 03/21/19 13:46 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.00014 | 1 | 03/19/19 12:14 | 03/21/19 13:46 | 7440-28-0 | |
| 7470 Mercury | Analytical | Method: EPA | 7470A Pre | paration Met | hod: EF | PA 7470A | | | |
| Mercury | ND | mg/L | 0.00050 | 0.000036 | 1 | 03/18/19 10:52 | 03/19/19 16:44 | 7439-97-6 | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Fluoride | 0.88 | mg/L | 0.30 | 0.029 | 1 | | 03/22/19 04:43 | 16984-48-8 | |



Project: Plant Hammond

Pace Project No.: 2616162

Date: 03/25/2019 08:20 AM

| Sample: MW-23D | Lab ID: | 2616162004 | Collecte | ed: 03/14/19 | 16:42 | Received: 03/ | 15/19 13:00 Ma | atrix: Water | |
|-------------------------|------------|---------------|-----------|--------------|---------|----------------|----------------|--------------|-----|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qua |
| 6020B MET ICPMS | Analytical | Method: EPA 6 | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00078 | 1 | 03/19/19 12:14 | 03/21/19 13:52 | 7440-36-0 | |
| Arsenic | ND | mg/L | 0.0050 | 0.00057 | 1 | 03/19/19 12:14 | 03/21/19 13:52 | 7440-38-2 | |
| Barium | 0.082 | mg/L | 0.010 | 0.00078 | 1 | 03/19/19 12:14 | 03/21/19 13:52 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000050 | 1 | 03/19/19 12:14 | 03/21/19 13:52 | 7440-41-7 | |
| Cadmium | ND | mg/L | 0.0010 | 0.000093 | 1 | 03/19/19 12:14 | 03/21/19 13:52 | 7440-43-9 | |
| Chromium | ND | mg/L | 0.010 | 0.0016 | 1 | 03/19/19 12:14 | 03/21/19 13:52 | 7440-47-3 | |
| Cobalt | 0.0013J | mg/L | 0.010 | 0.00052 | 1 | 03/19/19 12:14 | 03/21/19 13:52 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.00027 | 1 | 03/19/19 12:14 | 03/21/19 13:52 | 7439-92-1 | |
| Lithium | 0.0028J | mg/L | 0.050 | 0.00097 | 1 | 03/19/19 12:14 | 03/21/19 13:52 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.0019 | 1 | 03/19/19 12:14 | 03/21/19 13:52 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0014 | 1 | 03/19/19 12:14 | 03/21/19 13:52 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.00014 | 1 | 03/19/19 12:14 | 03/21/19 13:52 | 7440-28-0 | |
| 7470 Mercury | Analytical | Method: EPA 7 | 7470A Pre | paration Met | hod: EF | PA 7470A | | | |
| Mercury | ND | mg/L | 0.00050 | 0.000036 | 1 | 03/18/19 10:52 | 03/19/19 16:46 | 7439-97-6 | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA 3 | 300.0 | | | | | | |
| Fluoride | ND | mg/L | 0.30 | 0.029 | 1 | | 03/22/19 05:32 | 16984-48-8 | |



Project: Plant Hammond

Pace Project No.: 2616162

Date: 03/25/2019 08:20 AM

| Sample: HGWC-14 | Lab ID: | 2616162005 | Collecte | ed: 03/14/19 | 16:41 | Received: 03/ | 15/19 13:00 Ma | atrix: Water | |
|-------------------------|------------|---------------|-----------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL . | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA 6 | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00078 | 1 | 03/19/19 12:14 | 03/21/19 13:58 | 7440-36-0 | |
| Arsenic | 0.0029J | mg/L | 0.0050 | 0.00057 | 1 | 03/19/19 12:14 | 03/21/19 13:58 | 7440-38-2 | |
| Barium | 0.019 | mg/L | 0.010 | 0.00078 | 1 | 03/19/19 12:14 | 03/21/19 13:58 | 7440-39-3 | |
| Beryllium | 0.00043J | mg/L | 0.0030 | 0.000050 | 1 | 03/19/19 12:14 | 03/21/19 13:58 | 7440-41-7 | |
| Cadmium | ND | mg/L | 0.0010 | 0.000093 | 1 | 03/19/19 12:14 | 03/21/19 13:58 | 7440-43-9 | |
| Chromium | ND | mg/L | 0.010 | 0.0016 | 1 | 03/19/19 12:14 | 03/21/19 13:58 | 7440-47-3 | |
| Cobalt | 0.025 | mg/L | 0.010 | 0.00052 | 1 | 03/19/19 12:14 | 03/21/19 13:58 | 7440-48-4 | |
| Lead | 0.0014J | mg/L | 0.0050 | 0.00027 | 1 | 03/19/19 12:14 | 03/21/19 13:58 | 7439-92-1 | |
| Lithium | ND | mg/L | 0.050 | 0.00097 | 1 | 03/19/19 12:14 | 03/21/19 13:58 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.0019 | 1 | 03/19/19 12:14 | 03/21/19 13:58 | 7439-98-7 | |
| Selenium | 0.0048J | mg/L | 0.010 | 0.0014 | 1 | 03/19/19 12:14 | 03/21/19 13:58 | 7782-49-2 | |
| Thallium | 0.00028J | mg/L | 0.0010 | 0.00014 | 1 | 03/19/19 12:14 | 03/21/19 13:58 | 7440-28-0 | |
| 7470 Mercury | Analytical | Method: EPA 7 | 7470A Pre | paration Met | hod: EF | PA 7470A | | | |
| Mercury | ND | mg/L | 0.00050 | 0.000036 | 1 | 03/18/19 10:52 | 03/19/19 16:49 | 7439-97-6 | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA 3 | 300.0 | | | | | | |
| Fluoride | 0.24J | mg/L | 0.30 | 0.029 | 1 | | 03/22/19 05:57 | 16984-48-8 | |



Project: Plant Hammond

Pace Project No.: 2616162

Date: 03/25/2019 08:20 AM

QC Batch: 24464 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury

Associated Lab Samples: 2616162001, 2616162002, 2616162003, 2616162004, 2616162005

METHOD BLANK: 109864 Matrix: Water

Associated Lab Samples: 2616162001, 2616162002, 2616162003, 2616162004, 2616162005

Blank Reporting

Parameter Units Result Limit MDL Analyzed Qualifiers

Mercury mg/L ND 0.00050 0.000036 03/19/19 14:39

LABORATORY CONTROL SAMPLE: 109865

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Mercury mg/L 0.0025 0.0026 102 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 109866 109867

MS MSD 2616120001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD RPD Qual 0.0025 0.0025 0.0025 0.0025 75-125 20 Mercury mg/L ND 101 102

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



Project: Plant Hammond

Pace Project No.: 2616162

Thallium

Date: 03/25/2019 08:20 AM

 QC Batch:
 24597
 Analysis Method:
 EPA 6020B

 QC Batch Method:
 EPA 3005A
 Analysis Description:
 6020B MET

 Associated Lab Samples:
 2616162001, 2616162002, 2616162003, 2616162004, 2616162005

METHOD BLANK: 110486 Matrix: Water

Associated Lab Samples: 2616162001, 2616162002, 2616162003, 2616162004, 2616162005

mg/L

| | | Blank | Reporting | | | |
|------------|-------|--------|-----------|----------|----------------|------------|
| Parameter | Units | Result | Limit | MDL | Analyzed | Qualifiers |
| Antimony | mg/L | ND ND | 0.0030 | 0.00078 | 03/21/19 13:23 | |
| Arsenic | mg/L | ND | 0.0050 | 0.00057 | 03/21/19 13:23 | |
| Barium | mg/L | ND | 0.010 | 0.00078 | 03/21/19 13:23 | |
| Beryllium | mg/L | ND | 0.0030 | 0.000050 | 03/21/19 13:23 | |
| Cadmium | mg/L | ND | 0.0010 | 0.000093 | 03/21/19 13:23 | |
| Chromium | mg/L | ND | 0.010 | 0.0016 | 03/21/19 13:23 | |
| Cobalt | mg/L | ND | 0.010 | 0.00052 | 03/21/19 13:23 | |
| Lead | mg/L | ND | 0.0050 | 0.00027 | 03/21/19 13:23 | |
| Lithium | mg/L | ND | 0.050 | 0.00097 | 03/21/19 13:23 | |
| Molybdenum | mg/L | ND | 0.010 | 0.0019 | 03/21/19 13:23 | |
| Selenium | mg/L | ND | 0.010 | 0.0014 | 03/21/19 13:23 | |
| Thallium | mg/L | ND | 0.0010 | 0.00014 | 03/21/19 13:23 | |

| LABORATORY CONTROL SAMPLE: | 110487 | | | | | |
|----------------------------|--------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Antimony | mg/L | 0.1 | 0.11 | 106 | 80-120 | |
| Arsenic | mg/L | 0.1 | 0.10 | 104 | 80-120 | |
| Barium | mg/L | 0.1 | 0.10 | 102 | 80-120 | |
| Beryllium | mg/L | 0.1 | 0.10 | 102 | 80-120 | |
| Cadmium | mg/L | 0.1 | 0.10 | 103 | 80-120 | |
| Chromium | mg/L | 0.1 | 0.11 | 106 | 80-120 | |
| Cobalt | mg/L | 0.1 | 0.10 | 102 | 80-120 | |
| Lead | mg/L | 0.1 | 0.10 | 101 | 80-120 | |
| Lithium | mg/L | 0.1 | 0.10 | 103 | 80-120 | |
| Molybdenum | mg/L | 0.1 | 0.11 | 106 | 80-120 | |
| Selenium | mg/L | 0.1 | 0.11 | 109 | 80-120 | |

0.1

| MATRIX SPIKE & MATRIX S | SPIKE DUPLIC | CATE: 110488 | 3 | | 110489 | | | | | | | |
|-------------------------|--------------|----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|------|
| Parameter | Units | 2616179004 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
| Antimony | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 103 | 102 | 75-125 | 1 | 20 | |
| Arsenic | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.098 | 100 | 98 | 75-125 | 3 | 20 | |
| Barium | mg/L | 0.010 | 0.1 | 0.1 | 0.11 | 0.11 | 98 | 98 | 75-125 | 0 | 20 | |
| Beryllium | mg/L | ND | 0.1 | 0.1 | 0.097 | 0.093 | 97 | 93 | 75-125 | 5 | 20 | |
| Cadmium | mg/L | 0.00015J | 0.1 | 0.1 | 0.10 | 0.097 | 100 | 97 | 75-125 | 3 | 20 | |

0.10

101

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.



Project: Plant Hammond

Pace Project No.: 2616162

Date: 03/25/2019 08:20 AM

| MATRIX SPIKE & MATRIX S | SPIKE DUPLICA | ATE: 110488 | | MCD | 110489 | | | | | | | |
|-------------------------|---------------|----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|------|
| Parameter | Units | 2616179004 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
| Chromium | mg/L | ND | 0.1 | 0.1 | 0.099 | 0.10 | 98 | 100 | 75-125 | 2 | 20 | - |
| Cobalt | mg/L | ND | 0.1 | 0.1 | 0.094 | 0.094 | 94 | 94 | 75-125 | 0 | 20 | |
| Lead | mg/L | ND | 0.1 | 0.1 | 0.097 | 0.093 | 97 | 93 | 75-125 | 4 | 20 | |
| Lithium | mg/L | ND | 0.1 | 0.1 | 0.099 | 0.095 | 98 | 94 | 75-125 | 4 | 20 | |
| Molybdenum | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 103 | 103 | 75-125 | 0 | 20 | |
| Selenium | mg/L | ND | 0.1 | 0.1 | 0.098 | 0.098 | 98 | 98 | 75-125 | 0 | 20 | |
| Thallium | mg/L | ND | 0.1 | 0.1 | 0.097 | 0.094 | 97 | 94 | 75-125 | 3 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2616162

Date: 03/25/2019 08:20 AM

QC Batch: 24743 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 2616162001, 2616162002, 2616162003, 2616162004, 2616162005

METHOD BLANK: 111327 Matrix: Water

Associated Lab Samples: 2616162001, 2616162002, 2616162003, 2616162004, 2616162005

Blank

Parameter Units Result Limit MDL Analyzed Qualifiers

Reporting

Fluoride mg/L ND 0.30 0.029 03/21/19 21:46

LABORATORY CONTROL SAMPLE: 111328

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Fluoride mg/L 10 10.4 104 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 111329 111330

MS MSD 2616160010 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD RPD Qual Fluoride ND 10 11.5 115 90-110 2 15 M1 mg/L 10 11.2 112

 MATRIX SPIKE SAMPLE:
 111331
 2616160011
 Spike
 MS
 MS
 % Rec

 Parameter
 Units
 Result
 Conc.
 Result
 % Rec
 Limits
 Qualifiers

Fluoride mg/L 1.6 10 13.6 120 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.



QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2616162

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

Date: 03/25/2019 08:20 AM

M1

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



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2616162

Date: 03/25/2019 08:20 AM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|-----------------|----------|-------------------|---------------------|
| 2616162001 | HGWC-15 | EPA 3005A | 24597 | EPA 6020B | 24647 |
| 2616162002 | FD-2 | EPA 3005A | 24597 | EPA 6020B | 24647 |
| 2616162003 | HGWC-18 | EPA 3005A | 24597 | EPA 6020B | 24647 |
| 2616162004 | MW-23D | EPA 3005A | 24597 | EPA 6020B | 24647 |
| 2616162005 | HGWC-14 | EPA 3005A | 24597 | EPA 6020B | 24647 |
| 2616162001 | HGWC-15 | EPA 7470A | 24464 | EPA 7470A | 24540 |
| 2616162002 | FD-2 | EPA 7470A | 24464 | EPA 7470A | 24540 |
| 2616162003 | HGWC-18 | EPA 7470A | 24464 | EPA 7470A | 24540 |
| 2616162004 | MW-23D | EPA 7470A | 24464 | EPA 7470A | 24540 |
| 2616162005 | HGWC-14 | EPA 7470A | 24464 | EPA 7470A | 24540 |
| 2616162001 | HGWC-15 | EPA 300.0 | 24743 | | |
| 2616162002 | FD-2 | EPA 300.0 | 24743 | | |
| 2616162003 | HGWC-18 | EPA 300.0 | 24743 | | |
| 2616162004 | MW-23D | EPA 300.0 | 24743 | | |
| 2616162005 | HGWC-14 | EPA 300.0 | 24743 | | |

N (N/A)ntact Samples SAMPLE CONDITIONS (N/A) Cooler Z Set Delse2 Custody (N/A) Кесвічед ол Residual Chlorine (Y/N) J S TEMP in C 12020 1300 3 14 19 18 x8 THE DATE Signed: 03/14/19 3/14/19 15/13 3/1**8** DATE enliate by 300.0 Metals (As, B, Co, Mo) pennica Wealth, 199CE Radium 226/228 ACCEPTED BY (AFFULATION slateM VI .qq/ Ńλ * Jac Teesyland 327.4 (AP) or 328.5 (Huff) Grant Walter tensatiely Preservatives EOSSSBN HOBM Pace Project Manager: Pace Profile #: 327 ЮН Section C Invoice Informatic CHAIN-OF-CUSTODY The Chain-of-Custody is a LEGAL EONH ~ 8/8 Pace Quote: HS2O4 SAWPLER NAME AND SIGNATURE Unpreserved 716 02/14 17:31 02A 14:58 164 # OF CONTAINERS 11 85 to 120 total 1.88 16 (reasoner 102/HV19 SAMPLE TEMP AT COLLECTION Maple Congagnate 14/1/19 3/15/19 SIGNATURE of SAMPLER: DATE ᄪ ₽ 2 DATE ०अस WT 6-03/14 16:37 63/41 COLLECTED Report To: Joju Abraham / Lauren Petty Copy To: Geosyntec TIME 1608E 1 Purchase Order #: SCS10348606 Project Name. Plant Hammond. Project #: START DATE Required Project Information: great Link Modle M. SAMPLE TYPE (G=GRAB C=COMP) MATRIX CODE (see velid codes to left) MATRIX
Dehating Water
Water
Water
Water
Product
Product
Product
O3
Whee
Air
Ching
Ching
Tissue Georgia Power - Coal Combustion Residuals 2480 Maner Road One Character per box. (A-2, 0-91, -)
Sample Ids must be unique ADDITIONAL COMNENTS mail: jabraham@southernco.com SAMPLE ID Phone: (404)506-7239 Fa MW-23 D ガーンダウエ Atlanta, GA 30339 tequired Client Information: ナラカカ **ひ-2** 10 # MaTi

MO#:2616162

Sout Walth

Page 16 of 18

(N/A) Samples Samples SAMPLE CONDITIONS Cooler (Y/N) set 0 ŏ belse2 Custod Regulatory Agency State / Location (N/A) Received on Residual Chlorina (Y/V) TEMP in C Due Date: 03/22/19 TIME (3/14/4 2016 14 Juday 1600 3/14/19 1870 3/15/19/1129 <u>/3</u>90/ Requested Analysis Filtered (Y/N) MO#:2616162 DATE Signed: 3/14/19 DATE 3/15/19 Sulfate by 300.0 Metals (As, B, Co, Mo) CLIENT: GAPower-CCR Radium 226/228 betsy.mcdaniel@pacelabs.com pension Wedden PACE Fluoride by 300.0 ACCEPTED BY (AFFILIATION Attention: scsinvoicestasoumernco, com M. RAHMAN stateM VI .qqA . N/X deeT seaving. PA: 84 327.4 (AP) or 328.5 (Huff) TICKYEE tonsriteM Na2S2O3 Preservatives 7 CHAIN-OF-CUSTODY / Ar The Chain-of-Custody is a LEGAL DOCI HOBN Address:
Pace Quote:
Pace Project Manager:
Pace Profile #: 327.4 (нсі invoice information: **EONH** Company Name SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: TME 112-9 **⊁OSZH** 3/4/14 1840 20% Unpreserved # OF CONTAINERS प्राप्ति १८०० शिषान १८५१ १ म SIGNATURE of SAMPLER: SAMPLE TEMP AT COLLECTION Madia montemason Higher 5/15/19 DARE TAKE 8 DATE RELINGUISHED BY / AFFILIATION COLLECTED WE low Boymber Report To: Joju Abraham / Lauren Petty TIME SCS10348606 START Purchase Order #: SCS103486/ Project Name: Plant Hammond Required Project Information: DATE Geosyntec MATRIX CODE (see valid codes to left) 2 Copy To: MATRIX
Drunking Water
Water
Waste Water
Wasse Water
Product
Product
Product
Osl Webe
Osl Webe
Air
Chher
Tissue Georgia Power - Coal Combustion Residuals ADDITIONAL COMMENTS Phone: (404)506-7239 Fex. Requested Due Date: Sankard TR (A-Z, 0-97, -) Sample Ids must be unique jabraham@southernco.com TOWC-IX One Character per box. SAMPLE ID 2480 Maner Road Page 17 of 18 5 6 Email: 10 1

ILEM #

| 62 | <u> 616162</u> | 10# : 26 | M | n Receipt | Upor | ition | ond | a (| Sample | | (Care and) |
|-------------|-----------------------|--------------------------------|--------------|-------------|------------|--------------|---------|--------------------|------------------|---|---|
| ate: 03/22/ | Due Date | 1: BM .IENT: GAPow | PM: | <u>ccr</u> | <u>- (</u> | ves | Por | A | t Name: <u>G</u> | <i>rtical</i> Client | Pace Anal |
| | e Date: | Proj. Due D | | iriet | Cou | | | | | x UPS USP | Tracking #: |
| <u> </u> | | | ∐ no | ☐ yes | intact: | Seals | 10 | 1 ' | : ☐yes ☑ | ooler/Box Present: | Custody Seal on (|
| | | | | her | ☐ Oth | one [| Ŋ N | <u>.</u> | Bubble Bag | ☐ Bubble Wrap | Packing Material: |
| | ling process has begi | | | e None | Blue | Wet | of Ice: | þе | | 000 | Thermometer Use |
| mining | s of person examining | Date and Initials of contents: | Da | zen: Yes No | is Froz | issue | gical T | dlo | ී උBic | re <u>4.5</u> | Cooler Temperatu |
| | | | <u> </u> | ments: | Comm | | | ╄ | | e freezing to 6°C | Temp should be above |
| | | | | | 1. | □N/A | □No | es | <u> </u> | resent: | Chain of Custody F |
| | | | | | 2. | □n/a | □No | €s | <u>rs</u> v | illed Out: | Chain of Custody F |
| | | | | | 3. | □n/a | □No | es | لاتا | elinquished: | Chain of Custody F |
| | | | | | 4. | □n/a | □No | es | | ignature on COC: | Sampler Name & S |
| | | | | | 5. | □N/A | □No | ∳es | <u> </u> | thin Hold Time: | Samples Arrived w |
| | | | | | 6. | □n/a | IJÃo | es | <u></u> | nalysis (<72hr): | Short Hold Time |
| | | | | | 7. | □n/a | ₽Ño | yes | <u></u> | d Time Requested: | Rush Turn Aroun |
| | | | | | 8. | □n/a | □No | es | | | Sufficient Volume: |
| | | | | | 9. | □n/a | □No | ¥es | ⊠ | Used: | Correct Containers |
| | | | | | | □n/a | □No | Yes | G/ | s Used: | -Pace Containe |
| | | | | | 10. | □n/a | □No | es | 521 | | Containers Intact: |
| | | | | | 11. | ØÑ/A | □No | Yes | tests 🗅 | eived for Dissolved t | Filtered volume red |
| | | | | | 12. | □n/a | □No | Ve: | ₽ | ch COC: | Sample Labels ma |
| | | | : i | | | _ | | 1 | Matrix: W1 | me/ID/Analysis | -Includes date/t |
| | | | 1 | | 13. | □n/a | □No | re: | i checked. | preservation have been | All containers needing |
| | | | | | | □n/a | □No | re: | nd to be in 🖼 | g preservation are foun- recommendation. | All containers needin compliance with EPA |
| | | # of added servative | | | Initial v | | . ₩o | /es | (water) | xm, TOC, O&G, WI-DRO (| exceptions: VOA, colife |
| | | | | | 14. | ⊠ N/A | □No | /e | | or dechlorination: | Samples checked |
| | | | | | 15. | ⊠ N/A | □No | l e | | Vials (>6mm): | Headspace in VOA |
| | | | : | | 16. | DZN/A | □No | l ve | | | Trip Blank Present |
| 1 | | | | | | TON/A | □No | l /e | | Seals Present | Trip Blank Custody |
| | | | | | | | | | | t # (if purchased): | Pace Trip Blank Lo |
| | d? Y / N | d Data Required? | Field | | | | | F | | / Resolution: | Client Notification |
| " | | d Data Required: | i Tield | | Time: | Date/ | | | | acted: | |
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| | | Date: | | | | | | _ | | r Review: | Project Manag |
| | th Carolina DEHN | | rm will be s | | | | | | | er Review: | Note: Whenever the |





April 02, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2616170

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on March 15, 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

Beton M Damil

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



(770)734-4200



CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2616170

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

Vermont Dept. of Health: ID# V1-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L



SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2616170

| Lab ID | Sample ID | Matrix | Date Collected | Date Received | |
|------------|-----------|--------|----------------|----------------|--|
| 2616170001 | HGWC-15 | Water | 03/14/19 09:58 | 03/15/19 13:00 | |
| 2616170002 | FD-2 | Water | 03/14/19 00:00 | 03/15/19 13:00 | |
| 2616170003 | HGWC-18 | Water | 03/14/19 14:53 | 03/15/19 13:00 | |
| 2616170004 | MW-23D | Water | 03/14/19 16:42 | 03/15/19 13:00 | |
| 2616170005 | HGWC-14 | Water | 03/14/19 16:41 | 03/15/19 13:00 | |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2616170

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|--------------------------|----------|----------------------|------------|
| 2616170001 | HGWC-15 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | JAL | 1 | PASI-PA |
| 2616170002 | FD-2 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | JAL | 1 | PASI-PA |
| 2616170003 | HGWC-18 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | JAL | 1 | PASI-PA |
| 2616170004 | MW-23D | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2616170005 | HGWC-14 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |



Project: Plant Hammond

Pace Project No.: 2616170

Sample: HGWC-15 Lab ID: 2616170001 Collected: 03/14/19 09:58 Received: 03/15/19 13:00 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 | 0.228 ± 0.111 (0.167) C:97% T:NA | pCi/L | 03/26/19 21:15 | 13982-63-3 | |
| Radium-228 | EPA 9320 | 0.234 ± 0.670 (1.49) C:75% T:84% | pCi/L | 03/27/19 19:43 | 15262-20-1 | |
| Total Radium | Total Radium Calculation | 0.462 ± 0.781 (1.66) | pCi/L | 03/28/19 15:44 | 7440-14-4 | |



Project: Plant Hammond

Pace Project No.: 2616170

Sample: FD-2 Lab ID: 2616170002 Collected: 03/14/19 00:00 Received: 03/15/19 13:00 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 | 0.151 ± 0.107 (0.183) C:93% T:NA | pCi/L | 03/26/19 21:15 | 13982-63-3 | |
| Radium-228 | EPA 9320 | 0.743 ± 0.749 (1.56) C:71% T:83% | pCi/L | 03/27/19 19:43 | 15262-20-1 | |
| Total Radium | Total Radium Calculation | 0.894 ± 0.856 (1.74) | pCi/L | 03/28/19 15:44 | 7440-14-4 | |



Project: Plant Hammond

Pace Project No.: 2616170

Sample: HGWC-18 Lab ID: 2616170003 Collected: 03/14/19 14:53 Received: 03/15/19 13:00 Matrix: Water

PWS: Site ID: Sample Type:

Comments: • Sample collection time on containers does not match COC: client was notified.

| Commente: Campie concer | ion time on containers docs | That materi 600, ellerit was notified. | | | | |
|-------------------------|-----------------------------|--|-------|----------------|------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | EPA 9315 | 1.35 ± 0.284 (0.199) C:92% T:NA | pCi/L | 03/26/19 18:06 | 13982-63-3 | |
| Radium-228 | EPA 9320 | 0.0195 ± 0.711 (1.62) C:75% T:87% | pCi/L | 03/27/19 19:43 | 15262-20-1 | |
| Total Radium | Total Radium Calculation | 1.37 ± 0.995 (1.82) | pCi/L | 03/28/19 15:44 | 7440-14-4 | |



Project: Plant Hammond

Pace Project No.: 2616170

Sample: MW-23D Lab ID: 2616170004 Collected: 03/14/19 16:42 Received: 03/15/19 13:00 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 | 0.328 ± 0.145 (0.217) C:92% T:NA | pCi/L | 03/26/19 20:59 | 13982-63-3 | |
| Radium-228 | EPA 9320 | 0.544 ± 0.358 (0.673) C:72% T:85% | pCi/L | 03/29/19 11:27 | 15262-20-1 | |
| Total Radium | Total Radium Calculation | 0.872 ± 0.503 (0.890) | pCi/L | 04/02/19 13:32 | 7440-14-4 | |



Project: Plant Hammond

Pace Project No.: 2616170

Sample: HGWC-14 Lab ID: 2616170005 Collected: 03/14/19 16:41 Received: 03/15/19 13:00 Matrix: Water

PWS: Site ID: Sample Type:

Comments: • Sample collection time on containers does not match COC: client was notified.

| Comments. Campic concor | ion time on containers doct | not materi 000, ellerit was rietiliea. | | | | |
|-------------------------|-----------------------------|--|-------|----------------|------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | EPA 9315 | 0.759 ± 0.189 (0.170) C:93% T:NA | pCi/L | 03/26/19 20:58 | 13982-63-3 | |
| Radium-228 | EPA 9320 | 0.742 ± 0.410 (0.742) C:74% T:85% | pCi/L | 03/29/19 11:27 | 15262-20-1 | |
| Total Radium | Total Radium Calculation | 1.50 ± 0.599 (0.912) | pCi/L | 04/02/19 13:32 | 7440-14-4 | |



Project: Plant Hammond

Pace Project No.: 2616170

QC Batch: 334699 Analysis Method: EPA 9315

QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium

Associated Lab Samples: 2616170001, 2616170002, 2616170003

METHOD BLANK: 1628719 Matrix: Water

Associated Lab Samples: 2616170001, 2616170002, 2616170003

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-226 0.248 ± 0.200 (0.320) C:97% T:NA pCi/L 03/27/19 09:28

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.



Project: Plant Hammond

Pace Project No.: 2616170

QC Batch: 334703 Analysis Method: EPA 9320

QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228

Associated Lab Samples: 2616170004, 2616170005

METHOD BLANK: 1628726 Matrix: Water

Associated Lab Samples: 2616170004, 2616170005

 Parameter
 Act ± Unc (MDC) Carr Trac
 Units
 Analyzed
 Qualifiers

 Radium-228
 0.496 ± 0.336 (0.636) C:77% T:84%
 pCi/L
 03/29/19 11:27

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



Project: Plant Hammond

Pace Project No.: 2616170

QC Batch: 334690 Analysis Method: EPA 9320

QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228

Associated Lab Samples: 2616170001, 2616170002, 2616170003

METHOD BLANK: 1628696 Matrix: Water

Associated Lab Samples: 2616170001, 2616170002, 2616170003

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-228 0.646 ± 0.338 (0.565) C:74% T:86% pCi/L 03/27/19 16:14

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



Project: Plant Hammond

Pace Project No.: 2616170

QC Batch: 334701 Analysis Method: EPA 9315

QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium

Associated Lab Samples: 2616170004, 2616170005

METHOD BLANK: 1628722 Matrix: Water

Associated Lab Samples: 2616170004, 2616170005

 Parameter
 Act ± Unc (MDC) Carr Trac
 Units
 Analyzed
 Qualifiers

 Radium-226
 0.317 ± 0.219 (0.286) C:97% T:NA
 pCi/L
 03/27/19 08:17

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.



QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2616170

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

Date: 04/02/2019 05:08 PM

PASI-PA Pace Analytical Services - Greensburg



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2616170

Date: 04/02/2019 05:08 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|--------------------------|----------|-------------------|---------------------|
| 2616170001 | HGWC-15 | EPA 9315 | 334699 | | |
| 2616170002 | FD-2 | EPA 9315 | 334699 | | |
| 2616170003 | HGWC-18 | EPA 9315 | 334699 | | |
| 2616170004 | MW-23D | EPA 9315 | 334701 | | |
| 2616170005 | HGWC-14 | EPA 9315 | 334701 | | |
| 2616170001 | HGWC-15 | EPA 9320 | 334690 | | |
| 2616170002 | FD-2 | EPA 9320 | 334690 | | |
| 2616170003 | HGWC-18 | EPA 9320 | 334690 | | |
| 2616170004 | MW-23D | EPA 9320 | 334703 | | |
| 2616170005 | HGWC-14 | EPA 9320 | 334703 | | |
| 2616170001 | HGWC-15 | Total Radium Calculation | 335993 | | |
| 2616170002 | FD-2 | Total Radium Calculation | 335993 | | |
| 2616170003 | HGWC-18 | Total Radium Calculation | 335993 | | |
| 2616170004 | MW-23D | Total Radium Calculation | 336606 | | |
| 2616170005 | HGWC-14 | Total Radium Calculation | 336606 | | |

CHAIN-OF-CUSTOD
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WO#: 2616170

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| | | | • • • • | | betsy modariel@pacelabs.com, | 4 (AP) or 328.5 (Huff) | 報道できる。Requested Analysis Filtered (Y/N): | 2ºN | | | 8: | tonent to | Met App Petri | A A A | 4 | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | | | | | | | | | ACCEPTED BY LAFFILLATION DATE | 3/14/18 | 3/14/4 | X LIN KAI | \mathbb{T}_{u} | | 1 | Wer DATE Signed: A9 AU //G |
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| Section B | | Copy To: | , , | Purchase Order #: SCS10348606 | | Project #. | | ├─ | 00 01 et s | Dinating Water DW Water WT Water WT Water WT Product Product P | 994) න් රි | With the state of | A S DATE | HVSQ-914 | VIC-02/14 | 12:41 17:20 - 3-14 | # 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | | | | | | | | S. RELINGUISHED BY LAFFILLATION | / | 3 1 | Moder Wash | 18/1/sap Cocured | | • | |
| soction A | Required Client Information: Company: Geomia Power - Coal Combustion Residuals | Address: 2480 Maner Road | Allanta, GA 30339 | :mail: jabraham@southemco.com | (404)506-7239 Fax | Requested Due Date: Same | | | | | SAMPLEID | One Character por box. (A-2, 0-9 /) Sample Ids must be unique | 311 | ソーンペンド | <u> </u> | | | <u> </u> | 19.6 The second | 9 | 10 A 10 A 10 A 10 A 10 A 10 A 10 A 10 A | 60 | | · · · · · · · · · · · · · · · · · · · | ADDITIONAL CONNENTS | | | | | F | ' age | : 16 |

Page 16 of 18

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Set Ol SAMPLE CONDITIONS Regulatory Agency State / Location Page: Residual Chlorine (Y/V) Due Date: 04/12/19 Requested Analysis Filt sed (Y/N) 3702 15/1/ 3/14/19 1848 1129 THE 1300, 3000 Sulfate WO#:2616170 11/5/ DATE /s' B' Co' Wo) Attention scsinyoices@southernco.com
Company Name:
Address:
Pace Quote:
Pace Project Manager: betsy.modaniel@pacelabs.com,
Pace Profile #: 327.4 (AP) or 328.5 (Huff) CLIENT: GAPower-CCR 226/228 pk 300'0 ラ Metals PACE day ACCEPTED BY / AFFILIATION N/A Jaol seavierA. HMAN tortiO PM: BM persion weather HISH Preservatives EOZSZEN нсі Soction C Invoice Inforts. CHAIN-OF-CUSTO The Chain-of-Custody is a LE ONH 10 SZH 112.9 1940 20% CONTAINERS 3 PLE TEMP AT COLLECTION SAMPLER WAME AND SIGNATURE 13/14/14 1641 TIME 5/15/19 bil Me Marten Kapes My 119 PARE SS COLLECTED DATE Report To. Joju Abraham / Lauren Petty Cospular Purchase Order #: SCS10348606 Project Name Plant Hammond 5 C PIMIN ISD RELINCUISHED BY FAFFILIATION START Required Project Information: Copy To Geosyntec (GROD=D GARD=D) SAMPLE TYPE ATRIX CODE (see valid codes to left) Mayia WE Low Section B MATROX
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Waste Waste Wester
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Issue Georgia Power - Coal Combustion Residuals 2480 Maner Road Name: (404)506-7239 Fac One Character per box. (A-Z, 0-9 /, -) Sample Ids must be unique jabraham@southernco.com SAMPLE ID ADDITIONAL COMMENTS Atlanta, GA 30339 Required Client Information: HGWC. ITEM # 9

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Page 17 of 18

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| Courier: Fed E | x 🗆 UPS 🗆 |]USPS [| Client | ф | omme | ercial | Pace Of Courier | her | | | Optiona Proj. Du Proj. Na | e Date: me: | - 10 A A A |
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| Thermometer Use | | 83 <u> </u> | _ | Туре | of Ice: | Wet | Blue Non | е | عٍ 🗆 | | | ling process | |
| Cooler Temperatu Temp should be above | | t.5°C | <u>. </u> | Biclo | gical T | | is Frozen: Ye Comments: | es No | | | | s of person / 5/ /9 | examining |
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| Sampler Name & S | i ignature on CO | oc: | | □ es | □No | □n/a | 4. | | | | | | |
| Samples Arrived w | i ithin Hold Time |) : | | □ es | □No | □n/a | 5. | | | | | | |
| Short Hold Time | nalysis (<72h | ır): | | □∀es | ⊡K(∘ | □n/a | 6. | 1 | | | | | |
| Rush Turn Around | d Time Reque | sted: | | □Yes | Ω √ι₀ | □n/a | 7. | | | | | | |
| Sufficient Volume: | | | | D es | □No | □n/a | 8. | | | | | | |
| Correct Containers | Used: | | | ☑ es | □No | □n/a | 9. | | | | | | |
| -Pace Containe | s Used: | | | ☐ es | □No | □n/a | Î | | | | | | |
| Containers Intact: | | | | Ø es | □№ | □n/a | 10. | : | | | | | |
| Filtered volume rec | eived for Disso | olved test | ş | □res | □No | ØÑ/A | 11, | į | | | | | |
| Sample Labels ma | ch COC: | | | ☑ es | □No | □n/a | 12. | | | | | | |
| -Includes date/t | i ime/ID/Analysi: | s Mai | trix: | NI | | _ | | 1 | | | | | |
| All containers needing | preservation hav | e been che | cked. | ₽ ves | □No | □n/a | 13. | | | | | | |
| All containers needin compliance with EPA | 7 ' | | be in | D≥ res | □No | □n/a | | | | | | | |
| exceptions: VOA, colifo | m, TOC, O&G, W | /I-DRO (wate | er) | □res | ₩ ₀ | | Initial when completed | ŀ | | Lot # of preserva | | | |
| Samples checked | for dechlorinati | ion: | | □/es | □No | ⊠ N/A | 14. | | | | • | | |
| Headspace in VOA | Vials (>6mm |): | | \neg | □No | $\overline{}$ | 1 | | | | | | |
| Trip Blank Present | | | | | | DZN/A | 1 | i | | | | | |
| Trip Blank Custody | Į. | ıt | | | □No | _ | 1 | | | | | | |
| Pace Trip Blank Lo | | | | | | | | ŀ | | | | | |
| | | | | | | | | | | 5.440 | ta Dan in | \ | / / N |
| Client Notification | acted: | | | | | Date/ | Time: | | | rieid Da | ita Require | gr 1 | / / N |
| Comments/ Res | | · · · · · · · · · · · · · · · · · · · | | | | _ Date | 1111le. | 1 | | | | | • |
| Comments/ Nest | Julion | | | | | | | 1 | | | | | |
| | | | | \top | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Project Manage | er Review: | | | | | | | | | . 1 | Date: | | |
| Note: Whenever the | re is a discrepar | ncy affection | g North Ca | arolina | complia | ance sai | mples, a copy o | of this for | m wii | ll be sent | to the No | th Carolina I | DEHNR |

F-ALLCOD3rev.3, 11September 2006 of 18





March 26, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2616228

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on March 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

Beton M Damil

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







CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2616228

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



SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2616228

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2616228001 | MW-22 | Water | 03/15/19 08:56 | 03/18/19 12:00 |
| 2616228002 | HGWC-16 | Water | 03/15/19 13:52 | 03/18/19 12:00 |
| 2616228003 | MW-21D | Water | 03/15/19 11:56 | 03/18/19 12:00 |
| 2616228004 | HGWC-17 | Water | 03/15/19 13:00 | 03/18/19 12:00 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2616228

| Lab ID | Sample ID | Method | Analysts | Analytes Reported |
|------------|-----------|-----------|----------|----------------------|
| 2616228001 | MW-22 | EPA 6020B | CSW | 12 |
| | | EPA 7470A | DRB | 1 |
| | | EPA 300.0 | RLC | 1 |
| 2616228002 | HGWC-16 | EPA 6020B | CSW | 12 |
| | | EPA 7470A | DRB | 1 |
| | | EPA 300.0 | RLC | 1 |
| 2616228003 | MW-21D | EPA 6020B | CSW | 12 |
| | | EPA 7470A | DRB | 1 |
| | | EPA 300.0 | RLC | 1 |
| 2616228004 | HGWC-17 | EPA 6020B | CSW | 12 |
| | | EPA 7470A | DRB | 1 |
| | | EPA 300.0 | RLC | 1 |



Project: Plant Hammond

Pace Project No.: 2616228

Date: 03/26/2019 09:53 PM

| Sample: MW-22 | Lab ID: | 2616228001 | Collecte | ed: 03/15/19 | 08:56 | 6 Received: 03/18/19 12:00 Matrix: Water | | | | | |
|-------------------------|------------|-------------|-----------|--------------|---------|--|----------------|------------|------|--|--|
| | | | Report | | | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual | | |
| 6020B MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Met | hod: EF | PA 3005A | | | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00078 | 1 | 03/20/19 14:34 | 03/21/19 22:52 | 7440-36-0 | | | |
| Arsenic | ND | mg/L | 0.0050 | 0.00057 | 1 | 03/20/19 14:34 | 03/21/19 22:52 | 7440-38-2 | | | |
| Barium | 0.044 | mg/L | 0.010 | 0.00078 | 1 | 03/20/19 14:34 | 03/21/19 22:52 | 7440-39-3 | | | |
| Beryllium | ND | mg/L | 0.0030 | 0.000050 | 1 | 03/20/19 14:34 | 03/21/19 22:52 | 7440-41-7 | | | |
| Cadmium | 0.00082J | mg/L | 0.0010 | 0.000093 | 1 | 03/20/19 14:34 | 03/21/19 22:52 | 7440-43-9 | | | |
| Chromium | ND | mg/L | 0.010 | 0.0016 | 1 | 03/20/19 14:34 | 03/21/19 22:52 | 7440-47-3 | | | |
| Cobalt | 0.028 | mg/L | 0.010 | 0.00052 | 1 | 03/20/19 14:34 | 03/21/19 22:52 | 7440-48-4 | | | |
| Lead | ND | mg/L | 0.0050 | 0.00027 | 1 | 03/20/19 14:34 | 03/21/19 22:52 | 7439-92-1 | | | |
| Lithium | 0.0020J | mg/L | 0.050 | 0.00097 | 1 | 03/20/19 14:34 | 03/21/19 22:52 | 7439-93-2 | | | |
| Molybdenum | ND | mg/L | 0.010 | 0.0019 | 1 | 03/20/19 14:34 | 03/21/19 22:52 | 7439-98-7 | | | |
| Selenium | ND | mg/L | 0.010 | 0.0014 | 1 | 03/20/19 14:34 | 03/21/19 22:52 | 7782-49-2 | | | |
| Thallium | ND | mg/L | 0.0010 | 0.00014 | 1 | 03/20/19 14:34 | 03/21/19 22:52 | 7440-28-0 | | | |
| 7470 Mercury | Analytical | Method: EPA | 7470A Pre | paration Met | hod: EF | PA 7470A | | | | | |
| Mercury | ND | mg/L | 0.00050 | 0.000036 | 1 | 03/25/19 08:02 | 03/25/19 12:56 | 7439-97-6 | | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | | | |
| Fluoride | ND | mg/L | 0.30 | 0.029 | 1 | | 03/24/19 16:04 | 16984-48-8 | | | |



Project: Plant Hammond

Pace Project No.: 2616228

Date: 03/26/2019 09:53 PM

| Sample: HGWC-16 | Lab ID: | 2616228002 | Collecte | ed: 03/15/19 | 13:52 | Received: 03/18/19 12:00 Matrix: Water | | | | |
|-------------------------|------------|---------------|-----------|--------------|---------|--|----------------|------------|------|--|
| | | | Report | | | | | | | |
| Parameters — | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual | |
| 6020B MET ICPMS | Analytical | Method: EPA 6 | 6020B Pre | paration Met | hod: EF | PA 3005A | | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00078 | 1 | 03/20/19 14:34 | 03/21/19 22:58 | 7440-36-0 | | |
| Arsenic | ND | mg/L | 0.0050 | 0.00057 | 1 | 03/20/19 14:34 | 03/21/19 22:58 | 7440-38-2 | | |
| Barium | 0.13 | mg/L | 0.010 | 0.00078 | 1 | 03/20/19 14:34 | 03/21/19 22:58 | 7440-39-3 | | |
| Beryllium | ND | mg/L | 0.0030 | 0.000050 | 1 | 03/20/19 14:34 | 03/21/19 22:58 | 7440-41-7 | | |
| Cadmium | ND | mg/L | 0.0010 | 0.000093 | 1 | 03/20/19 14:34 | 03/21/19 22:58 | 7440-43-9 | | |
| Chromium | ND | mg/L | 0.010 | 0.0016 | 1 | 03/20/19 14:34 | 03/21/19 22:58 | 7440-47-3 | | |
| Cobalt | ND | mg/L | 0.010 | 0.00052 | 1 | 03/20/19 14:34 | 03/21/19 22:58 | 7440-48-4 | | |
| Lead | ND | mg/L | 0.0050 | 0.00027 | 1 | 03/20/19 14:34 | 03/21/19 22:58 | 7439-92-1 | | |
| Lithium | 0.0041J | mg/L | 0.050 | 0.00097 | 1 | 03/20/19 14:34 | 03/21/19 22:58 | 7439-93-2 | | |
| Molybdenum | ND | mg/L | 0.010 | 0.0019 | 1 | 03/20/19 14:34 | 03/21/19 22:58 | 7439-98-7 | | |
| Selenium | ND | mg/L | 0.010 | 0.0014 | 1 | 03/20/19 14:34 | 03/21/19 22:58 | 7782-49-2 | | |
| Thallium | ND | mg/L | 0.0010 | 0.00014 | 1 | 03/20/19 14:34 | 03/21/19 22:58 | 7440-28-0 | | |
| 7470 Mercury | Analytical | Method: EPA | 7470A Pre | paration Met | hod: EF | PA 7470A | | | | |
| Mercury | ND | mg/L | 0.00050 | 0.000036 | 1 | 03/25/19 08:02 | 03/25/19 13:51 | 7439-97-6 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | | |
| Fluoride | ND | mg/L | 0.30 | 0.029 | 1 | | 03/24/19 16:27 | 16984-48-8 | | |



Project: Plant Hammond

Pace Project No.: 2616228

Date: 03/26/2019 09:53 PM

| Sample: MW-21D | Lab ID: | 2616228003 | Collecte | ed: 03/15/19 | 11:56 | Received: 03/ | 18/19 12:00 Ma | atrix: Water | |
|-------------------------|------------|---------------|-----------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL . | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA 6 | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00078 | 1 | 03/20/19 14:34 | 03/21/19 23:04 | 7440-36-0 | |
| Arsenic | ND | mg/L | 0.0050 | 0.00057 | 1 | 03/20/19 14:34 | 03/21/19 23:04 | 7440-38-2 | |
| Barium | 0.090 | mg/L | 0.010 | 0.00078 | 1 | 03/20/19 14:34 | 03/21/19 23:04 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000050 | 1 | 03/20/19 14:34 | 03/21/19 23:04 | 7440-41-7 | |
| Cadmium | ND | mg/L | 0.0010 | 0.000093 | 1 | 03/20/19 14:34 | 03/21/19 23:04 | 7440-43-9 | |
| Chromium | ND | mg/L | 0.010 | 0.0016 | 1 | 03/20/19 14:34 | 03/21/19 23:04 | 7440-47-3 | |
| Cobalt | ND | mg/L | 0.010 | 0.00052 | 1 | 03/20/19 14:34 | 03/21/19 23:04 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.00027 | 1 | 03/20/19 14:34 | 03/21/19 23:04 | 7439-92-1 | |
| Lithium | 0.025J | mg/L | 0.050 | 0.00097 | 1 | 03/20/19 14:34 | 03/21/19 23:04 | 7439-93-2 | |
| Molybdenum | 0.045 | mg/L | 0.010 | 0.0019 | 1 | 03/20/19 14:34 | 03/21/19 23:04 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0014 | 1 | 03/20/19 14:34 | 03/21/19 23:04 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.00014 | 1 | 03/20/19 14:34 | 03/21/19 23:04 | 7440-28-0 | |
| 7470 Mercury | Analytical | Method: EPA | 7470A Pre | paration Met | hod: EF | PA 7470A | | | |
| Mercury | ND | mg/L | 0.00050 | 0.000036 | 1 | 03/25/19 08:02 | 03/25/19 13:53 | 7439-97-6 | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Fluoride | ND | mg/L | 0.30 | 0.029 | 1 | | 03/24/19 16:50 | 16984-48-8 | |



ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2616228

Date: 03/26/2019 09:53 PM

| Sample: HGWC-17 | Lab ID: | 2616228004 | Collecte | ed: 03/15/19 | 13:00 | Received: 03/ | 18/19 12:00 Ma | atrix: Water | |
|-------------------------|------------|---------------|-----------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA 6 | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00078 | 1 | 03/20/19 14:34 | 03/21/19 23:09 | 7440-36-0 | |
| Arsenic | ND | mg/L | 0.0050 | 0.00057 | 1 | 03/20/19 14:34 | 03/21/19 23:09 | 7440-38-2 | |
| Barium | 0.029 | mg/L | 0.010 | 0.00078 | 1 | 03/20/19 14:34 | 03/21/19 23:09 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000050 | 1 | 03/20/19 14:34 | 03/21/19 23:09 | 7440-41-7 | |
| Cadmium | ND | mg/L | 0.0010 | 0.000093 | 1 | 03/20/19 14:34 | 03/21/19 23:09 | 7440-43-9 | |
| Chromium | ND | mg/L | 0.010 | 0.0016 | 1 | 03/20/19 14:34 | 03/21/19 23:09 | 7440-47-3 | |
| Cobalt | 0.017 | mg/L | 0.010 | 0.00052 | 1 | 03/20/19 14:34 | 03/21/19 23:09 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.00027 | 1 | 03/20/19 14:34 | 03/21/19 23:09 | 7439-92-1 | |
| Lithium | 0.0011J | mg/L | 0.050 | 0.00097 | 1 | 03/20/19 14:34 | 03/21/19 23:09 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.0019 | 1 | 03/20/19 14:34 | 03/21/19 23:09 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0014 | 1 | 03/20/19 14:34 | 03/21/19 23:09 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.00014 | 1 | 03/20/19 14:34 | 03/21/19 23:09 | 7440-28-0 | |
| 7470 Mercury | Analytical | Method: EPA | 7470A Pre | paration Met | hod: EF | PA 7470A | | | |
| Mercury | ND | mg/L | 0.00050 | 0.000036 | 1 | 03/25/19 08:02 | 03/25/19 13:56 | 7439-97-6 | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Fluoride | ND | mg/L | 0.30 | 0.029 | 1 | | 03/24/19 17:12 | 16984-48-8 | |



Project:

Plant Hammond

Pace Project No.:

2616228

QC Batch:

24983

Analysis Method:

EPA 7470A

QC Batch Method: EPA 7470A Analysis Description:

7470 Mercury

Associated Lab Samples:

2616228001, 2616228002, 2616228003, 2616228004

METHOD BLANK: 112752 Associated Lab Samples:

Matrix: Water 2616228001, 2616228002, 2616228003, 2616228004

Blank

Reporting

Parameter

Mercury

Mercury

Mercury

Units

mg/L

mg/L

Result ND

Limit 0.00050 MDL

0.000036

94

Analyzed

03/25/19 12:52

Qualifiers

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

Date: 03/26/2019 09:53 PM

112753

Units

Spike Conc. 0.0025

LCS Result 0.0023

LCS % Rec % Rec Limits

80-120

Qualifiers

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

112754

112755

0.0025

2616228001 Units Result ND mg/L

MS MSD Spike Spike Conc. Conc.

0.0025

MS MSD Result Result 0.0023 0.0024

MS % Rec 92

MSD % Rec 95 % Rec Max Limits RPD RPD 75-125

Qual 3 20

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



Project: Plant Hammond

Pace Project No.: 2616228

QC Batch: 24707 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET

Associated Lab Samples: 2616228001, 2616228002, 2616228003, 2616228004

METHOD BLANK: 111121 Matrix: Water
Associated Lab Samples: 2616228001, 2616228002, 2616228003, 2616228004

| | | Blank | Reporting | | | |
|------------|-------|--------|-----------|----------|----------------|------------|
| Parameter | Units | Result | Limit | MDL | Analyzed | Qualifiers |
| Antimony | mg/L | ND | 0.0030 | 0.00078 | 03/21/19 19:09 | |
| Arsenic | mg/L | ND | 0.0050 | 0.00057 | 03/21/19 19:09 | |
| Barium | mg/L | ND | 0.010 | 0.00078 | 03/21/19 19:09 | |
| Beryllium | mg/L | ND | 0.0030 | 0.000050 | 03/21/19 19:09 | |
| Cadmium | mg/L | ND | 0.0010 | 0.000093 | 03/21/19 19:09 | |
| Chromium | mg/L | ND | 0.010 | 0.0016 | 03/21/19 19:09 | |
| Cobalt | mg/L | ND | 0.010 | 0.00052 | 03/21/19 19:09 | |
| Lead | mg/L | ND | 0.0050 | 0.00027 | 03/21/19 19:09 | |
| Lithium | mg/L | ND | 0.050 | 0.00097 | 03/21/19 19:09 | |
| Molybdenum | mg/L | ND | 0.010 | 0.0019 | 03/21/19 19:09 | |
| Selenium | mg/L | ND | 0.010 | 0.0014 | 03/21/19 19:09 | |
| Thallium | mg/L | ND | 0.0010 | 0.00014 | 03/21/19 19:09 | |

| ENDOTORIO CONTINUE DI MINI EE. TITIEE | LABORATORY | CONTROL | SAMPLE: | 111122 |
|---------------------------------------|------------|---------|---------|--------|
|---------------------------------------|------------|---------|---------|--------|

Date: 03/26/2019 09:53 PM

| | | Spike | LCS | LCS | % Rec | |
|------------|-------|-------|--------|-------|--------|------------|
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Antimony | mg/L | 0.1 | 0.11 | 107 | 80-120 | |
| Arsenic | mg/L | 0.1 | 0.10 | 104 | 80-120 | |
| Barium | mg/L | 0.1 | 0.10 | 103 | 80-120 | |
| Beryllium | mg/L | 0.1 | 0.099 | 99 | 80-120 | |
| Cadmium | mg/L | 0.1 | 0.10 | 105 | 80-120 | |
| Chromium | mg/L | 0.1 | 0.11 | 106 | 80-120 | |
| Cobalt | mg/L | 0.1 | 0.10 | 100 | 80-120 | |
| Lead | mg/L | 0.1 | 0.10 | 101 | 80-120 | |
| Lithium | mg/L | 0.1 | 0.10 | 101 | 80-120 | |
| Molybdenum | mg/L | 0.1 | 0.11 | 108 | 80-120 | |
| Selenium | mg/L | 0.1 | 0.10 | 105 | 80-120 | |
| Thallium | mg/L | 0.1 | 0.10 | 100 | 80-120 | |

| MATRIX SPIKE & MATRIX SP | MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 111123 111124 | | | | | | | | | | | | |
|--------------------------|--|------------|-------------|--------------|--------|--------|-------|-------|--------|-----|-----|------|--|
| | | 2616193001 | MS Spike | MSD Spike | MS | MSD | MS | MSD | % Rec | | Max | | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual | |
| Antimony | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.11 | 107 | 106 | 75-125 | 2 | 20 | | |
| Arsenic | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 103 | 105 | 75-125 | 2 | 20 | | |
| Barium | mg/L | 0.028 | 0.1 | 0.1 | 0.13 | 0.13 | 101 | 100 | 75-125 | 1 | 20 | | |
| Beryllium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.098 | 100 | 98 | 75-125 | 2 | 20 | | |
| Cadmium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 102 | 103 | 75-125 | 1 | 20 | | |

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



Project: Plant Hammond

Pace Project No.: 2616228

Date: 03/26/2019 09:53 PM

| MATRIX SPIKE & MATRIX S | PIKE DUPLICA | ATE: 111123 | MS | MSD | 111124 | | | | | | | |
|-------------------------|--------------|----------------------|----------------|----------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|------|
| Parameter | Units | 2616193001 Result | Spike Conc. | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
| Chromium | mg/L | ND ND | 0.1 | 0.1 | 0.10 | 0.10 | 102 | 102 | 75-125 | 1 | 20 | |
| Cobalt | mg/L | ND | 0.1 | 0.1 | 0.098 | 0.096 | 97 | 96 | 75-125 | 1 | 20 | |
| Lead | mg/L | ND | 0.1 | 0.1 | 0.099 | 0.099 | 99 | 99 | 75-125 | 0 | 20 | |
| Lithium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 101 | 100 | 75-125 | 1 | 20 | |
| Molybdenum | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.11 | 107 | 105 | 75-125 | 1 | 20 | |
| Selenium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 105 | 103 | 75-125 | 2 | 20 | |
| Thallium | mg/L | ND | 0.1 | 0.1 | 0.099 | 0.098 | 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.



Project: Plant Hammond

Pace Project No.: 2616228

Date: 03/26/2019 09:53 PM

QC Batch: 24985 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 2616228001, 2616228002, 2616228003, 2616228004

METHOD BLANK: 112760 Matrix: Water Associated Lab Samples: 2616228001, 2616228002, 2616228003, 2616228004

Blank Reporting

Parameter Units Result Limit MDL Analyzed Qualifiers

Fluoride mg/L ND 0.30 0.029 03/24/19 14:11

LABORATORY CONTROL SAMPLE: 112761

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Fluoride mg/L 10 9.9 99 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 112762 112763

MS MSD 2616191001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Fluoride ND 10 9.0 9.5 90 90-110 5 mg/L 10 95 15

MATRIX SPIKE SAMPLE: 112764

MS 2616228001 Spike MS % Rec Parameter Units Result Conc. Result % Rec Limits Qualifiers ND 10.3 103 90-110 Fluoride mg/L 10

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



QUALIFIERS

Project: Plant Hammond Pace Project No.: 2616228

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.

Date: 03/26/2019 09:53 PM



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2616228

Date: 03/26/2019 09:53 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytica Batch |
|------------|-----------|-----------------|----------|-------------------|--------------------|
| 2616228001 | MW-22 | EPA 3005A | 24707 | EPA 6020B | 24750 |
| 2616228002 | HGWC-16 | EPA 3005A | 24707 | EPA 6020B | 24750 |
| 2616228003 | MW-21D | EPA 3005A | 24707 | EPA 6020B | 24750 |
| 2616228004 | HGWC-17 | EPA 3005A | 24707 | EPA 6020B | 24750 |
| 2616228001 | MW-22 | EPA 7470A | 24983 | EPA 7470A | 25042 |
| 2616228002 | HGWC-16 | EPA 7470A | 24983 | EPA 7470A | 25042 |
| 2616228003 | MW-21D | EPA 7470A | 24983 | EPA 7470A | 25042 |
| 2616228004 | HGWC-17 | EPA 7470A | 24983 | EPA 7470A | 25042 |
| 2616228001 | MW-22 | EPA 300.0 | 24985 | | |
| 2616228002 | HGWC-16 | EPA 300.0 | 24985 | | |
| 2616228003 | MW-21D | EPA 300.0 | 24985 | | |
| 2616228004 | HGWC-17 | EPA 300.0 | 24985 | | |

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

(V/V) 3 SAMPLECONDITIONS Samples (N/A) Cooler ŏ Regulatory Agency pelse Custody **WO#::2616228** P1/8/16/A1 (V/V) Received on Residual Chlorina (YW) Page: TEMP in C 10:11 THE 1200 2211 ph 1/6/2012/6/2012/1/2012/1/25 Requested Analysis Filtered (Y/N) DATE Signed: 03/15/19 P DATE Sulfate by 300.0 8 Metals (As, B, Co, Mo) Radium 226/228 betsy.mcdaniel@pacelabs.com ACCEPTED BY ! AFFILATION Fluoride by 300.0 wan Attention: scsinvoices@southernco.com Charles A stateM VI .qqA NA 186T sesyland Pace Project Manager. betsy.mcdaniet@p Pace Profile #: 327.4 (AP) or 328.5 (Huff) IonsriteM South UNIAH Valter ZQA EOZSZBN Preservatives 1001 Grand Wayo (Geasing 03/6/19 1455 Malli HOBN нсі Involce Information: 5 3 **EONH** Jant H2SO4 Pace Quote: JINE 9201 Address: Unpreserved SAMPLER NAME AND SIGNATURE 100 194 # OF CONTAINERS 11/8/18/18/19 DATE PRINT Name of SAMPLER: SIGNATURE of SAMPLER: SAMPLE TEMP AT COLLECTION 3/15/19 08)5 3/18/19 08:56 wic Pirin 1341 Piring 1352 280 DATE COLLECTED RELINDUISHED BY LAFFILLATION Joju Abraham / Lauren Petty TIME SCS10348606 START Plant Hammond Required Project Information: Report To: Joju Abraham / La Copy To: Geosyntec 5 Purchase Order #: MATRIX CODE (see velid codes to left) Project Name: Project #: Section B MATRIX
Drinking Water
Water
Wate Ware
Product
Product
Posubsciid
Oil
Wipe
Adr
Cother Company: Georgia Power - Coal Combustion Residuals Phone: (404)506-7239 Fax. Requested Due Date: Stankard TRT ADDITIONAL COMMENTS. One Character per box. (A-Z, 0-9 /, -) Sample Ids must be unique SAMPLE ID ーしろいか 2480 Maner Road Atlanta, GA 30339 tequired Client Information: M Page 15 of 18 Address: 0 . 9 # MaTI

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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| | scsinvoices@southernco.com | | | | | 1 | | | App. IV Metals | × | | | | | | | | | \perp | | | Accepte BY AFFUATION | houlant | 75. | | 3 | | | |
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| Section C Invoice Information: | S | /ате: | | Pace Cuote: | # | | Pa | | HV03 | 3 | | | | 7 | 1/ | | | П | | | | | 7 | 7 | | | 1 | $ \mathcal{L} $ | |
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| ect Infe | Joju Abraham / Lauren Peth | Geosymtec | | | | | | (G=GKAB C=0 | SAMPLE TYPE | <u> </u> | | | ┝ | | | H | - | H | + | <u> </u> | | RELINGUISHED BY / APPLIATION | Ł | .3 | | | | | |
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| Попта | Georgia Power - Coal Combustion Residuals | 2480 Maner Road | 28 Q | 3,576 | ۷ چ | | | SAI | One Character per box. (A-Z, 0-9 /, -) Sample Ids must be unique | $ \beta $ | | | | | | | | | | | | | | | | | | | |
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| Section A Required Client Information: | Company: | Address: | | 116 | Requested Due Date: Color and Good | | | | ,u aar— | | 2 | 魔 | | 所创 | . 9 | | . 89 | | | | | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | | | | | Pag | e 16 of | 1 |
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CHAIN-OF-CUSTODY / Analytical Request Document

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

Due Date: 03/25/19 (N/A) seidmas SAMPLE CONDITIONS Sealed Cooler (Y/N) 5 Regulatory Agency. (poisu) State / Location **40#:2616228** 3 (N/A) 9 Received on CLIENT: GAPower-CCR Residual Chlorine (Y/N) Page: TEMP in C DATE Signed: 3 [15/19 18/19 DATE PH: 92 0.005 yd eisflud Metals (As, B, Co, Mo) Pace Project Manager: belsy modaniel@pacelabs.com. Pace Profile #: 327.4 (AP) or 328.5 (Huff) Radium 226/228 Pluoride by 300.0 Attention: scsinvoices@southernco.com Lalman Pop. IV Metals Mocal Hayans FN/A 1881 SORVIERA Museus lonsitieM Preservatives EOZSZEN HOBN HCI Section C Invoice Information: Noekia 3 EONH Company Name Pace Quote: 452O¢ SIGNATURE of SAMPLER: ARLICA Address: 1076 DevieserquU от соитыиева SAMPLER NAME AND SIGNATURE 1/18/19 SAMPLE TEMP AT COLLECTION PRINT Name of SAMPLER: 8 Mushmillacit DATE COLLECTED RELINGUISHED BY / AFFILIATION Report To: Joju Abraham / Lauren Petty Copy To: Geosyntec Purchase Order #: SCS10348606 Project Name: Peat Hammon START DATE Required Project Information: (G=GRAB C=COMP) **BAYT BIYMAS** MATRIX CODE (see valid codes to left) Section B MATRIX
Drinking Wider
Wasts Water
Wasts Water
Product
SolitSoid
On
Wide
Air
Tissue ADDITIONAL COMMENTS One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique Email: jabraham@southemco.com JCM C-P SAMPLE ID Georgia Power - Coal 2480 Maner Road Required Client Information: Page 17 of 18 . 6 4 **a** 7 ITEM #

| 5 | imple Condition | Upon Receipt | | |
|--|---------------------------|---------------------------|------------------------------|----------------------------|
| Face Analytical Client Nam | e: GIA P | Power | Project # | |
| Courier: Fed Ex UPS USPS C | | / | WO#:26 | |
| Custody Seal on Cooler/Box Present: //ye | s 🔲 no Seals | intact: yes | PM: BM CLIENT: GAPowe | Due Date: 03/25/1 r-CCR |
| Packing Material: Bubble Wrap Bubble | le Bags None | Other | | |
| Thermometer Used 83 | Type of Ice: Wet | Blue None | Samples on ice, coo | ling process has begun |
| Cooler Temperature 4.2 | | is Frozen: Yes No | Date and Initial | s of person examining |
| Temp should be above freezing to 6°C | | Comments: | contents: | 1/18/19 m |
| Chain of Custody Present: | ØYes □No □N/A | 1. | | |
| Chain of Custody Filled Out: | ANG DIVA | 2. See (| omment | |
| Chain of Custody Relinquished: | Pres □No □N/A | | | |
| Sampler Name & Signature on COC: | ENes DNo DN/A | 4. | | |
| Samples Arrived within Hold Time: | ENes ONo ON/A | 5. | | |
| Short Hold Time Analysis (<72hr): | □ves ᡚNo □N/A | 6. | | |
| Rush Turn Around Time Requested: | □ves □No □N/A | 7. | | |
| Sufficient Volume: | Øs □no □n/A | 8. | | |
| Correct Containers Used: | Eves □No □N/A | 9. | | |
| -Pace Containers Used: | Tes ONo ON/A | | | |
| Containers Intact: | es DNo DN/A | 10. | | |
| Filtered volume received for Dissolved tests | □ves □No ☑N/A | 11. | | |
| Sample Labels match COC: | E ES DNo DN/A | 12. | | |
| -Includes date/time/ID/Analysis Matrix: | W | | İ | |
| All containers needing preservation have been checked. | ØYes □No □N/A | 13. | | |
| All containers needing preservation are found to be in compliance with EPA recommendation. | Por es □no □n/a | | | |
| exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) | □ ves □No | Initial when completed | Lot # of added preservative | |
| Samples checked for dechlorination: | □yes □No ₽N/A | 14. | | |
| Headspace in VOA Vials (>6mm): | □yes □No □NA | 15. | | |
| Trip Blank Present: | □Yes □No ☑N/A | 16. | | |
| Trip Blank Custody Seals Present | □ves □No ÆN/A | | | |
| Pace Trip Blank Lot # (if purchased): | | | | |
| Client Notification/ Resolution: | | | Field Data Required | ? Y / N |
| Person Contacted: | Date/ | Time [,] | r reid Data Nequiret | |
| | Me tim t | mo por | HGIN- | 17 was |
| 207 Victor A on 150 | COC QN | d was | taken | 100m 1/10 |
| Contrience labole | as 133 n. | ጎ | | |
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| Project Manager Review: | | | Date: | |
| | | , , , , , , , , | and the second second second | h Carolina DELINE |
| Note: Whenever there is a discrepancy affecting Nort | h Carolina compliance san | npies, a copy of this fol | m will be sent to the Nort | n Carolina DEHNK |

F-ALLC003rev.3, 11September 2008 of 18





April 10, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2616229

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on March 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

Beton M Damil

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



(770)734-4200



CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2616229

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



SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2616229

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2616229001 | MW-22 | Water | 03/15/19 08:56 | 03/18/19 12:00 |
| 2616229002 | HGWC-16 | Water | 03/15/19 13:52 | 03/18/19 12:00 |
| 2616229003 | MW-21D | Water | 03/15/19 11:56 | 03/18/19 12:00 |
| 2616229004 | HGWC-17 | Water | 03/15/19 13:00 | 03/18/19 12:00 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2616229

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|--------------------------|----------|----------------------|------------|
| 2616229001 | MW-22 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2616229002 | HGWC-16 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2616229003 | MW-21D | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2616229004 | HGWC-17 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |



Project: Plant Hammond

Pace Project No.: 2616229

| Sample: MW-22 PWS: | Lab ID: 26162290 Site ID: | O1 Collected: 03/15/19 08:56 Sample Type: | Received: | 03/18/19 12:00 | Matrix: Water | |
|-----------------------|-------------------------------------|--|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | | 0.335 ± 0.129 (0.167) C:95% T:NA | pCi/L | 03/26/19 18:07 | 7 13982-63-3 | |
| Radium-228 | | 0.642 ± 0.404 (0.757) C:70% T:85% | pCi/L | 03/29/19 14:36 | 5 15262-20-1 | |
| Total Radium | Total Radium Calculation | 0.977 ± 0.533 (0.924) | pCi/L | 04/02/19 13:34 | 1 7440-14-4 | |



Project: Plant Hammond

Pace Project No.: 2616229

| Sample: HGWC-16 PWS: | Lab ID: 26162290 Site ID: | O2 Collected: 03/15/19 13:52 Sample Type: | Received: | 03/18/19 12:00 | Matrix: Water | |
|-------------------------|-------------------------------------|--|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | | 0.401 ± 0.295 (0.524) C:97% T:NA | pCi/L | 03/27/19 08:02 | 13982-63-3 | |
| Radium-228 | EPA 9320 | 0.190 ± 0.265 (0.565) C:73% T:84% | pCi/L | 03/29/19 14:37 | 7 15262-20-1 | |
| Total Radium | Total Radium Calculation | $0.591 \pm 0.560 (1.09)$ | pCi/L | 04/02/19 13:34 | 1 7440-14-4 | |



Project: Plant Hammond

Pace Project No.: 2616229

| Sample: MW-21D PWS: | Lab ID: 26162290 Site ID: | O3 Collected: 03/15/19 11:56 Sample Type: | Received: | 03/18/19 12:00 | Matrix: Water | |
|------------------------|-------------------------------------|--|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | | 0.320 ± 0.278 (0.516) C:88% T:NA | pCi/L | 03/27/19 08:02 | 13982-63-3 | |
| Radium-228 | EPA 9320 | 0.652 ± 0.349 (0.612) C:73% T:87% | pCi/L | 03/29/19 14:37 | 15262-20-1 | |
| Total Radium | | 0.972 ± 0.627 (1.13) | pCi/L | 04/02/19 13:34 | 7440-14-4 | |



Project: Plant Hammond

Pace Project No.: 2616229

| Sample: HGWC-17 PWS: | Lab ID: 26162290 Site ID: | Od4 Collected: 03/15/19 13:00 Sample Type: | Received: | 03/18/19 12:00 | Matrix: Water | |
|-------------------------|-------------------------------------|---|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | | 0.358 ± 0.295 (0.549) C:91% T:NA | pCi/L | 03/27/19 08:02 | 13982-63-3 | |
| Radium-228 | EPA 9320 | 0.559 ± 0.348 (0.631) C:71% T:79% | pCi/L | 03/29/19 14:37 | 15262-20-1 | |
| Total Radium | | 0.917 ± 0.643 (1.18) | pCi/L | 04/02/19 13:34 | 7440-14-4 | |



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2616229

QC Batch: 334703 Analysis Method: EPA 9320

QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228

Associated Lab Samples: 2616229001, 2616229002, 2616229003, 2616229004

METHOD BLANK: 1628726 Matrix: Water

Associated Lab Samples: 2616229001, 2616229002, 2616229003, 2616229004

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-228 0.496 ± 0.336 (0.636) C:77% T:84% pCi/L 03/29/19 11:27

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



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2616229

QC Batch: 334701 Analysis Method: EPA 9315

QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium

Associated Lab Samples: 2616229001, 2616229002, 2616229003, 2616229004

METHOD BLANK: 1628722 Matrix: Water

Associated Lab Samples: 2616229001, 2616229002, 2616229003, 2616229004

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-226 0.317 ± 0.219 (0.286) C:97% T:NA pCi/L 03/27/19 08:17

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.



QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2616229

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

Date: 04/10/2019 05:20 PM

PASI-PA Pace Analytical Services - Greensburg



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2616229

Date: 04/10/2019 05:20 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|--------------------------|----------|-------------------|---------------------|
| 2616229001 | MW-22 | EPA 9315 | 334701 | | |
| 2616229002 | HGWC-16 | EPA 9315 | 334701 | | |
| 2616229003 | MW-21D | EPA 9315 | 334701 | | |
| 2616229004 | HGWC-17 | EPA 9315 | 334701 | | |
| 2616229001 | MW-22 | EPA 9320 | 334703 | | |
| 2616229002 | HGWC-16 | EPA 9320 | 334703 | | |
| 2616229003 | MW-21D | EPA 9320 | 334703 | | |
| 2616229004 | HGWC-17 | EPA 9320 | 334703 | | |
| 2616229001 | MW-22 | Total Radium Calculation | 336613 | | |
| 2616229002 | HGWC-16 | Total Radium Calculation | 336613 | | |
| 2616229003 | MW-21D | Total Radium Calculation | 336613 | | |
| 2616229004 | HGWC-17 | Total Radium Calculation | 336613 | | |

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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| Ject Information: Joju Abraham / Lauren Petty | | 999 | 2 | | COL | 3/15/m 083y | 7 | | | | | | į | | | | | Ĕ. | 66ca | hula | | | SAMPLER N PRINT N | ळ | |
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| oeong Geong | 2480 Atlanta | jabraham@southemco.com | | | Sam | MM | ろいか | | | | | | | | | | | | | | | | | | |
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CHAIN-OF-CUSTODY / Analytical Request Document

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

Due Date: 04/15/19 ላን (N/L) SAMPLE CONDITIONS mtact Samples (N/A) ð 78|000 Delse2 **WO#:2616229** poisu (N/A) 8 80 Received on Residual Chlorina (Y/V) CLIENT: GAPower-CCR ż TEMP in C 200 dirlia 1455 **| S/**| DATE 0.005 yd etellud 0/18/10 120 Metals (As, B, Co, Mo) DATE Signed: Pace Project Manager......botsy.modernet@pacelabs.com. Pace Profile #: 327.4 (AP) or 328.5 (Huff) 822/822 muibeF Fluoride by 300.0 scsinvolces@southernco.com MAGUMON App. IV Metals /sel/sesylenA. N/A 327.4 (AP) or 328.5 (Huff) こととはな IcnshieM Preservatives EOZSZBN elisa Pelisa HOBN Section C Involce Information: нсі Company Name: Address; Pace Quote: EONH 188 **≯OSZ**H Attention: 155 2026 THE Unpreserved * OF CONTAINERS SAMPLERNAME AND SIGNATURE SAMPLE TEMP AT COLLECTION PRINT Name of SAMPLER: 0 × 1 2/18/10 SIGNATURE of SAMPLER: DATE 6 3/15/4 1135 3/15/19 1186 TIME 8 DATE untern Longoston COLLECTED このよれたの RELINGUISHED BY CAPPILLATION Required Project Information: Report To: Joju Abraham / Lauren Petty TIME SCS10348606 START Purchase Order #. SCS1034860 Project Name: Plant Hammond Project #: DATE Copy To: Geosyntec SAMPLE TYPE (G-GRAB C-COMP) 数 MATRIX CODE (see valid codes to left) Section B MARTRIX
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Trasue ADDITIONAL COMMENTS Georgia Power - Coal Combustion Residuals Email: |abraham@southemco.com Phone: (404)505-7239 |Fax Requested Duo Date: Chan and TAT One Character per box. (A-2, 0.9 /, .) Sample Ids must be unique SAMPLE ID 2480 Maner Road Alfanta, GA 30339 Required Client Information: . .6 1 8 6 Page 14 of 16 # Mati

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| Address: | | Copy To: | | Geosyntec | | | | ٥ | Company Name | Name: | | | | | | | | + | | | | | | | ſ | |
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| age 1 | | | | | - | RINT Nam | PRINT Name of SAMPLER: | | 킿. | ~ 3 | <u>-</u> | 3 | 50955 | } | PATE . | DATE Sloned | • | | | T | ri qM | ceived (N) | stody beled relet | selqm: | (N/ | |
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| Sa | mbie: Condition | Upon Receipt | | |
|--|---|--|-----------------------------|------------------------|
| Face Analytical Client Name | : GIA | Power | Project # | |
| Courler: Fed Ex UPS USPS Clie | | Pace Other | W0#∶26 | 16229 |
| Custody Seal on Cooler/Box Present:yes | no Seals | intact: yes | PM: BM | Due Date: 04/15/1 |
| Packing Material: Bubble Wrap Bubble | e Bags None | • | CLIENT: GAPous | er-CCR |
| Thermometer Used | Type of Ice: Wel | | Samples on ice, coo | ling process has begun |
| Cooler Temperature 4.2 | | is Frozen: Yes No | | of person examining |
| Temp should be above freezing to 6°C | | Comments: | contents: | 1/18/19 mg |
| Chain of Custody Present: | EYES ONO ON/A | 1. | | |
| Chain of Custody Filled Out: | ZAYBS ZINO □N/A | 2. See C | omment | |
| Chain of Custody Relinquished: | | | | |
| Sampler Name & Signature on COC: | EYES DNO DN/A | 4. | | |
| Samples Arrived within Hold Time: | EYES DNO DN/A | 5. | | |
| Short Hold Time Analysis (<72hr): | □Yes 2No □N/A | 6. | | |
| Rush Turn Around Time Requested: | □Yes ☑No □N/A | 7. | | |
| Sufficient Volume: | ÆY€S □No □N/A | 8. | | |
| Correct Containers Used: | EYES ONO ON/A | 9. | | |
| -Pace Containers Used: | TOYES DNO DN/A | | | |
| Containers Intact: | ETYES DNO DN/A | 10. | | |
| Filtered volume received for Dissolved tests | □Yes □No ☑N/A | 11. | | |
| Sample Labels match COC: | ETES DO DNA | 12. | | |
| -Includes date/time/ID/Analysis Matrix: | \mathcal{W} | | | |
| All containers needing preservation have been checked. | ETYPS DNO DN/A | 13. | : | |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ZYes □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 ₽NA | 14. | | |
| Headspace in VOA Vials (>6mm): | □Yes □No □NÃ | 15. | | |
| Trip Blank Present: | □Yes □No □N/A | 16. | | |
| Trip Blank Custody Seals Present | □Y₽S □No ÆN/A | | | |
| Pace Trip Blank Lot # (if purchased): | | | | |
| Client Notification/Resolution: | | | Field Data Required | Y / N |
| Person Contacted: | Date/ | Time [,] | Field Data Required | P Y / N |
| Comments/ Resolution: The Con | Medin 1 | ma hor | HGIN- | 17 Was |
| 207 listo d on 1to | COC an | d was | taken t | term 110 |
| Container labels | 25 /3:00 | <i>5</i> | | |
| | | | | |
| | | | | |
| Project Manager Review: | | | Date: | |
| Note: Whenever there is a discrepancy affecting North Certification Office (i.e out of hold, incorrect preservations) | Carolina compliance san ve, out of temp, incorrect | nples, a copy of this for containers) | n will be sent to the North | Carolina DEHNR |

F-ALLC003rev.3, 11September2006 Page 16 of 16





March 25, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2616230

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on March 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,

Eben Buchanan for

Eben Bustanan

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







CERTIFICATIONS

Project: Plant Hammond Pace Project No.: 2616230

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





SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2616230

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2616230001 | FB-02 | Water | 03/15/19 14:50 | 03/18/19 12:00 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2616230

| Lab ID | Sample ID | Method | Analysts | Analytes Reported |
|------------|-----------|-----------|----------|----------------------|
| 2616230001 | FB-02 | EPA 6020B | CSW | 13 |
| | | EPA 7470A | DRB | 1 |
| | | EPA 300.0 | RLC | 2 |



ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2616230

Date: 03/25/2019 07:53 PM

| Sample: FB-02 | Lab ID: | 2616230001 | Collect | ed: 03/15/19 | 9 14:50 | Received: 03/ | 18/19 12:00 Ma | atrix: Water | |
|-------------------------|------------|-------------|-----------------|--------------|---------|----------------|----------------|--------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00078 | 1 | 03/20/19 14:34 | 03/21/19 23:21 | 7440-36-0 | |
| Arsenic | ND | mg/L | 0.0050 | 0.00057 | 1 | 03/20/19 14:34 | 03/21/19 23:21 | 7440-38-2 | |
| Barium | ND | mg/L | 0.010 | 0.00078 | 1 | 03/20/19 14:34 | 03/21/19 23:21 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000050 | 1 | 03/20/19 14:34 | 03/21/19 23:21 | 7440-41-7 | |
| Boron | 0.011J | mg/L | 0.040 | 0.0039 | 1 | 03/20/19 14:34 | 03/21/19 23:21 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0010 | 0.000093 | 1 | 03/20/19 14:34 | 03/21/19 23:21 | 7440-43-9 | |
| Chromium | ND | mg/L | 0.010 | 0.0016 | 1 | 03/20/19 14:34 | 03/21/19 23:21 | 7440-47-3 | |
| Cobalt | ND | mg/L | 0.010 | 0.00052 | 1 | 03/20/19 14:34 | 03/21/19 23:21 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.00027 | 1 | 03/20/19 14:34 | 03/21/19 23:21 | 7439-92-1 | |
| Lithium | ND | mg/L | 0.050 | 0.00097 | 1 | 03/20/19 14:34 | 03/21/19 23:21 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.0019 | 1 | 03/20/19 14:34 | 03/21/19 23:21 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0014 | 1 | 03/20/19 14:34 | 03/21/19 23:21 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.00014 | 1 | 03/20/19 14:34 | 03/21/19 23:21 | 7440-28-0 | |
| 7470 Mercury | Analytical | Method: EPA | 7470A Pre | paration Met | hod: EF | PA 7470A | | | |
| Mercury | ND | mg/L | 0.00050 | 0.000036 | 1 | 03/25/19 08:02 | 03/25/19 13:58 | 7439-97-6 | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Fluoride | ND | mg/L | 0.30 | 0.029 | 1 | | 03/24/19 17:35 | 16984-48-8 | |
| Sulfate | ND | mg/L | 1.0 | 0.017 | 1 | | 03/24/19 17:35 | 14808-79-8 | |



Project: Plant Hammond

Pace Project No.: 2616230

Date: 03/25/2019 07:53 PM

QC Batch: 24983 QC Batch Method: EPA 7470A

Associated Lab Samples: 2616230001

Analysis Method:
Analysis Description:

EPA 7470A

7470 Mercury

METHOD BLANK: 112752 Matrix: Water

Associated Lab Samples: 2616230001

Blank Reporting

Parameter Units Result Limit MDL Analyzed Qualifiers

Mercury mg/L ND 0.00050 0.000036 03/25/19 12:52

LABORATORY CONTROL SAMPLE: 112753

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers 94 Mercury mg/L 0.0025 0.0023 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 112754 112755

MS MSD 2616228001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD RPD Qual ND 0.0025 0.0025 0.0023 0.0024 92 75-125 3 20 Mercury mg/L 95

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



Project: Plant Hammond

Pace Project No.: 2616230

Date: 03/25/2019 07:53 PM

QC Batch: 24707 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET

Associated Lab Samples: 2616230001

METHOD BLANK: 111121 Matrix: Water

Associated Lab Samples: 2616230001

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------|-------|-----------------|--------------------|----------|----------------|------------|
| Antimony | mg/L | ND | 0.0030 | 0.00078 | 03/21/19 19:09 | |
| Arsenic | mg/L | ND | 0.0050 | 0.00057 | 03/21/19 19:09 | |
| Barium | mg/L | ND | 0.010 | 0.00078 | 03/21/19 19:09 | |
| Beryllium | mg/L | ND | 0.0030 | 0.000050 | 03/21/19 19:09 | |
| Boron | mg/L | ND | 0.040 | 0.0039 | 03/21/19 19:09 | |
| Cadmium | mg/L | ND | 0.0010 | 0.000093 | 03/21/19 19:09 | |
| Chromium | mg/L | ND | 0.010 | 0.0016 | 03/21/19 19:09 | |
| Cobalt | mg/L | ND | 0.010 | 0.00052 | 03/21/19 19:09 | |
| Lead | mg/L | ND | 0.0050 | 0.00027 | 03/21/19 19:09 | |
| Lithium | mg/L | ND | 0.050 | 0.00097 | 03/21/19 19:09 | |
| Molybdenum | mg/L | ND | 0.010 | 0.0019 | 03/21/19 19:09 | |
| Selenium | mg/L | ND | 0.010 | 0.0014 | 03/21/19 19:09 | |
| Thallium | mg/L | ND | 0.0010 | 0.00014 | 03/21/19 19:09 | |

| LABORATORY CONTROL SAMPLE: | 111122 | | | | | |
|----------------------------|--------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Antimony | mg/L | 0.1 | 0.11 | 107 | 80-120 | |
| Arsenic | mg/L | 0.1 | 0.10 | 104 | 80-120 | |
| Barium | mg/L | 0.1 | 0.10 | 103 | 80-120 | |
| Beryllium | mg/L | 0.1 | 0.099 | 99 | 80-120 | |
| Boron | mg/L | 1 | 1.0 | 100 | 80-120 | |
| Cadmium | mg/L | 0.1 | 0.10 | 105 | 80-120 | |
| Chromium | mg/L | 0.1 | 0.11 | 106 | 80-120 | |
| Cobalt | mg/L | 0.1 | 0.10 | 100 | 80-120 | |
| Lead | mg/L | 0.1 | 0.10 | 101 | 80-120 | |
| Lithium | mg/L | 0.1 | 0.10 | 101 | 80-120 | |
| Molybdenum | mg/L | 0.1 | 0.11 | 108 | 80-120 | |
| Selenium | mg/L | 0.1 | 0.10 | 105 | 80-120 | |
| Thallium | mg/L | 0.1 | 0.10 | 100 | 80-120 | |

| MATRIX SPIKE & MATRIX S | PIKE DUPLIC | CATE: 111123 | 3 | | 111124 | | | | | | | |
|-------------------------|-------------|----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|------|
| Parameter | Units | 2616193001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
| Antimony | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.11 | 107 | 106 | 75-125 | 2 | 20 | |
| Arsenic | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 103 | 105 | 75-125 | 2 | 20 | |
| Barium | mg/L | 0.028 | 0.1 | 0.1 | 0.13 | 0.13 | 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.



Project: Plant Hammond

Pace Project No.: 2616230

Date: 03/25/2019 07:53 PM

| MATRIX SPIKE & MATRIX S | SPIKE DUPLICA | ATE: 111123 | 3 | | 111124 | | | | | | | |
|-------------------------|---------------|----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|------|
| Parameter | Units | 2616193001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
| Beryllium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.098 | 100 | 98 | 75-125 | 2 | 20 | |
| Boron | mg/L | 0.0070J | 1 | 1 | 0.96 | 0.99 | 95 | 98 | 75-125 | 3 | 20 | |
| Cadmium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 102 | 103 | 75-125 | 1 | 20 | |
| Chromium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 102 | 102 | 75-125 | 1 | 20 | |
| Cobalt | mg/L | ND | 0.1 | 0.1 | 0.098 | 0.096 | 97 | 96 | 75-125 | 1 | 20 | |
| Lead | mg/L | ND | 0.1 | 0.1 | 0.099 | 0.099 | 99 | 99 | 75-125 | 0 | 20 | |
| Lithium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 101 | 100 | 75-125 | 1 | 20 | |
| Molybdenum | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.11 | 107 | 105 | 75-125 | 1 | 20 | |
| Selenium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 105 | 103 | 75-125 | 2 | 20 | |
| Thallium | mg/L | ND | 0.1 | 0.1 | 0.099 | 0.098 | 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.



Project: Plant Hammond

Pace Project No.: 2616230

QC Batch: 24985 QC Batch Method: EPA 300.0

Analysis Method:

22.0

EPA 300.0

1

QC Batch Method: EPA 300.0

Analysis Description: 300.0 I

300.0 IC Anions

Associated Lab Samples: 2616230001

METHOD BLANK: 112760

Matrix: Water

Associated Lab Samples:

Sulfate

Date: 03/25/2019 07:53 PM

2616230001

mg/L

Blank Reporting

Limit MDL Parameter Units Result Qualifiers Analyzed Fluoride ND 0.30 0.029 03/24/19 14:11 mg/L Sulfate mg/L ND 1.0 0.017 03/24/19 14:11

LABORATORY CONTROL SAMPLE: 112761

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers mg/L Fluoride 10 9.9 99 90-110 Sulfate mg/L 10 9.4 94 90-110

10

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 112762 112763 MSD MS 2616191001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Fluoride mg/L ND 10 10 9.0 9.5 90 95 90-110 5 15

10

28.9

29.2

69

72

90-110

15 M1

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



QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2616230

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

Date: 03/25/2019 07:53 PM

M1

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



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2616230

Date: 03/25/2019 07:53 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|-----------------|----------|-------------------|---------------------|
| 2616230001 | FB-02 | EPA 3005A | 24707 | EPA 6020B | 24750 |
| 2616230001 | FB-02 | EPA 7470A | 24983 | EPA 7470A | 25042 |
| 2616230001 | FB-02 | EPA 300.0 | 24985 | | |

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| Section A | · · · · · · · · · · · · · · · · · · · | Section B | 1 | j | 1 | | | | S I | Section C | | į | | | | | | | | | , | | | - | 1 | ١. | F | |
|----------------------|---|--|-----------------|------------------|-----------------------------|-------------------------------|------------------------|---------------|---------------|---------------------|-----------|---------------|----------------------------|-----------------------------|--------------|---|---------------|-----------|---------------------|----------------------------------|--------------|--|----------------|---------------------|--|----------------------------|--------------|--|
| Company | Georgia Power - Coal Combustion Residuals | - | j j | Abrahar | Join Abraham / Lauren Petty | on Petty | | | Į | Attention: Scsin | <u> </u> | žinvojć | scsinvoices@southemco.com | outhe | 800 | Ę | | | | _ | - | | | ŀ | ľ | |] | |
| Address: | 2480 Maner Road | 1 1 | 9 | Geosyntec | | | | | రి | Company Name: | Nате: | | | | | | | | | | | | | | | | | |
| | | | | | $ \ $ | | | $ \ $ | ₹ | Address: | | $ \ $ | $ \ $ | | | | | | | Ç. | | R | equilate | Regulatory Agency | ncy | | | |
| Email: | | Purchase Order #: | * | į | SCS10348606 | 900 | | | 2 6 | Pace Quote | | | | | 1 | | | | | | | | | | | | Acres de | |
| Reques | Requested Due Date: Cand and The | Project #. | 1 | rian r | Fiam Hammond | | | | 1 E | Pace Profile #: 327 | 9 3 | 327.41 | 327 4 (AP) or 328 5 (Huff) | betsy.modamet(gpacelabs.com | F G | Scelans | E S | | | | | ************************************** |) albic | 8 | Ě | | 10 mg | |
| | | | | | | $\ \ $ | $\ \ $ | | $\ \ $ | $\ \ $ | | | | | | | Requies | ted An | A sista | Requested Analysis Filtered (Y/N | NV. | | | | No. | | | |
| | NETAM | 3000 | | (GMO) | | COLLECTED | TED | | N | | Pr | Preservatives | ıtives | | SNA | $-\!$ | 1 | | - | | | | 11 | #\$. | | | | |
| | SAMPLE ID Subsort | A MA W | (see valid code | =3 BAR9=9) | START | - | END | | | | | | | | (jeeT | 01 | | | | | | | (N/Y) en | | | | | |
| # MƏTI | ter per box. 9 / , -} ust be unique | AR to ST | | 39YT 3J9MA2 9 | DATE | TIME | DATE | TIME | SAMPLE TEMP A | Unpreserved | HNO3 | HCI HCI | EOSSZ6N | Methanol | sesylanA. | Pluoride by 300 | Radium 226/22 | | Metals (As, B, 000. | | | | Residual Chlor | | | | | |
| 194 | 76-02 | | Ĕ | (S) | MTG 3/15/19 1445 | 53.4 | 3/14/14 | 1,620 | 8 | Ξ | 3 | _ | | | | 7 | <u></u> | \vdash | λX | | | | 3 | | | | | |
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| $\perp \!\!\! \perp$ | | May | <u>.</u> 3 | 11/11 | Compran | Labor | Same of | 61/81/6 | | 9201 | 翔 | 1300 | X | | anjing | 8 | \bigcup | | 1346 | \ | 1770 | # | | | \parallel | ╫ | | |
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| yu 12 | . 12 | | | | | SIGNA | PRINT NAME OF SAMPLERS | of SAMPLER | IC | 3 | | 1/ | 3 | 2750 | ري ح | A | DATE Signed: | l' | 2 | V | 9 | 1 | ni 9M3 | (N/N) 8 (N/N) | ybofeu belee | RANDIOS (N/N) (OO)OS | tact V/V) | |
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| | Jampi | e Condition | Opon Receip | • | |
|-------------------------|--|-----------------|------------------------|-----------------------------|------------------------------|
| - Face Ana. | <i>lytical</i> Client Name: _ | GIA 1 | Power | Project # | |
| Tracking #: | Ex UPS USPS Client | | | WO#:20 | 616230 |
| Custody Seal on | Cooler/Box Present: yes | no Seals | intact: | PM: BM CLIENT: GAP | Due Date: 03/25/ suer-CCR |
| Packing Material: | ☐ Bubble Wrap ☐ Bubble Bag | | | 1 6 | |
| Thermometer Use | | pe of Ice: Wet | Blue None | Samples on ice, co | oling process has begun |
| Cooler Temperatu | ire 4.2 Bi | ological Tissue | is Frozen: Yes No | | s of person examining |
| Temp should be about | ve freezing to 6°C | | Comments: | contents: 12 | 3/18/19 mg |
| Chain of Custody F | resent: | Yes □No □N/A | 1. | | |
| Chain of Custody F | filled Out: | Yes □No □N/A | 2. | | |
| Chain of Custody F | | es □No □N/A | [| | |
| Sampler Name & S | | es □No □N/A | | | |
| Samples Arrived w | | res 🗆 No 🗆 N/A | | | |
| Short Hold Time | | res ⊠Ño □N/A | | | |
| Rush Turn Aroun | d Time Requested: | res Dino □n/A | 7. | | |
| Sufficient Volume: | | res □no □n/A | 8. | | |
| Correct Containers | Used: | es □No □N/A | 9. | | |
| -Pace Containe | rs Used: | res □No □N/A | | | |
| Containers Intact: | Ą | es 🗆 No 🗆 N/A | 10. | | |
| Filtered volume red | eived for Dissolved tests | ′es □No ☑N/A | 11. | | |
| Sample Labels ma | tch COC: | reš □ko □n/a | 12. | | |
| -Includes date/t | | W | | | |
| All containers needing | preservation have been checked. | res □no □n/A | 13. | | |
| All containers needin | g preservation are found to be in recommendation. | res 🗆 No 🗆 N/A | | | |
| exceptions: VOA, colifo | ım, TOC, O&G, WI-DRO (water) | res 🗆 No | Initial when completed | Lot # of added preservative | |
| Samples checked t | for dechlorination: | Yes □No -21N/A | 14. | | |
| Headspace in VOA | Vials (>6mm): □ | Ves □No ,□NVĀ | 15. | | |
| Trip Blank Present | | Yes □No ☑N/A | 16. | | |
| Trip Blank Custody | Seals Present | Yes ONO ANIA | | | |
| Pace Trip Blank Lo | t # (if purchased): | | | | |
| Client Notification | / Resolution: | | | Field Data Required | 1? Y / N |
| | tacted: | Date/ | Time: | som modelle | r r 14 |
| | olution: | | | | |
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| | | | | | |
| | | | | | |
| | | | | ! | |
| Project Manage | r Review: | | | Date: | |
| | re is a discrepancy affecting North Caroli be out of hold, incorrect preservative, ou | | | rm will be sent to the Nort | h Carolina DEHNR |

F-ALLC003rev.3, 11September 2008 of 13





April 10, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2616231

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on March 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

Beton M Damil

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



(770)734-4200



CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2616231

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





SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2616231

| Lab ID | Sample ID | Matrix | Date Collected | Date Received | |
|------------|-----------|--------|----------------|----------------|--|
| 2616231001 | FB-02 | Water | 03/15/19 14:50 | 03/18/19 12:00 | |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2616231

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|--------------------------|----------|----------------------|------------|
| 2616231001 | FB-02 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2616231

| Sample: FB-02 PWS: | Lab ID: 26162310 Site ID: | 01 Collected: 03/15/19 14:50 Sample Type: | Received: | 03/18/19 12:00 | Matrix: Water | |
|-----------------------|-------------------------------------|--|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | | 0.285 ± 0.233 (0.397) C:91% T:NA | pCi/L | 03/27/19 08:1 | 13982-63-3 | |
| Radium-228 | | 0.313 ± 0.326 (0.671) C:70% T:84% | pCi/L | 03/29/19 14:37 | 7 15262-20-1 | |
| Total Radium | Total Radium Calculation | 0.598 ± 0.559 (1.07) | pCi/L | 04/02/19 13:34 | 4 7440-14-4 | |



QUALITY CONTROL - RADIOCHEMISTRY

EPA 9320

Project: Plant Hammond

Pace Project No.: 2616231

QC Batch: 334703

QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228

Associated Lab Samples: 2616231001

METHOD BLANK: 1628726 Matrix: Water

Associated Lab Samples: 2616231001

 Parameter
 Act ± Unc (MDC) Carr Trac
 Units
 Analyzed
 Qualifiers

 Radium-228
 0.496 ± 0.336 (0.636) C:77% T:84%
 pCi/L
 03/29/19 11:27

Analysis Method:

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



QUALITY CONTROL - RADIOCHEMISTRY

EPA 9315

Project: Plant Hammond

Pace Project No.: 2616231

QC Batch: 334701

Analysis Method:

QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium

Associated Lab Samples: 2616231001

METHOD BLANK: 1628722 Matrix: Water

Associated Lab Samples: 2616231001

Parameter Act ± Unc (MDC) Carr Trac Qualifiers Units Analyzed Radium-226 0.317 ± 0.219 (0.286) C:97% T:NA pCi/L 03/27/19 08:17

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.



QUALIFIERS

Project: Plant Hammond

Pace Project No.: 2616231

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

Date: 04/10/2019 05:20 PM

PASI-PA Pace Analytical Services - Greensburg



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2616231

Date: 04/10/2019 05:20 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|--------------------------|----------|-------------------|---------------------|
| 2616231001 | FB-02 | EPA 9315 | 334701 | | |
| 2616231001 | FB-02 | EPA 9320 | 334703 | | |
| 2616231001 | FB-02 | Total Radium Calculation | 336613 | | |

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| Section A | | Section B | 1 | 1 | | | | S S | Section C | Section C | į | | | | | | | | | | Page | | | ŏ | _ |
|-----------|--|------------------------------|-------------|-----------------------------|---------------|-------------------------|--------|-------------|----------------|-----------------------|---------------|---------------------------|-----------------------------|---------------|-----------------|----------------------------------|--|----------------------------------|------------|---------|------------------|---------------------|---------------------------------------|-------------------------|--------|
| Company | Client Information: Georgia Power - Coal Combustion Residuals | Report To: Joju Abraham / La | A Property | Join Abraham / Lauren Petty | n Petty | | l | ¥ | Attention: | S S | sinvoit | scsinvoices@southemco.com | outher | nco.c | E | | | | | J | | | | | |
| Address | 2480 Maner Road | | Geosyntec | | | | | Š | mpany | Сомралу Мате: | | | | | | | | | | | 1 3300 | 2000 | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | C. C. September | |
| | Atlanta, GA 30339 | il | | | | | | ğ | Address: | Į | | | | | | | | 1 | | | 2 | Regulatory Agency | Donc | 1 | |
| Email: | jabraham@southernco.com | Purchase Order #. | - 13 | SCS10348606 | 90 | | | Ä | Pace Quote | ē. | | | | | | | | Ì | | CI. | (O)Curpopolistic | | | AND THE PERSON NAMED IN | - |
| Phone | (404)506-7239 Fax | Project Name: | Plant | Plant Hammond | | | | ă d | Pace Project N | Pace Project Managar. | ager. | iger. betsy modaniel@ | betsy modaniel@pacelabs.com | ed s | celabs | Ē | | | | | 2 | A C | anous co | 4, 50 february | |
| Reque | Requested Due Dale: | riged #. | | | | | | | | | 7 | 2 | 350.0 | 建 | 200 | Requested Analysis Filtered (YA) | d'Anell | sis Fit | Popular (Y | MILE | | | | | *** |
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| | SAMPLE ID | See valid codes | D=D 8ARD=D) | START | | END | | | | | | | | | | 93 | (-44 0) | | | | | (N\Y) enin | · | | |
| ITEM # | One Character per box. Who Air (A.Z. 0.9 /, -) Other Sample Ids must be unique Tissue | A A A S | SAMPLE TYPE | DATE | TIME | DATE | TIME | SAMPLE TEMP | bevieserqnU | HZ2O4 | НСІ | EOZSZBN HOBN | Methanol | eggylanA. | Pluoride by 309 | Radium 226/2 | 2 - 51 eletet4 | Metals (As, B, Sulfate by 300 | | | | Residual Chlo | | | |
| | FB-02 | 5 | ত | | ط | 3/14/14 | П : | 20 4 | Ξ | 3 | | \Box | H | | | | | \sim | ╫ | | Ħ | 2 | | | П |
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|-------------------------|---|---|-------------|---------------------|-------------------------|-------|-----------------------------|--------------------------|
| Pace Anal | <i>ytical</i> Client Name: _ | 10 | 911 | < / | Power | F | roject# | |
| Tracking # | Ex UPS USPS Client | | | | | 11 | 40#:26 | 16231 Due Date: 04/15/1 |
| Custody Seal on C | Cooler/Box Present: yes | ⇉، | по | Seals | intact: yes | ` | LIENT: GAPou | |
| Packing Material: | ☐ Bubble Wrap ☐ Bubble Ba | a s | | one [| Other | | | |
| Thermometer Use | d 83 T | /pe | of Ice: | Wel | Blue None | | Samples on ice, coo | ling process has begun |
| Cooler Temperatu | 16.2 | | | _ | is Frozen: Yes No | | Date and Initial | of person examining |
| Temp should be above | | | • | | Comments: | | contents: | 1/18/19 mg |
| Chain of Custody F | resent: | Nes | □No | □N/A | 1. | | | |
| Chain of Custody F | | Nes | □No | □n/a | 2. | | | |
| Chain of Custody R | | res | □No | □n/a | 3. | | | |
| Sampler Name & S | | 1_ | □No | | | | | |
| Samples Arrived w | | | □No | | | | | |
| Short Hold Time | nalysis (<72hr): |] Yes | ₽ √0 | □n/a | 6. | | | |
| | | ┪~~ | □ ₩6 | | | | | |
| Sufficient Volume: | i | 1 | □No | | | | | |
| Correct Containers | Used: -{ | 3 res | □No | □n/a | 9. | | | |
| -Pace Containe | rs Used: | J Ves | No | □n/a | | | | |
| Containers Intact: | | 3/69 | . □No | □n/a | 10. | | | |
| | | _ | i □No | | | : | | |
| Sample Labels ma | | \neg | . □No | | | | | |
| -Includes date/t | | | W | | | | | |
| | preservation have been checked | 3 ve: | ₃□No | □N/A | 13. | : | | |
| All containers needin | g preservation are found to be in | بل | | | | | | |
| compliance with EPA | it i | Jres | s □No | UN/A | | | 1 | |
| exceptions: VOA, colifo | rm, TOC, O&G, WI-DRO (water) | ⊐Yes | S UNO | | Initial when completed | | Lot # of added preservative | |
| Samples checked | for dechlorination: | Ye: | s 🗆 No | ₽N/A | 14. | | | |
| Headspace in VOA | Vials (>6mm): | Ye | s 🗆 No | ,D I N/A | 15. | | | |
| Trip Blank Present | | Ye | s 🗆 No | ĐNA | 16. | | | |
| Trip Blank Custody | Seals Present | _ _Ye: | s 🗆 No | Æ N/A | | | | |
| Pace Trip Blank Lo | ot # (if purchased): | | | | | | | |
| Client Notification | (Panalutian) | \mp | | | | | Field Data Require | d? Y / N |
| - | tacted: | | | Date | Time: | - | Tield Data Nequire | J: () () |
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| Project Manag | er Review | | | | | | Date: | |
| Froject Manag | G. INGVICW. | + | | | | | | |
| Note: Whenever the | ere is a discrepancy affecting North Ca | olina | compli | ance sa | mples, a copy of this f | orm v | will be sent to the No | th Carolina DEHNR |

F-ALLC003rev.3, 11September 2006 of 1





April 09, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2616885

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on April 02, 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

Beton M Damil

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







CERTIFICATIONS

Project: Plant Hammond Pace Project No.: 2616885

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





SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2616885

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2616885001 | HGWA-3 | Water | 04/01/19 17:25 | 04/02/19 11:30 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2616885

| Lab ID | Sample ID | Method | Analysts | Analytes Reported |
|------------|-----------|-----------|----------|----------------------|
| 2616885001 | HGWA-3 | EPA 6020B | CSW | 14 |
| | | SM 2540C | RLC | 1 |
| | | EPA 300.0 | RLC | 3 |



ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2616885

Date: 04/09/2019 02:37 PM

| Sample: HGWA-3 | Lab ID: | 2616885001 | Collecte | ed: 04/01/19 | 17:25 | Received: 04/ | 02/19 11:30 Ma | atrix: Water | |
|------------------------------|------------|--------------|-----------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00078 | 1 | 04/05/19 14:47 | 04/08/19 18:46 | 7440-36-0 | |
| Arsenic | ND | mg/L | 0.0050 | 0.00057 | 1 | 04/05/19 14:47 | 04/08/19 18:46 | 7440-38-2 | |
| Barium | 0.13 | mg/L | 0.010 | 0.00078 | 1 | 04/05/19 14:47 | 04/08/19 18:46 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000050 | 1 | 04/05/19 14:47 | 04/08/19 18:46 | 7440-41-7 | |
| Boron | 0.0066J | mg/L | 0.040 | 0.0039 | 1 | 04/05/19 14:47 | 04/08/19 18:46 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0010 | 0.000093 | 1 | 04/05/19 14:47 | 04/08/19 18:46 | 7440-43-9 | |
| Calcium | 80.5 | mg/L | 25.0 | 0.69 | 50 | 04/05/19 14:47 | 04/08/19 18:52 | 7440-70-2 | |
| Chromium | ND | mg/L | 0.010 | 0.0016 | 1 | 04/05/19 14:47 | 04/08/19 18:46 | 7440-47-3 | |
| Cobalt | ND | mg/L | 0.010 | 0.00052 | 1 | 04/05/19 14:47 | 04/08/19 18:46 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.00027 | 1 | 04/05/19 14:47 | 04/08/19 18:46 | 7439-92-1 | |
| Lithium | 0.0032J | mg/L | 0.050 | 0.00097 | 1 | 04/05/19 14:47 | 04/08/19 18:46 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.0019 | 1 | 04/05/19 14:47 | 04/08/19 18:46 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0014 | 1 | 04/05/19 14:47 | 04/08/19 18:46 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.00014 | 1 | 04/05/19 14:47 | 04/08/19 18:46 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 284 | mg/L | 25.0 | 10.0 | 1 | | 04/04/19 17:45 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Chloride | 6.5 | mg/L | 0.25 | 0.024 | 1 | | 04/06/19 01:13 | 16887-00-6 | M1 |
| Fluoride | 0.029J | mg/L | 0.30 | 0.029 | 1 | | 04/06/19 01:13 | 16984-48-8 | |
| Sulfate | 50.4 | mg/L | 10.0 | 0.17 | 10 | | 04/08/19 20:01 | 14808-79-8 | M1 |



Project: Plant Hammond

Pace Project No.: 2616885

Date: 04/09/2019 02:37 PM

QC Batch: 25905 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET

Associated Lab Samples: 2616885001

METHOD BLANK: 116813 Matrix: Water

Associated Lab Samples: 2616885001

| Damanatan | 11.54. | Blank | Reporting | MDI | A I I | 0 |
|------------|--------|--------|-----------|----------|----------------|------------|
| Parameter | Units | Result | Limit | MDL | Analyzed | Qualifiers |
| Antimony | mg/L | ND | 0.0030 | 0.00078 | 04/08/19 18:23 | |
| Arsenic | mg/L | ND | 0.0050 | 0.00057 | 04/08/19 18:23 | |
| Barium | mg/L | ND | 0.010 | 0.00078 | 04/08/19 18:23 | |
| Beryllium | mg/L | ND | 0.0030 | 0.000050 | 04/08/19 18:23 | |
| Boron | mg/L | ND | 0.040 | 0.0039 | 04/08/19 18:23 | |
| Cadmium | mg/L | ND | 0.0010 | 0.000093 | 04/08/19 18:23 | |
| Calcium | mg/L | ND | 0.50 | 0.014 | 04/08/19 18:23 | |
| Chromium | mg/L | ND | 0.010 | 0.0016 | 04/08/19 18:23 | |
| Cobalt | mg/L | ND | 0.010 | 0.00052 | 04/08/19 18:23 | |
| Lead | mg/L | ND | 0.0050 | 0.00027 | 04/08/19 18:23 | |
| Lithium | mg/L | ND | 0.050 | 0.00097 | 04/08/19 18:23 | |
| Molybdenum | mg/L | ND | 0.010 | 0.0019 | 04/08/19 18:23 | |
| Selenium | mg/L | ND | 0.010 | 0.0014 | 04/08/19 18:23 | |
| Thallium | mg/L | ND | 0.0010 | 0.00014 | 04/08/19 18:23 | |

| | | Spike | LCS | LCS | % Rec | |
|------------|-------|-------|--------|-------|--------|------------|
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Antimony | mg/L | 0.1 | 0.11 | 108 | 80-120 | |
| Arsenic | mg/L | 0.1 | 0.10 | 103 | 80-120 | |
| Barium | mg/L | 0.1 | 0.10 | 103 | 80-120 | |
| Beryllium | mg/L | 0.1 | 0.10 | 101 | 80-120 | |
| Boron | mg/L | 1 | 1.0 | 105 | 80-120 | |
| Cadmium | mg/L | 0.1 | 0.11 | 109 | 80-120 | |
| Calcium | mg/L | 1 | 1.0 | 104 | 80-120 | |
| Chromium | mg/L | 0.1 | 0.11 | 108 | 80-120 | |
| Cobalt | mg/L | 0.1 | 0.11 | 107 | 80-120 | |
| Lead | mg/L | 0.1 | 0.10 | 103 | 80-120 | |
| Lithium | mg/L | 0.1 | 0.10 | 102 | 80-120 | |
| Molybdenum | mg/L | 0.1 | 0.11 | 105 | 80-120 | |
| Selenium | mg/L | 0.1 | 0.11 | 106 | 80-120 | |
| Thallium | mg/L | 0.1 | 0.10 | 103 | 80-120 | |

| MATRIX SPIKE & MATRIX SPI | KE DUPLIC | CATE: 11681 | 5 | | 116816 | | | | | | | |
|---------------------------|-----------|-------------|-------|-------|--------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2616901004 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Antimony | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.11 | 110 | 107 | 75-125 | 3 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2616885

Date: 04/09/2019 02:37 PM

| MATRIX SPIKE & MATRIX S | PIKE DUPLICA | ATE: 116815 | 5 | | 116816 | | | | | | | |
|-------------------------|--------------|-------------|-------|-------|--------|--------|-------|-------|--------|-----|-----|-------|
| | | | MS | MSD | | | | | | | | |
| | | 2616901004 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Arsenic | mg/L | ND ND | 0.1 | 0.1 | 0.10 | 0.10 | 103 | 102 | 75-125 | 1 | 20 | |
| Barium | mg/L | 0.027 | 0.1 | 0.1 | 0.13 | 0.13 | 105 | 100 | 75-125 | 4 | 20 | |
| Beryllium | mg/L | 0.00015J | 0.1 | 0.1 | 0.10 | 0.10 | 100 | 100 | 75-125 | 0 | 20 | |
| Boron | mg/L | 0.63 | 1 | 1 | 1.6 | 1.6 | 102 | 101 | 75-125 | 0 | 20 | |
| Cadmium | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.10 | 105 | 105 | 75-125 | 0 | 20 | |
| Calcium | mg/L | 11.9J | 1 | 1 | 13.1J | 17.2J | 129 | 532 | 75-125 | 27 | 20 | M6,R1 |
| Chromium | mg/L | 0.0030J | 0.1 | 0.1 | 0.11 | 0.11 | 106 | 106 | 75-125 | 0 | 20 | |
| Cobalt | mg/L | 0.0022J | 0.1 | 0.1 | 0.11 | 0.10 | 103 | 101 | 75-125 | 2 | 20 | |
| Lead | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 102 | 101 | 75-125 | 0 | 20 | |
| Lithium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 102 | 100 | 75-125 | 2 | 20 | |
| Molybdenum | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.10 | 107 | 103 | 75-125 | 4 | 20 | |
| Selenium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 101 | 100 | 75-125 | 1 | 20 | |
| Thallium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 103 | 102 | 75-125 | 1 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2616885

QC Batch: 25772 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 2616885001

LABORATORY CONTROL SAMPLE: 116265

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers **Total Dissolved Solids** mg/L 400 403 101 84-108

SAMPLE DUPLICATE: 116266

Date: 04/09/2019 02:37 PM

2616783001 Dup Max RPD **RPD** Parameter Units Result Result Qualifiers **Total Dissolved Solids** 87.0 115 28 10 D6 mg/L

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



Project: Plant Hammond

Pace Project No.: 2616885

QC Batch: 25881 QC Batch Method: EPA 300.0

1 Analysis Method: 300.0 Analysis Description: EPA 300.0 300.0 IC Anions

Associated Lab Samples: 2616885001

METHOD BLANK: 116727

Date: 04/09/2019 02:37 PM

Matrix: Water

Associated Lab Samples: 2616885001

| | | Blank | Reporting | | | |
|-----------|-------|--------|-----------|-------|----------------|------------|
| Parameter | Units | Result | Limit | MDL | Analyzed | Qualifiers |
| Chloride | mg/L | 0.069J | 0.25 | 0.024 | 04/05/19 23:23 | |
| Fluoride | mg/L | ND | 0.30 | 0.029 | 04/05/19 23:23 | |
| Sulfate | mg/L | 0.028J | 1.0 | 0.017 | 04/05/19 23:23 | |

LABORATORY CONTROL SAMPLE: 116728 Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Chloride mg/L 10 10.3 103 90-110

Fluoride mg/L 10 10.3 103 90-110 Sulfate mg/L 10 10.1 10.1 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 116729 116730 MS MSD 2616881001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec RPD RPD Qual Limits Chloride mg/L 4.0 10 10 13.8 13.7 99 97 90-110 15 Fluoride 0.042J 10 10 10.0 9.9 100 99 90-110 15 mg/L Sulfate 90-110 mg/L 1.7 10 10 11.4 11.4 97 96 15

MATRIX SPIKE SAMPLE: 116731 2616885001 Spike MS MS % Rec Parameter Units Result Conc. Result % Rec Limits Qualifiers Chloride 6.5 10 15.5 89 90-110 M1 mg/L Fluoride mg/L 0.029J 10 9.5 95 90-110 Sulfate mg/L 50.4 10 54.7 43 90-110 E,M1

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



QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2616885

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

Date: 04/09/2019 02:37 PM

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.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2616885

Date: 04/09/2019 02:37 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|-----------------|----------|-------------------|---------------------|
| 2616885001 | HGWA-3 | EPA 3005A | 25905 | EPA 6020B | 25922 |
| 2616885001 | HGWA-3 | SM 2540C | 25772 | | |
| 2616885001 | HGWA-3 | EPA 300.0 | 25881 | | |

Pace Anabrical

CHAIN-OF-CUSTODY / Analytical Request Document

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

(V/V) Samples (N/A) ŏ Cooler Sealed (possng (N/A) MO#:2616885 80 B Received on Residual Chlorine (Y/V) TEMP in C 4/2/19/0930 9501 <u>a</u> I Radium 226/228 (200 DATE Signed: 108, Cl. F, SO4 betsy modaniel@pacetabs.com (O.80 & III .qqA) sisteM Mets (App. III, App. IV, D&O Parle Vetals (App. III & App. IV) deeT seavisnA **MIX** vuention: sosirvoices@southernco.com Company Name: 7 05 ENS 327 (AP) or 328 (Huff) lonerieM SIGNATURE OF SAMPLER: MELLIC MINN MAN Preservatives ROZSZEN HOBN Q Pace Quote:
Pace Project Manager:
Pace Profile #: 327 (4) HCI involce information: PRINT Name of SAMPLER: NOE / A <u>ন</u> EONH HS2O4 Section C 1036 Address: Unpreserved # OF CONTAINERS Q SAMPLE TEMP AT COLLECTION T 28 M/1/4851 TIME 2 DATE COLLECTED 500 TIME Lauren Petty, Geosyntec Purchase Order #: SC\$10348606 Project Name: Plant Hammond Project #: dia Muhn START <u>র</u> ই DATE Required Project Information: SAMPLE TYPE (G-GRAS C-COMP) andos MATRIX CODE (see valid codes to left) Report To: Copy To: Apoendik IV (1): Infimony, Amenic, Ban Benjimm, Codmium, Chromium, Cobalt, Hund MATRIX
Delinking Water
Delinking Water
Waste Water
Product
SourSoled
On
Wipe
Mipa
All
Chare
Thasee within , Moly Adenim , Selenium, Thalism Georgia Power - Coal Combustion Residuals 2480 Maner Road One Character per box.
(A-Z, 0-9 /, -)
Sample Ids must be unique Phone: (404)506-7239 Fax Requested Due Date: 2 And and SAMPLE ID Email: __jabraham@southemco.com Required Client Information: ا ج ا Allanta, GA 30339 É Page 12 of 1B ITEM #

| | Sample | <u> Չ</u> Conditioլ | n Upon Receipt | | |
|---|---|-----------------------------------|---------------------------------------|-----------------------------|------------------------|
| Face Anal | | | Power | Project # | |
| Courier: Fed E | x UPS USPS Client [| · · | • | WO# : 26 | 616885 |
| Custody Seal on C | ooler/Box Present: Ves | no Seals | s intact: yes | PM: BM CLIENT: GAPOI | Due Date: 04/09/ |
| a contract of the contract of | ☐ Bubble Wrap ☐ Bubble Bags | None | Other | COLIENT: CAPO | ier-cck |
| | 191 | | Blue None | Samples on ice, coo | ling/process has begun |
| Cooler Temperatul Temp should be above | | logical Tissue | is Frozen: Yes No Comments: | Date and Initial contents: | of per≲on examining |
| Chain of Custody Pr | esent: | s □no □n/a | 1. | | |
| Chain of Custody Fi | led Out: | es 🗆 No 🗆 N/A | 2. | | |
| Chain of Custody Re | · | s □no □n/a | † | | |
| Sampler Name & Si | | S DNO DN/A | | | |
| Samples Arrived wit | | s 🗆 No 🗆 N/A | † | | |
| Short Hold Time Ar | | s ⊠No □N/A | | | |
| Rush Turn Around | | s ONO ON/A | | | |
| Sufficient Volume: | | s DNo DN/A | | | |
| Correct Containers (| | s ONO ON/A | | | |
| -Pace Containers | | S DNo DN/A | 9. | | |
| Containers Intact: | | S ONO ON/A | 40 | | |
| | | | | | |
| Sample Labels matc | | s ONO FONIA | | <u> </u> | |
| -Includes date/time | | s DNO DN/A | 12. | | |
| All containers needing pr | eservation have been checked | | | | |
| All containers needing | preservation are found to be in | | 13. | | |
| compliance with EPA re | commendation. | | Initialhad | 1 1 | |
| | | s ₫No | Initial when completed | Lot # of added preservative | |
| Samples checked for | | NO DATA | 14. | | |
| Headspace in VOA V | ials (>6mm): □Ye | □No DINTA | 15. | | |
| Trip Blank Present: | □Ye | □No ÆN/A | 16. | | |
| Trip Blank Custody S | eals Present | □No ĐN/A | | | |
| Pace Trip Blank Lot # | (if purchased): | | | | |
| Client Notification/ | Resolution: | | | Field Data Required? | |
| Person Contac | ted: | Date/T | ime: | Field Data Required? | Y / N |
| Comments/ Resolu | tion: | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Project Manager R | Review: | | | Date: | |
| Note: Whenever there i Certification Office (i.e | s a discrepancy affecting North Carolina out of hold, incorrect preservative, out of | compliance sam temp, incorrect | ples, a copy of this form containers) | will be sent to the North C | arolina DEHNR |





April 25, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2616886

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on April 02, 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

Beton M Damil

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



(770)734-4200



CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2616886

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 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

Missouri Certification #: 235

Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282

South Dakota Certification
Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3 Utah/TNI Certification #: PA014572017-9 USDA Soil Permit #: P330-17-00091 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 9526 Washington Certification #: C868 West Virginia DEP Certification #: 143 West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L





SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2616886

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2616886001 | HGWA-3 | Water | 04/01/19 17:25 | 04/02/19 11:30 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2616886

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|--------------------------|----------|----------------------|------------|
| 2616886001 | HGWA-3 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2616886

| Sample: HGWA-3 PWS: | Lab ID: 26168860 Site ID: | 01 Collected: 04/01/19 17:25 Sample Type: | Received: | 04/02/19 11:30 | Matrix: Water | |
|------------------------|-------------------------------------|--|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | | 0.388 ± 0.261 (0.385) C:94% T:NA | pCi/L | 04/12/19 08:04 | 13982-63-3 | |
| Radium-228 | | 0.372 ± 0.422 (0.887) C:75% T:83% | pCi/L | 04/16/19 16:2 | 1 15262-20-1 | |
| Total Radium | Total Radium Calculation | 0.760 ± 0.683 (1.27) | pCi/L | 04/17/19 13:15 | 5 7440-14-4 | |



QUALITY CONTROL - RADIOCHEMISTRY

EPA 9320

Project: Plant Hammond

Pace Project No.: 2616886

QC Batch: 337341

QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228

Associated Lab Samples: 2616886001

METHOD BLANK: 1641952 Matrix: Water

Associated Lab Samples: 2616886001

 Parameter
 Act ± Unc (MDC) Carr Trac
 Units
 Analyzed
 Qualifiers

 Radium-228
 0.438 ± 0.343 (0.679) C:77% T:88%
 pCi/L
 04/16/19 13:06

Analysis Method:

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



QUALITY CONTROL - RADIOCHEMISTRY

EPA 9315

Project: Plant Hammond

Pace Project No.: 2616886

QC Batch: 337391

QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium

Associated Lab Samples: 2616886001

METHOD BLANK: 1642068 Matrix: Water

Associated Lab Samples: 2616886001

 Parameter
 Act ± Unc (MDC) Carr Trac
 Units
 Analyzed
 Qualifiers

 Radium-226
 0.148 ± 0.194 (0.401) C:93% T:NA
 pCi/L
 04/12/19 08:12

Analysis Method:

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



QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2616886

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

Date: 04/25/2019 04:14 PM

PASI-PA Pace Analytical Services - Greensburg



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2616886

Date: 04/25/2019 04:14 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|--------------------------|----------|-------------------|---------------------|
| 2616886001 | HGWA-3 | EPA 9315 | 337391 | | |
| 2616886001 | HGWA-3 | EPA 9320 | 337341 | | |
| 2616886001 | HGWA-3 | Total Radium Calculation | 338683 | | |

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

(N/A) utsa Sambles Section (Section () Alberta () (N/A) Cooler ŏ pelees Custody (N/A) WO#:2616886 Received on Residual Chlorine (Y/V) Page: TEMP IN C 20 4/2/19/09:30 950 6 119 T 120 Redium 226/228 DATE Signed: TDS, CI, F, SO4 (O&C & III .qqA) elstaM betsy.mcdaniel@pacelabs.com monn O&G ,VI .qqA ,III .qqA) staN Pere F(VI .qqA & III .qqA) sleteM ENK Jeel AesylenA Attention: scsinvoices@southernco.com Company Name: Plussus 327 (AP) or 328 (Huff) SIGNATURE OF SAMPLER: Madig My MIND lonshieM Preservatives ROSSZBN Q HOBN Pace Quote: Pace Project Manager: Pace Profile #: 327 (A ЮН Invoice Information: PRINT Name of SAMPLER: NOE / A A **ЕО**ИН HS204 でなっ Section C Address: B Devieserdau S OF CONTAINERS B 5/7/ SAMPLE TEMP AT COLLECTION 村 25 120 1/1/2 St 12/1/2 EN D DATE COLLECTED 200 : lahun/ (200 RELINDUSKED BY LAFFLUKTON TIME Report To: Joju Abraham Copy To: Lauren Petty, Geosyntec Purchase Order #. SCS10348606 man START Plant Hammond Required Project Information: Notia M arsox (G=GRAB C=COMP) **34YT 3J4MA2** 5 Project Name: Project #: 3 MATRIX CODE (see valid codes to left) Section B Beaglion, Codmium, Chromium, Cobalt, Hund Apoendik IV (1): Intimony, Arenic .Baw MATRIX
Direxing Water
Water
Waste Water
Waste Water
Product
SoluPoid
Oil
Wipe
Ant
Other
Tissue athiom, Holy Adenum, Selenium, Thalism Georgia Power - Coal Combustion Residuals TAT (A.Z, 0-9 /, -) Sample Ids must be unique One Character per box. Phone: (404)506-7239 Fax Requested Due Date: 3 and and SAMPLE ID Eneit ptrehen@southenco.com 2480 Maner Road するのよ Required Client Information: Allanta, GA 30339 Page 10 of 1 # WBTI

| | | 111,576 | oonan | 1011 | opon receipt | i | | |
|--|--|-------------------|--|-------|------------------------|----------|---|------------------------|
| Face Analy | <i>rtical</i> Client Name | »: | G7 F | ٧ | Power | | Project # | |
| Courier: Fed E | x 🗆 UPS 🗆 USPS 🗀 Clie | | | | • | | | 516886 |
| | ooler/Box Present: Ves | | no S | عادم | intact: yes | | PM: BM CLIENT: GAP | Due Date: 04/30 |
| | ☐ Bubble Wrap ☐ Bubble | | | | • | _ | CETEMI: OH! | |
| Thermometer Use | 2 4 | - | | | Blue None | | Comples on ice co | ling/process has begun |
| Cooler Temperatu | | | • | | is Frozen: Yes No | | Date and Initial | s of person examining |
| Temp should be above | | | - 5.0 <u>-</u> | | Comments: | | contents: 4 | 12/19 M2 |
| Chain of Custody P | resent: | | No [|]N/A | 1. | Ħ | | |
| Chain of Custody F | lled Out: | | No [|]N/A | 2. | | | |
| Chain of Custody R | elinquished: | , 2mes | No □ |]N/A | 3. | | İ | |
| Sampler Name & Si | gnature on COC: | | PNo D | _ | | | | |
| Samples Arrived with | thin Hold Time: | ∠ 2769 | . □No □ |]N/A | 5. | | | |
| Short Hold Time A | nalysis (<72hr): | □Yes | : 2No □ |]N/A | 6. | | | |
| Rush Turn Around | Time Requested: | □Yes | : □ (|]N/A | 7. | | | |
| Sufficient Volume: | | -21% | □No □ |]n/a | 8. | | ; | |
| Correct Containers | Used: | -EY | No C |]N/A | 9. | | | |
| -Pace Container | s Used: | -276 | No □ |]N/A | | | | |
| Containers Intact: | | .⊒1 | ONO D |]N/A | 10. | | | |
| Filtered volume reco | aived for Dissolved tests | □Yes | s □No -E | A/A | 11. | | i | |
| Sample Labels mate | h COC: | | . □Nº □ | A/N[| 12. | | | |
| -Includes date/tir | ne/ID/Analysis Matrix: | | ω_{-} | | | | | |
| All containers needing p | reservation have been checked. | £279: | DNO D | A/A | 13. | | | |
| All containers needing compliance with EPA | preservation are found to be in ecommendation. | ٩ | T□No □ | ∃n/a | 1-12-1-1 | | | |
| exceptions: VOA, colifor | m, TOC, O&G, WI-DRO (water) | □Yes | No | | Initial when completed | | Lot # of added preservative | |
| Samples checked for | r dechlorination: | □Yes | o □No [| JN/A¹ | 14. | | : | |
| Headspace in VOA | Vials (>6mm): | □Yes | s □No 万 | JW/A | 15. | | | |
| Trip Blank Present: | | □Yes | s □No Æ | A/AC | 16. | | | |
| Trip Blank Custody | Seals Present | □Yes | s □no Æ | N/A | | | | |
| Pace Trip Blank Lot | # (if purchased): | _ | | | | - | | |
| Client Notification | Resolution: | | | | | | Field Data Required | ? Y / N |
| Person Conta | | | D | ate/1 | lime: | | ! | |
| Comments/ Resol | ution: | | | | | | | |
| | | | | | | | | |
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| | | | ************************************** | | | <u> </u> | | |
| | | | | | | <u> </u> | | |
| Project Manager | Review: | | | | | | Date: | |
| | 1 | | | | | | - · · · · · · · · · · · · · · · · · · · | |
| | is a discrepancy affecting North (| | | | | hi wi | il be sent to the Nort | Carolina DEHNR |

F-ALLC003rev.3, 11September2006 Page 11 of 11





April 10, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2616925

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

Beton M Damil

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







CERTIFICATIONS

Project: Plant Hammond Pace Project No.: 2616925

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



SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2616925

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2616925001 | HGWA-1 | Water | 04/02/19 10:02 | 04/03/19 11:10 |
| 2616925002 | HGWA-2 | Water | 04/02/19 13:40 | 04/03/19 11:10 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2616925

| Lab ID | Sample ID | Method | Analysts | Analytes Reported |
|------------|-----------|-----------|----------|----------------------|
| 2616925001 | HGWA-1 | EPA 6020B | CSW | 14 |
| | | SM 2540C | RLC | 1 |
| | | EPA 300.0 | RLC | 3 |
| 2616925002 | HGWA-2 | EPA 6020B | CSW | 14 |
| | | SM 2540C | RLC | 1 |
| | | EPA 300.0 | RLC | 3 |



ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2616925

Date: 04/10/2019 04:36 PM

| Sample: HGWA-1 | Lab ID: | 2616925001 | Collecte | ed: 04/02/19 | 10:02 | Received: 04/ | 03/19 11:10 Ma | atrix: Water | |
|------------------------------|------------|--------------|-----------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00078 | 1 | 04/05/19 14:47 | 04/08/19 22:29 | 7440-36-0 | |
| Arsenic | ND | mg/L | 0.0050 | 0.00057 | 1 | 04/05/19 14:47 | 04/08/19 22:29 | 7440-38-2 | |
| Barium | 0.040 | mg/L | 0.010 | 0.00078 | 1 | 04/05/19 14:47 | 04/08/19 22:29 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000050 | 1 | 04/05/19 14:47 | 04/08/19 22:29 | 7440-41-7 | |
| Boron | 0.016J | mg/L | 0.040 | 0.0039 | 1 | 04/05/19 14:47 | 04/08/19 22:29 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0010 | 0.000093 | 1 | 04/05/19 14:47 | 04/08/19 22:29 | 7440-43-9 | |
| Calcium | 132 | mg/L | 25.0 | 0.69 | 50 | 04/05/19 14:47 | 04/08/19 22:35 | 7440-70-2 | |
| Chromium | ND | mg/L | 0.010 | 0.0016 | 1 | 04/05/19 14:47 | 04/08/19 22:29 | 7440-47-3 | |
| Cobalt | ND | mg/L | 0.010 | 0.00052 | 1 | 04/05/19 14:47 | 04/08/19 22:29 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.00027 | 1 | 04/05/19 14:47 | 04/08/19 22:29 | 7439-92-1 | |
| Lithium | 0.0010J | mg/L | 0.050 | 0.00097 | 1 | 04/05/19 14:47 | 04/08/19 22:29 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.0019 | 1 | 04/05/19 14:47 | 04/08/19 22:29 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0014 | 1 | 04/05/19 14:47 | 04/08/19 22:29 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.00014 | 1 | 04/05/19 14:47 | 04/08/19 22:29 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 452 | mg/L | 25.0 | 10.0 | 1 | | 04/08/19 15:30 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Chloride | 20.3 | mg/L | 0.25 | 0.024 | 1 | | 04/06/19 10:16 | 16887-00-6 | |
| Fluoride | 0.10J | mg/L | 0.30 | 0.029 | 1 | | 04/06/19 10:16 | 16984-48-8 | |
| Sulfate | 84.3 | mg/L | 5.0 | 0.085 | 5 | | 04/06/19 11:43 | 14808-79-8 | |



ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2616925

Date: 04/10/2019 04:36 PM

| Sample: HGWA-2 | Lab ID: | 2616925002 | Collecte | ed: 04/02/19 | 13:40 | Received: 04/ | 03/19 11:10 Ma | atrix: Water | |
|------------------------------|------------|--------------|-----------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00078 | 1 | 04/05/19 14:47 | 04/08/19 22:52 | 7440-36-0 | |
| Arsenic | ND | mg/L | 0.0050 | 0.00057 | 1 | 04/05/19 14:47 | 04/08/19 22:52 | 7440-38-2 | |
| Barium | 0.13 | mg/L | 0.010 | 0.00078 | 1 | 04/05/19 14:47 | 04/08/19 22:52 | 7440-39-3 | |
| Beryllium | 0.00015J | mg/L | 0.0030 | 0.000050 | 1 | 04/05/19 14:47 | 04/08/19 22:52 | 7440-41-7 | |
| Boron | 0.034J | mg/L | 0.040 | 0.0039 | 1 | 04/05/19 14:47 | 04/08/19 22:52 | 7440-42-8 | |
| Cadmium | 0.00015J | mg/L | 0.0010 | 0.000093 | 1 | 04/05/19 14:47 | 04/08/19 22:52 | 7440-43-9 | |
| Calcium | 22.5J | mg/L | 25.0 | 0.69 | 50 | 04/05/19 14:47 | 04/08/19 22:58 | 7440-70-2 | D3 |
| Chromium | 0.0079J | mg/L | 0.010 | 0.0016 | 1 | 04/05/19 14:47 | 04/08/19 22:52 | 7440-47-3 | |
| Cobalt | 0.019 | mg/L | 0.010 | 0.00052 | 1 | 04/05/19 14:47 | 04/08/19 22:52 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.00027 | 1 | 04/05/19 14:47 | 04/08/19 22:52 | 7439-92-1 | |
| Lithium | 0.0018J | mg/L | 0.050 | 0.00097 | 1 | 04/05/19 14:47 | 04/08/19 22:52 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.0019 | 1 | 04/05/19 14:47 | 04/08/19 22:52 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0014 | 1 | 04/05/19 14:47 | 04/08/19 22:52 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.00014 | 1 | 04/05/19 14:47 | 04/08/19 22:52 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 133 | mg/L | 25.0 | 10.0 | 1 | | 04/08/19 15:31 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Chloride | 5.8 | mg/L | 0.25 | 0.024 | 1 | | 04/06/19 10:38 | 16887-00-6 | |
| Fluoride | 0.071J | mg/L | 0.30 | 0.029 | 1 | | 04/06/19 10:38 | 16984-48-8 | |
| Sulfate | 48.7 | mg/L | 1.0 | 0.017 | 1 | | 04/06/19 10:38 | 14808-79-8 | |



Project: Plant Hammond

Pace Project No.: 2616925

Date: 04/10/2019 04:36 PM

QC Batch: 25905 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET

Associated Lab Samples: 2616925001, 2616925002

METHOD BLANK: 116813 Matrix: Water

Associated Lab Samples: 2616925001, 2616925002

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------|-------|-----------------|--------------------|----------|----------------|------------|
| Antimony | mg/L | ND | 0.0030 | 0.00078 | 04/08/19 18:23 | |
| Arsenic | mg/L | ND | 0.0050 | 0.00057 | 04/08/19 18:23 | |
| Barium | mg/L | ND | 0.010 | 0.00078 | 04/08/19 18:23 | |
| Beryllium | mg/L | ND | 0.0030 | 0.000050 | 04/08/19 18:23 | |
| Boron | mg/L | ND | 0.040 | 0.0039 | 04/08/19 18:23 | |
| Cadmium | mg/L | ND | 0.0010 | 0.000093 | 04/08/19 18:23 | |
| Calcium | mg/L | ND | 0.50 | 0.014 | 04/08/19 18:23 | |
| Chromium | mg/L | ND | 0.010 | 0.0016 | 04/08/19 18:23 | |
| Cobalt | mg/L | ND | 0.010 | 0.00052 | 04/08/19 18:23 | |
| Lead | mg/L | ND | 0.0050 | 0.00027 | 04/08/19 18:23 | |
| Lithium | mg/L | ND | 0.050 | 0.00097 | 04/08/19 18:23 | |
| Molybdenum | mg/L | ND | 0.010 | 0.0019 | 04/08/19 18:23 | |
| Selenium | mg/L | ND | 0.010 | 0.0014 | 04/08/19 18:23 | |
| Thallium | mg/L | ND | 0.0010 | 0.00014 | 04/08/19 18:23 | |

| | | Spike | LCS | LCS | % Rec | |
|---------------------------------|--------------|---------|---------------|-------|--------|------------|
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Antimony | mg/L | 0.1 | 0.11 | 108 | 80-120 | |
| Arsenic | mg/L | 0.1 | 0.10 | 103 | 80-120 | |
| Barium | mg/L | 0.1 | 0.10 | 103 | 80-120 | |
| Beryllium | mg/L | 0.1 | 0.10 | 101 | 80-120 | |
| Boron | mg/L | 1 | 1.0 | 105 | 80-120 | |
| Cadmium | mg/L | 0.1 | 0.11 | 109 | 80-120 | |
| Calcium | mg/L | 1 | 1.0 | 104 | 80-120 | |
| Chromium | mg/L | 0.1 | 0.11 | 108 | 80-120 | |
| Cobalt | mg/L | 0.1 | 0.11 | 107 | 80-120 | |
| Lead | mg/L | 0.1 | 0.10 | 103 | 80-120 | |
| Lithium | mg/L | 0.1 | 0.10 | 102 | 80-120 | |
| Molybdenum | mg/L | 0.1 | 0.11 | 105 | 80-120 | |
| Selenium | mg/L | 0.1 | 0.11 | 106 | 80-120 | |
| Thallium | mg/L | 0.1 | 0.10 | 103 | 80-120 | |
| | | | | | | |
| MATRIX SPIKE & MATRIX SPIKE DUP | LICATE: 1168 | | 116816 MSD | 3 | | |
| | 2616901004 | Spike S | Snike MS | MSD | MS MS | D % Rec Ma |

| MATRIX SPIKE & MATRIX SPIR | KE DUPLIC | CATE: 11681: | 5 | | 116816 | | | | | | | |
|----------------------------|-----------|--------------|-------|-------|--------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2616901004 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Antimony | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.11 | 110 | 107 | 75-125 | 3 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2616925

Date: 04/10/2019 04:36 PM

| MATRIX SPIKE & MATRIX SP | IKE DUPLIC | ATE: 116815 | 5 | | 116816 | | | | | | | |
|--------------------------|------------|-------------|-------|-------|--------|--------|-------|-------|--------|-----|-----|-------|
| | | | MS | MSD | | | | | | | | |
| | | 2616901004 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Arsenic | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 103 | 102 | 75-125 | 1 | 20 | |
| Barium | mg/L | 0.027 | 0.1 | 0.1 | 0.13 | 0.13 | 105 | 100 | 75-125 | 4 | 20 | |
| Beryllium | mg/L | 0.00015J | 0.1 | 0.1 | 0.10 | 0.10 | 100 | 100 | 75-125 | 0 | 20 | |
| Boron | mg/L | 0.63 | 1 | 1 | 1.6 | 1.6 | 102 | 101 | 75-125 | 0 | 20 | |
| Cadmium | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.10 | 105 | 105 | 75-125 | 0 | 20 | |
| Calcium | mg/L | 11.9J | 1 | 1 | 13.1J | 17.2J | 129 | 532 | 75-125 | 27 | 20 | M6,R1 |
| Chromium | mg/L | 0.0030J | 0.1 | 0.1 | 0.11 | 0.11 | 106 | 106 | 75-125 | 0 | 20 | |
| Cobalt | mg/L | 0.0022J | 0.1 | 0.1 | 0.11 | 0.10 | 103 | 101 | 75-125 | 2 | 20 | |
| Lead | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 102 | 101 | 75-125 | 0 | 20 | |
| Lithium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 102 | 100 | 75-125 | 2 | 20 | |
| Molybdenum | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.10 | 107 | 103 | 75-125 | 4 | 20 | |
| Selenium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 101 | 100 | 75-125 | 1 | 20 | |
| Thallium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 103 | 102 | 75-125 | 1 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2616925

QC Batch: 25999 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 2616925001, 2616925002

LABORATORY CONTROL SAMPLE: 117377

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers **Total Dissolved Solids** mg/L 400 411 103 84-108

SAMPLE DUPLICATE: 117378

2617086001 Dup Max RPD **RPD** Parameter Units Result Result Qualifiers **Total Dissolved Solids** 226 203 11 10 D6 mg/L

SAMPLE DUPLICATE: 117379

Date: 04/10/2019 04:36 PM

Parameter Units Result RPD Max Result RPD Qualifiers

Total Dissolved Solids mg/L ND 13.0J 10

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



Project: Plant Hammond

Pace Project No.: 2616925

Date: 04/10/2019 04:36 PM

QC Batch: 25881 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 2616925001, 2616925002

METHOD BLANK: 116727 Matrix: Water

Associated Lab Samples: 2616925001, 2616925002

| | | Blank | Reporting | | | |
|-----------|-------|--------|-----------|-------|----------------|------------|
| Parameter | Units | Result | Limit | MDL | Analyzed | Qualifiers |
| Chloride | mg/L | 0.069J | 0.25 | 0.024 | 04/05/19 23:23 | |
| Fluoride | mg/L | ND | 0.30 | 0.029 | 04/05/19 23:23 | |
| Sulfate | mg/L | 0.028J | 1.0 | 0.017 | 04/05/19 23:23 | |

| LABORATORY CONTROL SAMPLE: | 116728 | | | | | |
|----------------------------|--------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Chloride | mg/L | 10 | 10.3 | 103 | 90-110 | |
| Fluoride | mg/L | 10 | 10.3 | 103 | 90-110 | |
| Sulfate | mg/L | 10 | 10.1 | 101 | 90-110 | |

| MATRIX SPIKE & MATRIX SPIR | KE DUPLIC | CATE: 116729 | 9 | | 116730 | | | | | | | |
|----------------------------|-----------|--------------|-------|-------|--------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2616881001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Chloride | mg/L | 4.0 | 10 | 10 | 13.8 | 13.7 | 99 | 97 | 90-110 | 1 | 15 | |
| Fluoride | mg/L | 0.042J | 10 | 10 | 10.0 | 9.9 | 100 | 99 | 90-110 | 1 | 15 | |
| Sulfate | mg/L | 1.7 | 10 | 10 | 11.4 | 11.4 | 97 | 96 | 90-110 | 1 | 15 | |

| MATRIX SPIKE SAMPLE: | 116731 | | | | | | |
|----------------------|--------|----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter | Units | 2616885001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
| - arameter | | | | | 70 TCC | Lillito | Qualificis |
| Chloride | mg/L | 6.5 | 10 | 15.5 | 89 | 90-110 | M1 |
| Fluoride | mg/L | 0.029J | 10 | 9.5 | 95 | 90-110 | |
| Sulfate | mg/L | 50.4 | 10 | 54.7 | 43 | 90-110 | E,M1 |

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



QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2616925

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

Date: 04/10/2019 04:36 PM

| D3 | Sample was diluted due to the p | resence of high levels of non-tar | get analytes or other matrix interference. |
|----|---------------------------------|-----------------------------------|--|
| | | | |

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.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2616925

Date: 04/10/2019 04:36 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|-----------------|----------|-------------------|---------------------|
| 2616925001 | HGWA-1 | EPA 3005A | 25905 | EPA 6020B | 25922 |
| 2616925002 | HGWA-2 | EPA 3005A | 25905 | EPA 6020B | 25922 |
| 2616925001 | HGWA-1 | SM 2540C | 25999 | | |
| 2616925002 | HGWA-2 | SM 2540C | 25999 | | |
| 2616925001 | HGWA-1 | EPA 300.0 | 25881 | | |
| 2616925002 | HGWA-2 | EPA 300.0 | 25881 | | |

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

(A/N) Jursect Sambles Sealed Cooler (Y/N) ŏ (N/A) **WO#:2616925** 8 Received or Residual Chlorine (Y/N) TEMP in C 29 54 SHEI 1930 DATE Signed: 04/02/19 1/2/14 4.3.19 Segral Radium 226/228 LD2' Cl' E' 204 (O&G & III .qqA) stateM betsy.modaniel@pacelabs.com Mets (App. III, App. IV, D&O Metals (App. III & App. IV) Jalia Moupen N/X 1801 SOSAIBUV Attention: scsinvoices@southernco.com Jeur 327 (AP) or 328 (Huff) dagent antiffe Methanol Grant Wolfer Preservatives Na2S203 HOBN Pace Project Manager: Pace Profile #: 327 (нсі Invoice Information: EONH 3 Company Name H52O4 Pace Quote: 20954 PAS Section C Scant Walter/Geografie 1945 Address: pevieserdnU S OF CONTAINERS SAMPLER WAME AND SIGNATURE PRINT Name of SAMPLER: 4/2/19 SIGNATURE of SAMPLER: SAMPLE TEMP AT COLLECTION 10:02 TIME END END DATE 20h & 8h:6 cand COLLECTED ED BY / AFFE LATION TIME Copy To: Lauren Petty, Geosyntec SCS10348606 START Purchase Order #: SC\$1034866 Project Name: Plant Hammond Project #: Required Project Information: Report To: Joju Abraham DATE Jodia M 315 Law SAMPLE TYPE (G-GRAS C-COMP) b 7 MATRIX CODE (see velid codes to left) Section B MATRIX
Directory
Water
Water
Water
Water
Water
Water
Water
Water
Water
Oil
Wipe
Au
Oiber
Tissue Georgia Power - Coal Combustion Residuals Phone: (404)506-7239 Fax
Requested Due Date: SAML/LANG TRY (A-Z, 0-9 /, -) Sample Ids must be unique Mobile Leaven, Salevillen One Character per box. SAMPLE ID Fluoride Beryllium, 2480 Maner Road equired Client Information HSWA Wanta, GA 30339 Cobalt, Sarite C Section A و عرق Page 13 of 15 6 # M3TI

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| Section A | · • | Section B | | | | | | | ű | Section C | ,, | | | | | | | | | | | | | | İ | | | | _ |
|--------------|--------------------------------------|-------------------------------|-------------|--------------|-------------------------|--|------------------------|----------|--|-----------------------|-------------|--------------|---|--|-----------------------------|----------------------------------|-----------------|---------------------------------|--------------|----------|--------------|--|----------------|----------------|--------|---------------|--------------------|---------------------|----------|
| Requir | 흸 | Required Project Information: | ect !: | Horme | ation: | | | | 5 | invoice information: | forma | igon: | ı | | | | | | | | , | | Pa | Page: | 7 | 2 | ŏ | N | |
| Company | ا | - 1 | Sul | Joju Abraham | E | | | | ₹ | Attention: scs | S | Sirvoic | ses@so | Juthern | scsinvoices@southemco.com | اءا | | | | | | | | | | | | | |
| Address | s: 2480 Maner Road | Copy To: | aure | in Peth | Lauren Petty, Geosyntec | tec | | | <u>ت</u> | отралу | Name | ,. | | | | | | | | | | | | | | | | | |
| Atlanta. | Atlanta, GA 30339 | | │ | | | | | | ₹ | Address: | | | | | | | | | | | | | | 差 | Tough | 1 | | Registatory Agency | , de |
| E | jabraham@southernco.com | Purchase Order #: | # | အ | SCS10348606 | 8 | | | ٥ | Pace Quote: | He: | | | | | | | | | | | | | | | | | | _ |
| Phone: | (404)506-7239 Fax | Project Name: | | Plant H | Plant Hammond | | | | تة | Pace Project Manager. | ect Ma | nager: | | etsy.mx | betsy.modaniel@pacelabs.com | (g) | labs 8 | <u>ا</u> ع | | | | All of the second secon | | SEE SEE | Wiles. | N. P. | | | I de dis |
| Reques | Requested Due Date: Standard Thr | Project #: | | | | | | | Ä | Pace Profile #: | ∏e #: | 327 | 327 (AP) or 328 (Huff | r 328 (I | E E | | | | | | L | | | | ð | | | | _ |
| | | | | | | | | | | | | | | | كامت | | Re | Requested Analysis Entered IYA) | CALLED | | Iterati | NAN)E | THE PARTY | 20 12 2 | | | | | - |
| | | | | (4%) | | | | | | | | | | | male y L | | | \Box | | | | | | | | | | | |
| | MATRIX | 2005 | _ | | | | CTEO | | NC | | - | reser Ser | Preservatives | ္က | <u> </u> | Ti Til | | 7 | 1 | 4 | | \dashv | 1 | | | | | | |
| | SAMPLE ID Subsect | % ¥ % ∂ | | -D 8480=6 | TARD | | i i | | ········· | | | | | | | | p. IV, D&O | (090 | | | | | | (N/A) | | | | | |
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| | Sample | Condition | Obou Keceibt | i | |
|---|--|--------------------|---------------------------|-----------------------------|--------------------------------|
| Face Analy | tical Client Name: | BIA | Power | Project # | |
| Courier: Fed E | x UPS USPS Client | | • | WO#:26 | |
| I tacking m | ooler/Box Present: yes | | | PM: BM CLIENT: GRPow | Due Date: 04/10/1 er-CCR |
| Packing Material: | ☐ Bubble Wrap ☐ Bubble Bags | None | Other | | |
| Thermometer Used | | e of Ice: Well | | Samples on ice, cool | ing process has begun |
| Cooler Temperatur | | · * | is Frozen: Yes No | Date and Initials | of/person examining |
| Temp should be above | | | Comments: | contents: 4 | 73/19 |
| Chain of Custody Pr | esent: | es 🗆 No 🗆 N/A | 1. | | |
| Chain of Custody Fi | lled Out: | es □No □N/A | 2. | | |
| Chain of Custody Re | elinguished: | es 🗆 No 🗆 N/A | 3. | | |
| Sampler Name & Si | | es DNo DN/A | i i | | |
| Samples Arrived wit | | es □No □N/A | | | |
| Short Hold Time A | | es 12No ON/A | i | | |
| Rush Turn Around | | es DMG DN/A | | | |
| Sufficient Volume: | | es DNo DN/A | | | |
| Correct Containers | | | | | |
| | | s No N/A | J ^{9.} | | |
| -Pace Containers | | es ONo ON/A | | | |
| Containers Intact: | | es 🗆 No 🗆 N/A | | | |
| | | es ONO DATA | | | |
| Sample Labels mate | th COC: —==================================== | es □no □n/a | 12. | ! | |
| -Includes date/tin | ne/ID/Analysis Matrix: | ω | | | |
| All containers needing p | reservation have been checked. | es □No □N/A | 13. | | |
| All containers needing compliance with EPA r | preservation are found to be in ecommendation. | es □No □N/A | | | |
| exceptions: VOA, colifor | m, TOC, O&G, WI-DRO (water) | es _⊒M6 | Initial when completed | Lot # of added preservative | |
| Samples checked for | | es □No ☑MÃ | | | |
| Headspace in VOA | | es 🗆 No 🔎 N7A | | | |
| Trip Blank Present: | <u> </u> | es ONO DINA | | | |
| Trip Blank Custody | | es ONO DIMA | | | |
| Pace Trip Blank Lot | | אוושע טווט מ | | | |
| Face Hip Blank Cot | # (II purchaseu) | | | | |
| Client Notification/ | [·] | | | Field Data Required | ? Y / N |
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| Comments/ Resol | ution: | | | | |
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| Project Manager | Review: | | | Date: | |
| - | | | | | - |
| Note: Whenever there | e is a discrepancy affecting North Carolin | a compliance san | nples, a copy of this for | n will be sent to the North | Carolina DEHNR |
| Certification Office (i.e | e out of hold, incorrect preservative, out | pr temp, incorrect | Containers | F-ALLC00 | 3rev.3, 11Septembe 2005 5 of 1 |





April 25, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2616926

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

Beton M Damil

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



(770)734-4200



CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2616926

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



SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2616926

| Lab ID | Sample ID | Matrix | Date Collected | Date Received | |
|------------|-----------|--------|----------------|----------------|--|
| 2616926001 | HGWA-1 | Water | 04/02/19 10:02 | 04/03/19 11:10 | |
| 2616926002 | HGWA-2 | Water | 04/02/19 13:40 | 04/03/19 11:10 | |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2616926

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|--------------------------|----------|----------------------|------------|
| 2616926001 | HGWA-1 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2616926002 | HGWA-2 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2616926

| Sample: HGWA-1 PWS: | Lab ID: 26169260 Site ID: | Collected: 04/02/19 10:02 Sample Type: | Received: | 04/03/19 11:10 | Matrix: Water | |
|------------------------|-------------------------------------|---|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | | 0.426 ± 0.282 (0.418) C:85% T:NA | pCi/L | 04/12/19 09:46 | 13982-63-3 | |
| Radium-228 | | 0.313 ± 0.501 (1.09) C:74% T:89% | pCi/L | 04/16/19 19:38 | 3 15262-20-1 | |
| Total Radium | Total Radium Calculation | 0.739 ± 0.783 (1.51) | pCi/L | 04/17/19 13:15 | 5 7440-14-4 | |



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2616926

| Sample: HGWA-2 PWS: | Lab ID: 26169260 Site ID: | Collected: 04/02/19 13:40 Sample Type: | Received: | 04/03/19 11:10 | Matrix: Water | |
|------------------------|-------------------------------------|---|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | | 0.472 ± 0.275 (0.348) C:88% T:NA | pCi/L | 04/12/19 09:46 | 13982-63-3 | |
| Radium-228 | | 0.179 ± 0.465 (1.04) C:77% T:89% | pCi/L | 04/16/19 18:32 | 2 15262-20-1 | |
| Total Radium | Total Radium Calculation | 0.651 ± 0.740 (1.39) | pCi/L | 04/17/19 13:15 | 7440-14-4 | |



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2616926

QC Batch: 337392 Analysis Method: EPA 9315

QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium

Associated Lab Samples: 2616926001, 2616926002

METHOD BLANK: 1642069 Matrix: Water

Associated Lab Samples: 2616926001, 2616926002

 Parameter
 Act ± Unc (MDC) Carr Trac
 Units
 Analyzed
 Qualifiers

 Radium-226
 0.117 ± 0.178 (0.382) C:94% T:NA
 pCi/L
 04/12/19 08:07

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



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2616926

QC Batch: 337342 Analysis Method: EPA 9320

QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228

Associated Lab Samples: 2616926001, 2616926002

METHOD BLANK: 1641953 Matrix: Water

Associated Lab Samples: 2616926001, 2616926002

 Parameter
 Act ± Unc (MDC) Carr Trac
 Units
 Analyzed
 Qualifiers

 Radium-228
 -0.245 ± 0.294 (0.748) C:78% T:79%
 pCi/L
 04/16/19 16:22

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



QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2616926

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

Date: 04/25/2019 03:53 PM

PASI-PA Pace Analytical Services - Greensburg



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2616926

Date: 04/25/2019 03:53 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|--------------------------|----------|-------------------|---------------------|
| 2616926001 | HGWA-1 | EPA 9315 | 337392 | | |
| 2616926002 | HGWA-2 | EPA 9315 | 337392 | | |
| 2616926001 | HGWA-1 | EPA 9320 | 337342 | | |
| 2616926002 | HGWA-2 | EPA 9320 | 337342 | | |
| 2616926001 | HGWA-1 | Total Radium Calculation | 338683 | | |
| 2616926002 | HGWA-2 | Total Radium Calculation | 338683 | | |

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

(WW) utect gewbies (N/A) ŏ Sealed Cooler The state of the s (N/A) ð MO#:2616926 Received on Residual Chlorine (Y/N) TEMP in C Shel 29 54 1930 DATE Signed: 04/02/19 112/14 72 George SZZ/SZZ WINDEX IDS, CI, F, SO4 betsy modaniel@pacelabs.com, (O.80 & III apA) alstelv Mets (App. III, App. IV, D&O anan (App. III & App. IV) alia Mouses INX Visat seavish Attention: scsinvoices@southernco.com 327 (AP) or 328 (Huff) Methanol Grant Wolfer Preservatives edant walf N92S203 HOBN Pace Project Manager. Pace Profile #: 327 Invoice information: нсі 3 EONH Company Name Address: Pace Qunts: HS204 10954 1940 Grant Walter/Gersyntecograph 1745 Unpreserved # OF CONTAINERS SAMPLE TEMP AT COLLECTION 4/2/19 PRINT Name of SAMPLER: 100 1 modern (George 412/19 SIGNATURE of SAMPLER: (0:0) TIME 8 20th 8 84:6 50 mg DATE COLLECTED TIME Willaw Gerrute Copy To: Lauren Petty, Geosyntec Purchase Order #. SCS10348606 Project Name: Plant Hammond Project #: START DATE Required Project Information: Report To: Joju Abraham (G=GRAB C=COMP) ø 39YT 3J9MA2 MATRIX CODE (see valid codes to left) 10 Section B MATRIX
Drawing Water
Waster
Waster
Waster
Product
SourSchol
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Tissue British Beryllivan, Calivian, Chronian Cobalt, Fluoride, Lord, Lithium, Mobile Season, Salerisan, Thellium App II (1): Antimony, Arraic, Georgia Power - Coal Combustion Residuals Prone: (404/506-7239 Fax Requested Due Date: Sewdand TPT One Character per box. (A-Z, 0-9 /, -) Sample lds must be unique SAMPLE ID Email: jabraham@southernco.com 2480 Maner Road Required Client Information: HGWA-Allenta, GA 30339 0.0 Page 11 of 1B # MaTI

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| Section A Required (Company: | Clent Information: Georgia Power - Coal Combustion Residuals | Section B Required Project Information: Report To: Joju Abrahan | Section C Invoice Information: Attention: scsinvoices@southernco.com | Page: 2 of 2 |
|-------------------------------------|--|--|---|--|
| Address: | 2480 Maner Road | Copy To: Lauren Petty, Geosyntec | Company Name: | |
| mail | Фзоитето сот | Purchase Order#: SCS10348606 | Pace Quote: | Kendelör/Agansy. |
| Phone: | (404)506-7239 Fax: | Project Name: Plant Hammond | Pace Project Manager. betsy.mcdaniel@pacelabs.com. | |
| Seque | undard the | Project #: | (AP) or 328 (Huff) | |
| I | | | Extra Modules to d'Amay Sistement (YM) | |
| | MATRIX | S (Mel ot se | Preservatives | |
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| Face Analy | tical Client Name: | _ | <u> G1</u> | A | Power | F | Project# | |
| Courier: Fed E | x UPS USPS Client | . ф | Commi | ercial , | Pace Other | W | 0#:26 | |
| | ooler/Box Present: yes | ۲, | 10 | Seals | intact: yes | PM | : BM .IENT: GAPou | Due Date: 05/01/1 r-CCR |
| Packing Material: | ☐ Bubble Wrap ☐ Bubble E | Bags , | | lone | Other | | | |
| Thermometer Use | <u> </u> | Туре | of Ice: | West | Blue None | | Samples on ice, coo | ing process has begun |
| Cooler Temperatu | _ | | | ~ | is Frozen: Yes No | | Date and Initial | of person examining. |
| Temp should be above | e freezing to 6°C | | | | Comments: | | contents: 2 | 13/19/10 |
| Chain of Custody P | resent: | ZY _{PS} | □No | □n/a | 1. | | | |
| Chain of Custody Fi | lled Out: | ZZYES | □No | □n/a | 2. | | | |
| Chain of Custody R | elinquished: | ₽Y₽S | □No | □n/a | 3. | | - | |
| Sampler Name & Si | gnature on COC: | ÆTYÞS | □No | □n/a | 4. | | | |
| Samples Arrived wit | thin Hold Time: | ₽7 es | □No | □n/a | 5. | | | |
| Short Hold Time A | nalysis (<72hr): | □Yes | D/No | □n/a | 6. | | | |
| Rush Turn Around | Time Requested: | □Yes | Ω _M 6 | □n/a | 7. | | | |
| Sufficient Volume: | | .⊒Yes | □No | □n/a | 8. | | | |
| Correct Containers | Used: | .⊒Yes | □No | □n/a | 9. | | | |
| -Pace Container | s Used: | ÆYES. | □No | □n/a | | | i | |
| Containers Intact: | | .₽7₽s | □No | □n/a | 10. | | | |
| Filtered volume rece | eved for Dissolved tests | □Yes | □No | _ □N/A | 11. | | | |
| Sample Labels mate | ch COC: | -EMPs | □No | □n/a | 12. | | | |
| -Includes date/tir | ne/ID/Analysis Matrix: | | ω | _ | | li | | |
| All containers needing p | reservation have been checked. | EJY _P s | □No | □n/a | 13. | | - | |
| All containers needing compliance with EPA | preservation are found to be in ecommendation. | ÆTY BS | □No | □n/a | | | : | |
| exceptions: VOA, colifor | m, TOC, O&G, WI-DRO (water) | □Yes | □ M6 | | Initial when completed | | Lot # of added preservative | |
| Samples checked for | r dechlorination: | □Yes | □No | _⊒M/A | 14. | | | |
| Headspace in VOA | Vials (>6mm): | □Yes | □No | ⊿ M/A | 15. | | <u></u> | |
| Trip Blank Present: | | □Yes | □No | ÆN/A | 16. | | | |
| Trip Blank Custody | Seals Present | □Yes | □No | DIMTA | | | | |
| Pace Trip Blank Lot | # (if purchased): | | | | | | .,i | |
| Client Notification | Resolution: | | | | | | Field Data Required | P Y / N |
| Person Conta | 11 | | | Date/ | Time: | | | |
| Comments/ Resol | ution: | | | - | | | : | |
| | | | | | | | | |
| | | | | | | | | |
| | | _ | | | | | i | |
| | | | | | | | · | |
| | | _ | | | | | | |
| Project Manager | Review: | | | | | | Date: | |
| | | | | | | | • | |
| Note: Whenever there Certification Office () | is a discrepancy affecting North Ca | rolina d | complia | nce san | nples, a copy of this for | n wil | be sent to the North | Carolina DEHNR |

F-ALLC003rev.3, 11September2006





April 10, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2616927

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

Beton M Damil

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







CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2616927

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



SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2616927

| Lab ID | Sample ID | Matrix | Date Collected | Date Received | |
|------------|-----------|--------|----------------|----------------|--|
| 2616927001 | HGWA-4 | Water | 04/02/19 12:11 | 04/03/19 11:10 | |
| 2616927002 | HGWA-5 | Water | 04/02/19 10:40 | 04/03/19 11:10 | |
| 2616927003 | HGWA-6 | Water | 04/02/19 10:37 | 04/03/19 11:10 | |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2616927

| Lab ID Sample ID | | Method | Analysts | Analytes Reported | |
|-------------------|-----------|-----------|----------|----------------------|--|
| 2616927001 | HGWA-4 | EPA 6020B | CSW | 13 | |
| | | SM 2540C | RLC | 1 | |
| | | EPA 300.0 | RLC | 3 | |
| 2616927002 HGWA-5 | EPA 6020B | CSW | 13 | | |
| | SM 2540C | RLC | 1 | | |
| | | EPA 300.0 | RLC | 3 | |
| 2616927003 HGWA-6 | EPA 6020B | CSW | 13 | | |
| | SM 2540C | RLC | 1 | | |
| | EPA 300.0 | RLC | 3 | | |



ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2616927

Date: 04/10/2019 04:36 PM

| Sample: HGWA-4 | Lab ID: 2616927001 | | Collected: 04/02/19 12:11 | | | Received: 04/03/19 11:10 Matrix: Water | | | |
|------------------------------|--------------------|--------------|---------------------------|--------------|---------|--|----------------|------------|-----|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qua |
| 6020B MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Met | hod: Ef | PA 3005A | | | |
| Arsenic | ND | mg/L | 0.0050 | 0.00057 | 1 | 04/05/19 14:47 | 04/08/19 23:04 | 7440-38-2 | |
| Barium | 0.030 | mg/L | 0.010 | 0.00078 | 1 | 04/05/19 14:47 | 04/08/19 23:04 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000050 | 1 | 04/05/19 14:47 | 04/08/19 23:04 | 7440-41-7 | |
| Boron | 0.010J | mg/L | 0.040 | 0.0039 | 1 | 04/05/19 14:47 | 04/08/19 23:04 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0010 | 0.000093 | 1 | 04/05/19 14:47 | 04/08/19 23:04 | 7440-43-9 | |
| Calcium | 76.0 | mg/L | 25.0 | 0.69 | 50 | 04/05/19 14:47 | 04/08/19 23:09 | 7440-70-2 | |
| Chromium | 0.019 | mg/L | 0.010 | 0.0016 | 1 | 04/05/19 14:47 | 04/08/19 23:04 | 7440-47-3 | |
| Cobalt | ND | mg/L | 0.010 | 0.00052 | 1 | 04/05/19 14:47 | 04/08/19 23:04 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.00027 | 1 | 04/05/19 14:47 | 04/08/19 23:04 | 7439-92-1 | |
| Lithium | 0.00098J | mg/L | 0.050 | 0.00097 | 1 | 04/05/19 14:47 | 04/08/19 23:04 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.0019 | 1 | 04/05/19 14:47 | 04/08/19 23:04 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0014 | 1 | 04/05/19 14:47 | 04/08/19 23:04 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.00014 | 1 | 04/05/19 14:47 | 04/08/19 23:04 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 230 | mg/L | 25.0 | 10.0 | 1 | | 04/08/19 15:31 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Chloride | 4.4 | mg/L | 0.25 | 0.024 | 1 | | 04/05/19 16:36 | 16887-00-6 | |
| Fluoride | ND | mg/L | 0.30 | 0.029 | 1 | | 04/05/19 16:36 | 16984-48-8 | |
| Sulfate | 4.9 | mg/L | 1.0 | 0.017 | 1 | | 04/05/19 16:36 | 14808-79-8 | |



Project: Plant Hammond

Pace Project No.: 2616927

Date: 04/10/2019 04:36 PM

| Sample: HGWA-5 | Lab ID: | 2616927002 | Collecte | ed: 04/02/19 | 10:40 | Received: 04/ | 03/19 11:10 Ma | atrix: Water | |
|------------------------------|------------|--------------|-----------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Met | hod: El | PA 3005A | | | |
| Arsenic | ND | mg/L | 0.0050 | 0.00057 | 1 | 04/05/19 15:23 | 04/09/19 18:25 | 7440-38-2 | |
| Barium | 0.044 | mg/L | 0.010 | 0.00078 | 1 | 04/05/19 15:23 | 04/09/19 18:25 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000050 | 1 | 04/05/19 15:23 | 04/09/19 18:25 | 7440-41-7 | |
| Boron | 0.0052J | mg/L | 0.040 | 0.0039 | 1 | 04/05/19 15:23 | 04/09/19 18:25 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0010 | 0.000093 | 1 | 04/05/19 15:23 | 04/09/19 18:25 | 7440-43-9 | |
| Calcium | 26.3 | mg/L | 25.0 | 0.69 | 50 | 04/05/19 15:23 | 04/09/19 18:31 | 7440-70-2 | |
| Chromium | ND | mg/L | 0.010 | 0.0016 | 1 | 04/05/19 15:23 | 04/09/19 18:25 | 7440-47-3 | |
| Cobalt | 0.0012J | mg/L | 0.010 | 0.00052 | 1 | 04/05/19 15:23 | 04/09/19 18:25 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.00027 | 1 | 04/05/19 15:23 | 04/09/19 18:25 | 7439-92-1 | |
| Lithium | 0.0028J | mg/L | 0.050 | 0.00097 | 1 | 04/05/19 15:23 | 04/09/19 18:25 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.0019 | 1 | 04/05/19 15:23 | 04/09/19 18:25 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0014 | 1 | 04/05/19 15:23 | 04/09/19 18:25 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.00014 | 1 | 04/05/19 15:23 | 04/09/19 18:25 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 144 | mg/L | 25.0 | 10.0 | 1 | | 04/08/19 15:31 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Chloride | 1.7 | mg/L | 0.25 | 0.024 | 1 | | 04/05/19 17:49 | 16887-00-6 | |
| Fluoride | 0.12J | mg/L | 0.30 | 0.029 | 1 | | 04/05/19 17:49 | 16984-48-8 | |
| Sulfate | 23.8 | mg/L | 1.0 | 0.017 | 1 | | 04/05/19 17:49 | 14808-79-8 | M1 |



Project: Plant Hammond

Pace Project No.: 2616927

Date: 04/10/2019 04:36 PM

| Sample: HGWA-6 | Lab ID: | 2616927003 | Collecte | ed: 04/02/19 | 10:37 | Received: 04/ | 03/19 11:10 Ma | atrix: Water | |
|------------------------------|------------|---------------|-----------|--------------|---------|----------------|----------------|--------------|-----|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qua |
| 6020B MET ICPMS | Analytical | Method: EPA 6 | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Arsenic | ND | mg/L | 0.0050 | 0.00057 | 1 | 04/05/19 15:23 | 04/09/19 18:37 | 7440-38-2 | |
| Barium | 0.19 | mg/L | 0.010 | 0.00078 | 1 | 04/05/19 15:23 | 04/09/19 18:37 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000050 | 1 | 04/05/19 15:23 | 04/09/19 18:37 | 7440-41-7 | |
| Boron | 0.013J | mg/L | 0.040 | 0.0039 | 1 | 04/05/19 15:23 | 04/09/19 18:37 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0010 | 0.000093 | 1 | 04/05/19 15:23 | 04/09/19 18:37 | 7440-43-9 | |
| Calcium | 49.7 | mg/L | 25.0 | 0.69 | 50 | 04/05/19 15:23 | 04/09/19 18:43 | 7440-70-2 | |
| Chromium | ND | mg/L | 0.010 | 0.0016 | 1 | 04/05/19 15:23 | 04/09/19 18:37 | 7440-47-3 | |
| Cobalt | ND | mg/L | 0.010 | 0.00052 | 1 | 04/05/19 15:23 | 04/09/19 18:37 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.00027 | 1 | 04/05/19 15:23 | 04/09/19 18:37 | 7439-92-1 | |
| Lithium | 0.0095J | mg/L | 0.050 | 0.00097 | 1 | 04/05/19 15:23 | 04/09/19 18:37 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.0019 | 1 | 04/05/19 15:23 | 04/09/19 18:37 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0014 | 1 | 04/05/19 15:23 | 04/09/19 18:37 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.00014 | 1 | 04/05/19 15:23 | 04/09/19 18:37 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 238 | mg/L | 25.0 | 10.0 | 1 | | 04/08/19 15:32 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Chloride | 1.6 | mg/L | 0.25 | 0.024 | 1 | | 04/05/19 18:13 | 16887-00-6 | |
| Fluoride | ND | mg/L | 0.30 | 0.029 | 1 | | 04/05/19 18:13 | 16984-48-8 | |
| Sulfate | 35.5 | mg/L | 1.0 | 0.017 | 1 | | 04/05/19 18:13 | 14808-79-8 | |



Project: Plant Hammond

Pace Project No.: 2616927

Date: 04/10/2019 04:36 PM

QC Batch: 25905 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET

Associated Lab Samples: 2616927001

METHOD BLANK: 116813 Matrix: Water

Associated Lab Samples: 2616927001

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------|----------|-----------------|--------------------|----------|----------------|------------|
| Arsenic | mg/L | | 0.0050 | 0.00057 | 04/08/19 18:23 | |
| Barium | mg/L | ND | 0.010 | 0.00078 | 04/08/19 18:23 | |
| Beryllium | mg/L | ND | 0.0030 | 0.000050 | 04/08/19 18:23 | |
| Boron | mg/L | ND | 0.040 | 0.0039 | 04/08/19 18:23 | |
| Cadmium | mg/L | ND | 0.0010 | 0.000093 | 04/08/19 18:23 | |
| Calcium | mg/L | ND | 0.50 | 0.014 | 04/08/19 18:23 | |
| Chromium | mg/L | ND | 0.010 | 0.0016 | 04/08/19 18:23 | |
| Cobalt | mg/L | ND | 0.010 | 0.00052 | 04/08/19 18:23 | |
| Lead | mg/L | ND | 0.0050 | 0.00027 | 04/08/19 18:23 | |
| Lithium | mg/L | ND | 0.050 | 0.00097 | 04/08/19 18:23 | |
| Molybdenum | mg/L | ND | 0.010 | 0.0019 | 04/08/19 18:23 | |
| Selenium | mg/L | ND | 0.010 | 0.0014 | 04/08/19 18:23 | |
| Thallium | mg/L | ND | 0.0010 | 0.00014 | 04/08/19 18:23 | |

| | | Spike | LCS | LCS | % Rec | |
|------------|-------|-------|--------|-------|--------|------------|
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Arsenic | mg/L | 0.1 | 0.10 | 103 | 80-120 | |
| Barium | mg/L | 0.1 | 0.10 | 103 | 80-120 | |
| Beryllium | mg/L | 0.1 | 0.10 | 101 | 80-120 | |
| Boron | mg/L | 1 | 1.0 | 105 | 80-120 | |
| Cadmium | mg/L | 0.1 | 0.11 | 109 | 80-120 | |
| Calcium | mg/L | 1 | 1.0 | 104 | 80-120 | |
| Chromium | mg/L | 0.1 | 0.11 | 108 | 80-120 | |
| Cobalt | mg/L | 0.1 | 0.11 | 107 | 80-120 | |
| _ead | mg/L | 0.1 | 0.10 | 103 | 80-120 | |
| Lithium | mg/L | 0.1 | 0.10 | 102 | 80-120 | |
| Molybdenum | mg/L | 0.1 | 0.11 | 105 | 80-120 | |
| Selenium | mg/L | 0.1 | 0.11 | 106 | 80-120 | |
| Thallium | mg/L | 0.1 | 0.10 | 103 | 80-120 | |

| MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 116815 116816 | | | | | | | | | | | | |
|--|-------|------------|-------|-------|--------|--------|-------|-------|--------|-----|-----|------|
| | | 2616001004 | MS | MSD | MC | MCD | MS | MCD | % Rec | | May | |
| | | 2616901004 | Spike | Spike | MS | MSD | IVIO | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Arsenic | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 103 | 102 | 75-125 | 1 | 20 | |
| Barium | mg/L | 0.027 | 0.1 | 0.1 | 0.13 | 0.13 | 105 | 100 | 75-125 | 4 | 20 | |
| Beryllium | mg/L | 0.00015J | 0.1 | 0.1 | 0.10 | 0.10 | 100 | 100 | 75-125 | 0 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2616927

Date: 04/10/2019 04:36 PM

| MATRIX SPIKE & MATRIX S | SPIKE DUPLIC | ATE: 11681 | 5 | | 116816 | | | | | | | |
|-------------------------|--------------|----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|-------|
| Parameter | Units | 2616901004 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
| Boron | mg/L | 0.63 | 1 | 1 | 1.6 | 1.6 | 102 | 101 | 75-125 | 0 | 20 | |
| Cadmium | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.10 | 105 | 105 | 75-125 | 0 | 20 | |
| Calcium | mg/L | 11.9J | 1 | 1 | 13.1J | 17.2J | 129 | 532 | 75-125 | 27 | 20 | M6,R1 |
| Chromium | mg/L | 0.0030J | 0.1 | 0.1 | 0.11 | 0.11 | 106 | 106 | 75-125 | 0 | 20 | |
| Cobalt | mg/L | 0.0022J | 0.1 | 0.1 | 0.11 | 0.10 | 103 | 101 | 75-125 | 2 | 20 | |
| Lead | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 102 | 101 | 75-125 | 0 | 20 | |
| Lithium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 102 | 100 | 75-125 | 2 | 20 | |
| Molybdenum | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.10 | 107 | 103 | 75-125 | 4 | 20 | |
| Selenium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 101 | 100 | 75-125 | 1 | 20 | |
| Thallium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 103 | 102 | 75-125 | 1 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2616927

Date: 04/10/2019 04:36 PM

QC Batch: 25906 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET

Associated Lab Samples: 2616927002, 2616927003

METHOD BLANK: 116817 Matrix: Water

Associated Lab Samples: 2616927002, 2616927003

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------|----------|-----------------|--------------------|----------|----------------|------------|
| Arsenic | mg/L | | 0.0050 | 0.00057 | 04/09/19 18:14 | |
| Barium | mg/L | ND | 0.010 | 0.00078 | 04/09/19 18:14 | |
| Beryllium | mg/L | ND | 0.0030 | 0.000050 | 04/09/19 18:14 | |
| Boron | mg/L | ND | 0.040 | 0.0039 | 04/09/19 18:14 | |
| Cadmium | mg/L | ND | 0.0010 | 0.000093 | 04/09/19 18:14 | |
| Calcium | mg/L | ND | 0.50 | 0.014 | 04/09/19 18:14 | |
| Chromium | mg/L | ND | 0.010 | 0.0016 | 04/09/19 18:14 | |
| Cobalt | mg/L | ND | 0.010 | 0.00052 | 04/09/19 18:14 | |
| Lead | mg/L | ND | 0.0050 | 0.00027 | 04/09/19 18:14 | |
| Lithium | mg/L | ND | 0.050 | 0.00097 | 04/09/19 18:14 | |
| Molybdenum | mg/L | ND | 0.010 | 0.0019 | 04/09/19 18:14 | |
| Selenium | mg/L | ND | 0.010 | 0.0014 | 04/09/19 18:14 | |
| Thallium | mg/L | ND | 0.0010 | 0.00014 | 04/09/19 18:14 | |

| | | Spike | LCS | LCS | % Rec | |
|------------|-------|-------|--------|-------|--------|------------|
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Arsenic | mg/L | 0.1 | 0.10 | 100 | 80-120 | |
| Barium | mg/L | 0.1 | 0.098 | 98 | 80-120 | |
| Beryllium | mg/L | 0.1 | 0.096 | 96 | 80-120 | |
| Boron | mg/L | 1 | 0.94 | 94 | 80-120 | |
| Cadmium | mg/L | 0.1 | 0.10 | 100 | 80-120 | |
| Calcium | mg/L | 1 | 0.97 | 97 | 80-120 | |
| Chromium | mg/L | 0.1 | 0.10 | 101 | 80-120 | |
| Cobalt | mg/L | 0.1 | 0.10 | 100 | 80-120 | |
| Lead | mg/L | 0.1 | 0.099 | 99 | 80-120 | |
| Lithium | mg/L | 0.1 | 0.096 | 96 | 80-120 | |
| Molybdenum | mg/L | 0.1 | 0.10 | 102 | 80-120 | |
| Selenium | mg/L | 0.1 | 0.10 | 101 | 80-120 | |
| Thallium | mg/L | 0.1 | 0.098 | 98 | 80-120 | |

| MATRIX SPIKE & MATRIX SPIK | | | | | | | | | | | | |
|----------------------------|-------|------------|-------|-------|--------|--------|-------|-------|--------|-----|-----|------|
| | | 004000004 | MS | MSD | | 1400 | | 1405 | ۵/ ۵ | | | |
| | | 2616933004 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Arsenic | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 102 | 102 | 75-125 | 0 | 20 | |
| Barium | mg/L | 0.072 | 0.1 | 0.1 | 0.18 | 0.18 | 109 | 105 | 75-125 | 2 | 20 | |
| Beryllium | mg/L | ND | 0.1 | 0.1 | 0.092 | 0.092 | 92 | 92 | 75-125 | 1 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2616927

Date: 04/10/2019 04:36 PM

| MATRIX SPIKE & MATRIX S | SPIKE DUPLICA | ATE: 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 | |
| Cadmium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 104 | 101 | 75-125 | 3 | 20 | |
| Calcium | mg/L | 101 | 1 | 1 | 140 | 115 | 3930 | 1380 | 75-125 | 20 | 20 | M6 |
| Chromium | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.10 | 105 | 103 | 75-125 | 2 | 20 | |
| Cobalt | mg/L | 0.00069J | 0.1 | 0.1 | 0.10 | 0.10 | 102 | 100 | 75-125 | 2 | 20 | |
| Lead | mg/L | ND | 0.1 | 0.1 | 0.096 | 0.094 | 96 | 94 | 75-125 | 2 | 20 | |
| Lithium | mg/L | 0.0020J | 0.1 | 0.1 | 0.094 | 0.095 | 91 | 93 | 75-125 | 2 | 20 | |
| Molybdenum | mg/L | 0.041 | 0.1 | 0.1 | 0.15 | 0.15 | 112 | 110 | 75-125 | 1 | 20 | |
| Selenium | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.10 | 105 | 102 | 75-125 | 3 | 20 | |
| Thallium | mg/L | ND | 0.1 | 0.1 | 0.097 | 0.096 | 97 | 95 | 75-125 | 2 | 20 | |

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



Project:

Plant Hammond

Pace Project No.:

2616927

QC Batch:

25999

Analysis Method: Analysis Description: SM 2540C

QC Batch Method: Associated Lab Samples:

SM 2540C

2540C Total Dissolved Solids

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

Spike

LCS Result

LCS

% Rec Limits

Qualifiers

Total Dissolved Solids

Units mg/L

mg/L

2616927001, 2616927002, 2616927003

Conc. 400

226

ND

% Rec 411

84-108

SAMPLE DUPLICATE: 117378

2617086001 Units Result

Dup Result RPD

11

103

Max **RPD**

Qualifiers

Total Dissolved Solids

117379

2616901015

Dup Result

Max RPD

10 D6

Qualifiers

SAMPLE DUPLICATE:

Date: 04/10/2019 04:36 PM

Parameter **Total Dissolved Solids**

Units mg/L Result

13.0J

203

RPD

10

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



Project: Plant Hammond

Pace Project No.: 2616927

Date: 04/10/2019 04:36 PM

QC Batch: 25882 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 2616927001, 2616927002, 2616927003

METHOD BLANK: 116732 Matrix: Water

Associated Lab Samples: 2616927001, 2616927002, 2616927003

| | | Blank | Reporting | | | |
|-----------|-------|--------|-----------|-------|----------------|------------|
| Parameter | Units | Result | 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 | | | | | |
|----------------------------|--------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % 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 SPIR | KE DUPLIC | CATE: 116734 | 1 | | 116735 | | | | | | | |
|----------------------------|-----------|--------------|-------|-------|--------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2616927001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | 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 | | | | | | |
|----------------------|--------|------------|-------|--------|-------|----------|-------------|
| 5 | | 2616927002 | Spike | MS | MS | % Rec | 0 1:5 |
| Parameter | Units | Result | Conc. | Result | % 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 N | <i>I</i> 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.



QUALIFIERS

Project: Plant Hammond

Pace Project No.: 2616927

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

Date: 04/10/2019 04:36 PM

D6 The precision between the sample and sample duplicate exceeded laboratory control limits.

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

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

R1 RPD value was outside control limits.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2616927

Date: 04/10/2019 04:36 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|-----------------|----------|-------------------|---------------------|
| 2616927001 | HGWA-4 | EPA 3005A | 25905 | EPA 6020B | 25922 |
| 2616927002 | HGWA-5 | EPA 3005A | 25906 | EPA 6020B | 25928 |
| 2616927003 | HGWA-6 | EPA 3005A | 25906 | EPA 6020B | 25928 |
| 2616927001 | HGWA-4 | SM 2540C | 25999 | | |
| 2616927002 | HGWA-5 | SM 2540C | 25999 | | |
| 2616927003 | HGWA-6 | SM 2540C | 25999 | | |
| 2616927001 | HGWA-4 | EPA 300.0 | 25882 | | |
| 2616927002 | HGWA-5 | EPA 300.0 | 25882 | | |
| 2616927003 | HGWA-6 | EPA 300.0 | 25882 | | |

| Section A | | Section B | Ñ | Section C | | | | | | | | , | | Γ |
|--|---|--|---------------------------------|-----------------------|----------------------------|-------------------------------|---|---|------------|--|--|---|------------|--------------|
| Company | Client information: | ۶I | 5 3 | 톍 | ion: | l | | | | | Page: | - | <u>ه</u> | |
| Address | 7. Georgia Power - Coal Combustion Residuals | Con Tr. 10 Bath Con Tr. 10 Bat | ₹ (3 | Attention: sc | scsinvoices@southernco.com | mco.com | | | T | | | | | |
| Atlanta | SA 30339 | copy 10. Lauren Petty, Geosyntec | 3 4 | Address: | | | | | 18 | *************************************** | A CONTRACTOR OF THE PARTY OF TH | *************************************** | | No. |
| Email | | Purchase Order # SCS10348676 | <u> </u> | Pars Ounter | | | | | 2 | | - Kodu | tory Aganc | | 100 |
| Phone: | 8 | me: p | <u> </u> | Pace Project Manager: | ١. | betsv.mcdaniel@nacelabs.com | pacelabs or | | 122 | A STATE OF THE STA | A STATE OF THE PERSON NAMED IN | NAMES AND A | | |
| Request | Requested Due Date: Standand Tan | Project #: | ă. | Pace Profile #: | ₽ B | (Huff) | | | | | | ક | | |
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| Section A | | Section B | ชั | Section C | | | | | | | | 7 | | ſ | |
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| T Section | Heat Information: | ۶ı | 5 | Invoice Information: | in: | | | | | | Page: | ١ | ŏ | ١ | |
| Company. | Georgia Power - Coal Combustion Residuals | Report To: Joju Abraham | A | Attention: scsin | scsinvoices@southernco.com | o.com | | | | | | | | | , |
| Address: | | Copy To: Lauren Petty, Geosyntec | Ö | Company Name: | | | | | | | | | | | |
| Atlanta | | | ¥ | Address: | | | | | 8 | A SAME | Regula | Regulatory Approxy | | | |
| Email: | | Purchase Order #: SCS10348606 | 6 | Pace Quote: | | | | | | | | | | Ī | , |
| Phone | Fax | lä | å | Pace Project Manager | l | holey motanishighsanship | mon arter | | E COLUMN | Property Control | 100 | 1 X11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | AND PROPERTY. | Part Service | |
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| Section A | | Section B | Section C | |
|------------|--|---|--|--|
| Required | lient Information: | Required Project Information: | Invoice Information: | Page: J. Of J. |
| Company | Georgia Power - Coal Combustion Residuals | Report To: Joju Abraham | Attention: scsinvaices@southernco.com | |
| Address: | | Copy To: Lauren Petty, Geosyntec | Сотралу Мате: | |
| Atlanta, G | Aulanta, GA 30339 | | | To the second of |
| Ē | | Purchase Order #: SCS10348606 | | |
| - Loge | | Project Name: Plant Hammond | ĕ | State (Location) |
| requeste | 1A1 | Project #: | Pace Profile #: 327 (AP) or 328 (Huff) | GA |
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| Gerdi | Gerylium, Calmium, Chromium, Chalt, | J | 0954 - K - 1 2000 0 | 1360 |
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| Pace Anal | tical Client Name:_ | BIA | Power | Project # | |
| Courier: Fed E | x UPS USPS Client | Commercial | Pace Other | WO#:26 | |
| Custody Seal on C | ooler/Box Present: yes | no Seals | intact: yes | PM: BM CLIENT: GAPo | Due Date: 04/10/1 uer-CCR |
| | ☐ Bubble Wrap ☐ Bubble Ba | | | | |
| Thermometer Use | 11 7 | ype of Ice: Wet | | Complete an inc. con | lian anna ha ha h |
| | <u> </u> | · | is Frozen: Yes No | Samples on ice, coo | s of/person examining, |
| Cooler Temperatu Temp should be abov | · ————— | idiogical rissue | Comments: | contents: | 4/3/19 M2 |
| Chain of Custody P | resent: | Yes □no □n/A | 1. | | <u> </u> |
| Chain of Custody F | | IYes □No □N/A | | | |
| Chain of Custody R | | Yes □No □N/A | | | |
| Sampler Name & S | | Yes □No □N/A | | | |
| Samples Arrived wi | | Pes □No □N/A | | | |
| Short Hold Time A | | Yes ☑No □N/A | | | |
| Rush Turn Around | |]Yes DK6 □N/A | | | |
| Sufficient Volume: | | Yes □No □N/A | | | |
| Correct Containers | | Yes □No □N/A | | | |
| -Pace Container | s Used: | TYes □No □N/A | | | |
| Containers Intact: | | TYPS NO NA | 10. | i | |
| Filtered volume reco | | Yes ONO DINTA | | | |
| Sample Labels mate | | Yes □No □N/A | | | |
| -Includes date/tir | | W | | | |
| | tesenration have been checked | Yes □No □N/A | 13. | | |
| All containers needing compliance with EPA | preservation are found to be in ecommendation. | TYPS ONO ON/A | | | |
| exceptions: VOA, colifor | m, TOC, O&G, WI-DRO (water) | Yes DANO | Initial when completed | Lot # of added preservative | |
| Samples checked for | i: |]Yes □No □MA | | | |
| Headspace in VOA | | Yes ONO ON/A | | | |
| Trip Blank Present: | | Yes □No ÆÑÃ | | | |
| Trip Blank Custody | | Yes □No □N/A | | | |
| Pace Trip Blank Lot | | | Ì | | |
| | 15 | | ···· | | |
| Client Notification | | | | Field Data Required | ? Y / N |
| Person Conta | | Date/ | Time: | | |
| Comments/ Reso | ution; | | | | |
| | | _ | | <u>.</u> | |
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| Project Manage | Review: | | | Date: | |
| Note: Whenever there | is a discrepancy affecting North Card | lina compliance sar | mples, a copy of this for | m will be sent to the North | Carolina DEHNR |
| Certification Office (i. | out of hold, incorrect preservative, o | ut of temp, incorrec | t containers) | | |
| | | | | F-ALLC00 | Brev.3, 11September 2006 9 of 19 |





April 25, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2616928

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

Beton M Damil

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



(770)734-4200



CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2616928

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 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

Missouri Certification #: 235

Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282

South Dakota Certification
Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L



SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2616928

| Lab ID | Sample ID | Matrix | Date Collected | Date Received | |
|------------|-----------|--------|----------------|----------------|--|
| 2616928001 | HGWA-4 | Water | 04/02/19 12:11 | 04/03/19 11:10 | |
| 2616928002 | HGWA-5 | Water | 04/02/19 10:40 | 04/03/19 11:10 | |
| 2616928003 | HGWA-6 | Water | 04/02/19 10:37 | 04/03/19 11:10 | |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2616928

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|--------------------------|----------|----------------------|------------|
| 2616928001 | HGWA-4 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2616928002 | HGWA-5 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2616928003 | HGWA-6 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond

Calculation

Pace Project No.: 2616928

| Sample: HGWA-4 PWS: | Lab ID: 26169280 Site ID: | O1 Collected: 04/02/19 12:11 Sample Type: | Received: | 04/03/19 11:10 | Matrix: Water | |
|------------------------|-------------------------------------|--|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | | 0.180 ± 0.184 (0.322) C:91% T:NA | pCi/L | 04/12/19 07:52 | 13982-63-3 | |
| Radium-228 | | 0.314 ± 0.440 (0.947) C:74% T:84% | pCi/L | 04/16/19 16:22 | 2 15262-20-1 | |
| Total Radium | | 0.494 ± 0.624 (1.27) | pCi/L | 04/17/19 13:15 | 5 7440-14-4 | |



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2616928

| Sample: HGWA-5 PWS: | Lab ID: 26169280 Site ID: | O2 Collected: 04/02/19 10:40 Sample Type: | Received: | 04/03/19 11:10 | Matrix: Water | |
|------------------------|-------------------------------------|--|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | | 0.411 ± 0.254 (0.294) C:93% T:NA | pCi/L | 04/12/19 07:5 | 13982-63-3 | |
| Radium-228 | | 0.657 ± 0.423 (0.802) C:74% T:87% | pCi/L | 04/16/19 16:22 | 2 15262-20-1 | |
| Total Radium | Total Radium Calculation | 1.07 ± 0.677 (1.10) | pCi/L | 04/17/19 13:1 | 5 7440-14-4 | |



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2616928

| Sample: HGWA-6 PWS: | Lab ID: 26169280 Site ID: | O03 Collected: 04/02/19 10:37 Sample Type: | Received: | 04/03/19 11:10 | Matrix: Water | |
|------------------------|-------------------------------------|---|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | EPA 9315 | 0.204 ± 0.226 (0.440) C:92% T:NA | pCi/L | 04/12/19 07:55 | 13982-63-3 | |
| Radium-228 | EPA 9320 | 0.417 ± 0.365 (0.737) C:80% T:84% | pCi/L | 04/16/19 16:22 | 2 15262-20-1 | |
| Total Radium | Total Radium Calculation | 0.621 ± 0.591 (1.18) | pCi/L | 04/17/19 13:15 | 7440-14-4 | |



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2616928

QC Batch: 337392 Analysis Method: EPA 9315

QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium

Associated Lab Samples: 2616928001, 2616928002, 2616928003

METHOD BLANK: 1642069 Matrix: Water

Associated Lab Samples: 2616928001, 2616928002, 2616928003

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-226 0.117 ± 0.178 (0.382) C:94% T:NA pCi/L 04/12/19 08:07

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



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2616928

QC Batch: 337342 Analysis Method: EPA 9320

QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228

Associated Lab Samples: 2616928001, 2616928002, 2616928003

METHOD BLANK: 1641953 Matrix: Water

Associated Lab Samples: 2616928001, 2616928002, 2616928003

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-228 -0.245 ± 0.294 (0.748) C:78% T:79% pCi/L 04/16/19 16:22

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



QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2616928

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

Date: 04/25/2019 03:53 PM

PASI-PA Pace Analytical Services - Greensburg



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2616928

Date: 04/25/2019 03:53 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|--------------------------|----------|-------------------|---------------------|
| 2616928001 | HGWA-4 | EPA 9315 | 337392 | | |
| 2616928002 | HGWA-5 | EPA 9315 | 337392 | | |
| 2616928003 | HGWA-6 | EPA 9315 | 337392 | | |
| 2616928001 | HGWA-4 | EPA 9320 | 337342 | | |
| 2616928002 | HGWA-5 | EPA 9320 | 337342 | | |
| 2616928003 | HGWA-6 | EPA 9320 | 337342 | | |
| 2616928001 | HGWA-4 | Total Radium Calculation | 338683 | | |
| 2616928002 | HGWA-5 | Total Radium Calculation | 338683 | | |
| 2616928003 | HGWA-6 | Total Radium Calculation | 338683 | | |

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

(N/A) DBIN seldms2 Cooler (Y/N) ŏ portog Rogulatory/Aktello (N/A) Received on JO#: 2616928 (N/X) entrotino (N/X) Ö Page: TEMP in C 1970 ω \sim はに DATE Signed: 04/02/19 100 61/2/4 41419 2616928 9ZZ/9ZZ wnipe D2' Cf' E' 204 betsy.mcdaniel@pacelabs.com, otals (App. III & D&O) homete O&G ,VI .qqA ,III .qqA) ste Paris etals (App. III & App. IV) Mallia Muhan 刨以 - 386T seavienA scsinvoices@southernco.com 327 (AP) or 328 (Huff) 1841C " Under lonsriisi Water Blaw Preservatives 1828203 HOB Pace Project Manager: Pace Profile #: 327 (IOF Invoice information: EONH ~ Company Name Grant 5560 POSZ Pace Quote 13 th Section C 2001 Address: pevieserdul OF CONTAINERS S SANDLER MANE AND SIGNATUR PRINT Name of SAMPLER: Φ SIGNATURE of SAMPLER: CONTE Grant Walter/Geografic 10 4/02/19 MPLE TEMP AT COLLECTION 4/5/19 Welle Martin Kronne 9/219 17 G 6400 [1:52 |0402 |12:11 8 COLLECTED KThe Wearente Lauren Petty, Geosynter Purchase Order #: SCS10348606 START Plant Hammond Required Project Information: Report To: Joju Abraham (GEGRAB CECOMP) MPLE TYPE MATRIX CODE (see valid codes to left) Project Name: Section B Copy To: MATRIX
Drinking Water
Water
Water
Water
Water
Product
SoulSolid
Od
Wipe
Air
Cither
Tissue Beryllius Calentum, Chitorlium Liknim Ap II (3): Arsevic, Barium Georgia Power - Coal Combustion Residuals Fluoride, Lead, Molybderum Selevium, One Character per box. (A-Z, 0-9 /, -) Sample Ids must be unique SAMPLE ID Phone: (404)506-7239 Fe Atlanta, GA 30339 Email: jabrahām@southemco.com 2480 Maner Road Required Client Information: HGWA-4 Company: Page 12 of 15 #W3J

| Section A | A | Section B | 1 | | į | | | | Section C | ن 8 | ; | | | | | | | | | | <u></u> | , | | 6 | | 7 | Г |
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| Address | | Conv. To: | | Joju Abraham | | | | | Allenion | Antennon. Sc. | | scsinvoices@southernco.com | souther | 00.00E | اء | | | | T | | | | | | | | |
| Allonia | Z460 Marer Koad | | Laure | n reny | Lauren Petty, Geosyntec | | | | Address | arry Na | e | | | | | | | | | 1000 | 500505 | | 教をある。 | - | | A STATE OF THE PARTY. | 5 |
| Frail | Enail intrahem/Resurberren nom | Purchase Order #: SCS10348606 | 10 | 35 | 10348606 | | | | | Page Ouote: | | | | | | | | | | 10 | | | Town | AGENC | | 10/C114 | |
| Phone | (404)506-7239 Fax | Project Name: | | Plant H | Plant Hammond | | | | Pape | Project | Pace Project Manager. | | beisy medaniel@papelabs com | codenie | Goace | abs co | [| | | * | A CONTRACTOR OF THE PROPERTY O | | | | 12866 | STATE OF | N. Carlo |
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| of 1 | | | | | $oxed{ig }$ | | | | I | | 4 | V | $\setminus $ | | \dashv | | , | 1 | 1 /2 | 7 | | <u>"</u> | 1 | _ | 98 28 | aul SS | |

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

(N/V) Due Date: 05/01/19 Samples (N/A) ŏ When the Standard Concess Cooler beleed Custod MO#:2616928 (N/A) g Received on Residual Chlorine (Y/N) CLIENT: GAPouer-CCR TEMP in C 4580 627 DATE Signed: 4/2 /19 F. ~ 1 0 PR: BM 116 Radium 226/228 TDS, CI, F, SO4 Pace Project Manager: betsy modaniel@pacelabs.com. Pace Profile #: 327 (AP) or 328 (Huff) Metals (App. III & D&O) Pore Mets (App. III, App. IV, D&O alman. Metals (App. III & App. IV) (bekruber INK 339T, 363VIERA Attention: scsinvoices@southernco.com Company Name: Methanol PRINT Name of SAMPLER: NOCHIC MUSKUS Preservatives Na2S2O3 SIGNATURE OF SAMPLER, ADULLO ALLIM PLY Lano HOSN 7 Section C Invoice Information: ЮН 3 EONH Pace Quote: POSZH 475/14 OJ 5/1 Modia Marker Principal Mitter 1950 Address: Unpreserved S # OF CONTAINERS SAUPLE FAMALE AND SIGNATURE SAMPLE TEMP AT COLLECTION PATE (\$01 SNO 1012/2/19 DATE COLLECTED TIME 17. Trans Lauren Petty, Geosyntec SCS10348606 START Purchase Order #: SCS103486 G-4/219 Required Project Information: DATE Report To: Joju Abraham (GMCC+C BARD+D) **34YT 3J9MA8** 3 MATRIX CODE (see valid codes to left) Copy To: Section B MATRUX
Denking Water
Water
Waste Water
Product
SoluSolid
SoluSolid
Wipe
Au
Other
Tissue Flusher, lead Lithium, Malybelenum Selenium Assendix II (3): Arsenic, Barrom Gerylium, Cadmium, Chromium, Cobalt Georgia Power - Coal Combustion Residuals Phone: (404)506-7239 Fax Requested Due Date: Standard TAT (A-Z, 0-9 / , -) Sample lds must be unique One Character per box. SAMPLE ID するシャー jabraham@southemco.com 2480 Maner Road Required Client Information: Mianta, GA 30339 10 # Mati Page 14 of 15

| | | 210 | OUTIC | AILIOI | opon Receipt | li . | | |
|---|--------------------------------------|--------------|-------------------|--------------|---------------------------------------|--------------|---------------------------------------|-------------------------|
| Face Anal | vtical Client Name: | | <u>G1</u> | A | Power | F | Project # | |
| Tracking #: | x 🗌 UPS 🗌 USPS 🗎 Client | ф | Comm | ercial | Pace Other | i | 0#:26 | 16928 Due Date: 05/01/1 |
| Custody Seal on C | ooler/Box Present: yes | q | no | Seals | intact: yes | H | IENT: GAPour | |
| | ☐ Bubble Wrap ☐ Bubble E | | - | | | | | |
| Thermometer Use | | | | | [®] Blue None | | Samples on ice, coo | ling process has begun |
| Cooler Temperatur | | Bidlo | gical 1 | Tissue | is Frozen: Yes No | | contents:_4 | of person examining, |
| Temp should be above | | | | | Comments: | _ | | /-/- |
| Chain of Custody P | | - Jr | | □n/a | | | | |
| Chain of Custody Fi | | 7 | | □n/a | | | <u> </u> | |
| Chain of Custody R | | ZYes | □No | _□N/A | 3. | _ | | |
| Sampler Name & Si | | ZYes | □No | □n/A | 4. | <u> </u> | | |
| Samples Arrived wit | hin Hold Time: | ₽4€s | □No | □N/A | 5. | | | |
| Short Hold Time A | | □Yes | □2Nο [°] | □n/a | 6. | | · · · · · · · · · · · · · · · · · · · | |
| Rush Turn Around | Time Requested: | □Yes | QX6 | □n/a | 7. | | | |
| Sufficient Volume: | | 27es | □№ | □n/a | 8. | | | |
| Correct Containers | Used: | | □No | □n/a | 9. | | | |
| -Pace Container | S Used: | | □No | □n/a | | | į | |
| Containers Intact: | | ZY s | □No | □n/a | 10. | | • | |
| Filtered volume rece | ived for Dissolved tests | | | DNA | | | | |
| Sample Labels mate | h COC: | | | □N/A | · · · · · · · · · · · · · · · · · · · | | | · - M- |
| -Includes date/tir | | | W | | | | | |
| All containers needing p | reservation have been checked | PIV. | Пко | □N/A | 13 | - | | |
| All containers needing | preservation are found to be in | سل | | | 13. | | i. | |
| compliance with EPA r | ecommendation. | Yes | □No | □n/a | | | · | |
| exceptions: VOA, coliforn | n, TOC, O&G, WI-DRO (water) | □Y∋s | _ □ M6 | | Initial when completed | | Lot # of added preservative | |
| Samples checked for | r dechlorination: | □Yes | □No | DNA | 14. | | | |
| Headspace in VOA | Vials (>6mm): | □Yes | □No | □ M/A | 15. | | | |
| Trip Blank Present: | | □Yes | □No | -EN/A | 16. | | | |
| Trip Blank Custody | Seals Present | □Yes | □No | □ N/A | | | | |
| Pace Trip Blank Lot | # (if purchased): | | | | | | | |
| Client Notification/ | Resolution | _ | | | | | | |
| Person Conta | il ^t | | | Date/ | Fimo: | | Field Data Required | Y / N |
| Comments/ Resolu | | _ | | - Date | | - | | |
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| Project Manager | Review: | | | | | | Date: | |
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| Note: Whenever there Certification Office (i.e. | is a discrepancy affecting North Car | olina c | compliar | nce san | nples, a copy of this form | n will | be sent to the North | Carolina DEHNR |

F-ALLC003rev.3, 11September2006





April 13, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2617072

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on April 05, 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

Beton M Damil

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





CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2617072

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



SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2617072

| Lab ID | Sample ID | Matrix | Date Collected | Date Received | |
|------------|-----------|--------|----------------|----------------|--|
| 2617072001 | HGWC-15 | Water | 04/04/19 10:44 | 04/05/19 11:20 | |
| 2617072002 | HGWC-16 | Water | 04/04/19 12:52 | 04/05/19 11:20 | |
| 2617072003 | MW-21D | Water | 04/04/19 15:38 | 04/05/19 11:20 | |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2617072

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|-----------|-----------|----------------------|------------|
| 2617072001 | HGWC-15 | EPA 6020B | JMW1, SER | 13 | PASI-A |
| | | SM 2540C | RLC | 1 | PASI-GA |
| | | EPA 300.0 | RLC | 3 | PASI-GA |
| 2617072002 | HGWC-16 | EPA 6020B | JMW1, SER | 13 | PASI-A |
| | | SM 2540C | RLC | 1 | PASI-GA |
| | | EPA 300.0 | MWB, RLC | 3 | PASI-GA |
| 2617072003 | MW-21D | EPA 6020B | JMW1, SER | 13 | PASI-A |
| | | SM 2540C | RLC | 1 | PASI-GA |
| | | EPA 300.0 | MWB, RLC | 3 | PASI-GA |



Project: Plant Hammond

Pace Project No.: 2617072

Date: 04/13/2019 07:37 AM

| Sample: HGWC-15 | Lab ID: | 2617072001 | Collecte | ed: 04/04/19 | 0 10:44 | Received: 04/ | 05/19 11:20 Ma | atrix: Water | |
|------------------------------|------------|--------------|-----------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020 MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Met | hod: EF | PA 3010A | | | |
| Arsenic | 0.00017J | mg/L | 0.0050 | 0.000060 | 1 | 04/09/19 10:55 | 04/10/19 01:03 | 7440-38-2 | |
| Barium | 0.018 | mg/L | 0.010 | 0.000060 | 1 | 04/09/19 10:55 | 04/10/19 01:03 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000050 | 1 | 04/09/19 10:55 | 04/10/19 01:03 | 7440-41-7 | |
| Boron | 2.3 | mg/L | 2.0 | 0.051 | 20 | 04/09/19 10:55 | 04/11/19 19:01 | 7440-42-8 | M6 |
| Cadmium | 0.0018 | mg/L | 0.0010 | 0.000070 | 1 | 04/09/19 10:55 | 04/10/19 01:03 | 7440-43-9 | |
| Calcium | 214 | mg/L | 25.0 | 1.0 | 50 | 04/09/19 10:55 | 04/11/19 01:44 | 7440-70-2 | M6 |
| Chromium | ND | mg/L | 0.010 | 0.00042 | 1 | 04/09/19 10:55 | 04/10/19 01:03 | 7440-47-3 | |
| Cobalt | 0.035 | mg/L | 0.010 | 0.000050 | 1 | 04/09/19 10:55 | 04/10/19 01:03 | 7440-48-4 | |
| Lead | 0.000072J | mg/L | 0.0050 | 0.000050 | 1 | 04/09/19 10:55 | 04/10/19 01:03 | 7439-92-1 | |
| Lithium | 0.00090J | mg/L | 0.050 | 0.00042 | 1 | 04/09/19 10:55 | 04/10/19 01:03 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.00010 | 1 | 04/09/19 10:55 | 04/10/19 01:03 | 7439-98-7 | |
| Selenium | 0.00021J | mg/L | 0.010 | 0.000080 | 1 | 04/09/19 10:55 | 04/10/19 01:03 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.000060 | 1 | 04/09/19 10:55 | 04/10/19 01:03 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 926 | mg/L | 25.0 | 10.0 | 1 | | 04/11/19 19:35 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Chloride | 138 | mg/L | 5.0 | 0.48 | 20 | | 04/10/19 08:46 | 16887-00-6 | |
| Fluoride | 0.066J | mg/L | 0.30 | 0.029 | 1 | | 04/09/19 22:04 | 16984-48-8 | |
| Sulfate | 528 | mg/L | 20.0 | 0.34 | 20 | | 04/10/19 08:46 | 14808-79-8 | |



Project: Plant Hammond

Pace Project No.: 2617072

Date: 04/13/2019 07:37 AM

| Sample: HGWC-16 | Lab ID: | 2617072002 | Collecte | ed: 04/04/19 | 9 12:52 | Received: 04/ | 05/19 11:20 Ma | atrix: Water | |
|------------------------------|------------|---------------|-----------------|--------------|----------|----------------|----------------|--------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020 MET ICPMS | Analytical | Method: EPA 6 | 6020B Pre | paration Met | thod: El | PA 3010A | | | |
| Arsenic | 0.00010J | mg/L | 0.0050 | 0.000060 | 1 | 04/09/19 10:55 | 04/10/19 01:21 | 7440-38-2 | |
| Barium | 0.11 | mg/L | 0.010 | 0.000060 | 1 | 04/09/19 10:55 | 04/10/19 01:21 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000050 | 1 | 04/09/19 10:55 | 04/10/19 01:21 | 7440-41-7 | |
| Boron | 2.1 | mg/L | 2.0 | 0.051 | 20 | 04/09/19 10:55 | 04/11/19 19:49 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0010 | 0.000070 | 1 | 04/09/19 10:55 | 04/10/19 01:21 | 7440-43-9 | |
| Calcium | 196 | mg/L | 10.0 | 0.41 | 20 | 04/09/19 10:55 | 04/11/19 19:49 | 7440-70-2 | |
| Chromium | ND | mg/L | 0.010 | 0.00042 | 1 | 04/09/19 10:55 | 04/10/19 01:21 | 7440-47-3 | |
| Cobalt | 0.00028J | mg/L | 0.010 | 0.000050 | 1 | 04/09/19 10:55 | 04/10/19 01:21 | 7440-48-4 | |
| Lead | 0.00016J | mg/L | 0.0050 | 0.000050 | 1 | 04/09/19 10:55 | 04/10/19 01:21 | 7439-92-1 | |
| Lithium | 0.0032J | mg/L | 0.050 | 0.00042 | 1 | 04/09/19 10:55 | 04/10/19 01:21 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.00010 | 1 | 04/09/19 10:55 | 04/10/19 01:21 | 7439-98-7 | |
| Selenium | 0.000089J | mg/L | 0.010 | 0.000080 | 1 | 04/09/19 10:55 | 04/10/19 01:21 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.000060 | 1 | 04/09/19 10:55 | 04/10/19 01:21 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 704 | mg/L | 25.0 | 10.0 | 1 | | 04/11/19 19:35 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Chloride | 76.8 | mg/L | 1.2 | 0.12 | 5 | | 04/10/19 09:09 | 16887-00-6 | |
| Fluoride | ND | mg/L | 0.30 | 0.029 | 1 | | 04/09/19 22:27 | 16984-48-8 | |
| Sulfate | 251 | mg/L | 10.0 | 0.17 | 10 | | 04/12/19 18:43 | 14808-79-8 | |



Project: Plant Hammond

Pace Project No.: 2617072

Date: 04/13/2019 07:37 AM

| Sample: MW-21D | Lab ID: | 2617072003 | Collecte | ed: 04/04/19 | 15:38 | Received: 04/ | 05/19 11:20 Ma | atrix: Water | |
|------------------------------|------------|---------------|-----------|--------------|---------|----------------|----------------|--------------|-----|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qua |
| 6020 MET ICPMS | Analytical | Method: EPA 6 | 6020B Pre | paration Met | hod: EF | PA 3010A | | | |
| Arsenic | 0.00019J | mg/L | 0.0050 | 0.000060 | 1 | 04/09/19 10:55 | 04/10/19 01:25 | 7440-38-2 | |
| Barium | 0.075 | mg/L | 0.010 | 0.000060 | 1 | 04/09/19 10:55 | 04/10/19 01:25 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000050 | 1 | 04/09/19 10:55 | 04/10/19 01:25 | 7440-41-7 | |
| Boron | 5.2 | mg/L | 5.0 | 0.13 | 50 | 04/09/19 10:55 | 04/11/19 19:52 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0010 | 0.000070 | 1 | 04/09/19 10:55 | 04/10/19 01:25 | 7440-43-9 | |
| Calcium | 427 | mg/L | 25.0 | 1.0 | 50 | 04/09/19 10:55 | 04/11/19 19:52 | 7440-70-2 | |
| Chromium | ND | mg/L | 0.010 | 0.00042 | 1 | 04/09/19 10:55 | 04/10/19 01:25 | 7440-47-3 | |
| Cobalt | 0.00034J | mg/L | 0.010 | 0.000050 | 1 | 04/09/19 10:55 | 04/10/19 01:25 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.000050 | 1 | 04/09/19 10:55 | 04/10/19 01:25 | 7439-92-1 | |
| Lithium | 0.019J | mg/L | 0.050 | 0.00042 | 1 | 04/09/19 10:55 | 04/10/19 01:25 | 7439-93-2 | |
| Molybdenum | 0.033 | mg/L | 0.010 | 0.00010 | 1 | 04/09/19 10:55 | 04/10/19 01:25 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.000080 | 1 | 04/09/19 10:55 | 04/10/19 01:25 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.000060 | 1 | 04/09/19 10:55 | 04/10/19 01:25 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 1800 | mg/L | 25.0 | 10.0 | 1 | | 04/11/19 19:35 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Chloride | 299 | mg/L | 25.0 | 2.4 | 100 | | 04/12/19 19:06 | 16887-00-6 | В |
| Fluoride | 0.10J | mg/L | 0.30 | 0.029 | 1 | | 04/09/19 22:50 | 16984-48-8 | |
| Sulfate | 915 | mg/L | 100 | 1.7 | 100 | | 04/12/19 19:06 | 14808-79-8 | |



Project: Plant Hammond

Pace Project No.: 2617072

Date: 04/13/2019 07:37 AM

QC Batch: 468126 Analysis Method: EPA 6020B
QC Batch Method: EPA 3010A Analysis Description: 6020 MET

Associated Lab Samples: 2617072001, 2617072002, 2617072003

METHOD BLANK: 2543175 Matrix: Water

Associated Lab Samples: 2617072001, 2617072002, 2617072003

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------|-------|-----------------|--------------------|----------|----------------|------------|
| Arsenic | mg/L | ND ND | 0.0050 | 0.000060 | 04/11/19 00:58 | |
| Barium | mg/L | ND | 0.010 | 0.000060 | 04/11/19 00:58 | |
| Beryllium | mg/L | ND | 0.0030 | 0.000050 | 04/10/19 00:56 | |
| Boron | mg/L | ND | 0.10 | 0.0026 | 04/11/19 00:58 | |
| Cadmium | mg/L | ND | 0.0010 | 0.000070 | 04/11/19 00:58 | |
| Calcium | mg/L | ND | 0.50 | 0.021 | 04/11/19 00:58 | |
| Chromium | mg/L | ND | 0.010 | 0.00042 | 04/11/19 00:58 | |
| Cobalt | mg/L | ND | 0.010 | 0.000050 | 04/11/19 00:58 | |
| Lead | mg/L | ND | 0.0050 | 0.000050 | 04/11/19 00:58 | |
| Lithium | mg/L | ND | 0.050 | 0.00042 | 04/11/19 00:58 | |
| Molybdenum | mg/L | ND | 0.010 | 0.00010 | 04/11/19 00:58 | |
| Selenium | mg/L | ND | 0.010 | 0.000080 | 04/11/19 00:58 | |
| Thallium | mg/L | ND | 0.0010 | 0.000060 | 04/11/19 00:58 | |

| Parameter Units Spike Conc. LCS Result LCS % Rec Limits % Rec Limits Arsenic mg/L 0.01 0.0099 99 80-120 Barium mg/L 0.05 0.049 98 80-120 Beryllium mg/L 0.01 0.0095 95 80-120 | |
|---|------------|
| Arsenic mg/L 0.01 0.0099 99 80-120 Barium mg/L 0.05 0.049 98 80-120 | |
| Barium mg/L 0.05 0.049 98 80-120 | Qualifiers |
| • | |
| Beryllium mg/L 0.01 0.0095 95 80-120 | |
| , | |
| Boron mg/L 0.05 0.047J 94 80-120 | |
| Cadmium mg/L 0.01 0.010 101 80-120 | |
| Calcium mg/L 0.62 0.63 101 80-120 | |
| Chromium mg/L 0.05 0.050 99 80-120 | |
| Cobalt mg/L 0.01 0.010J 100 80-120 | |
| Lead mg/L 0.05 0.050 100 80-120 | |
| Lithium mg/L 0.05 0.050J 100 80-120 | |
| Molybdenum mg/L 0.05 0.051 102 80-120 | |
| Selenium mg/L 0.05 0.050 99 80-120 | |
| Thallium mg/L 0.01 0.0099 99 80-120 | |

| MATRIX SPIKE & MATRIX SPIK | | 2543178 | | | | | | | | | | |
|----------------------------|-------|------------|-------|-------|--------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2617072001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Arsenic | mg/L | 0.00017J | 0.01 | 0.01 | 0.010 | 0.010 | 102 | 99 | 75-125 | 3 | 20 | |
| Barium | mg/L | 0.018 | 0.05 | 0.05 | 0.069 | 0.068 | 101 | 99 | 75-125 | 1 | 20 | |
| Beryllium | mg/L | ND | 0.01 | 0.01 | 0.0088 | 0.0084 | 87 | 84 | 75-125 | 4 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2617072

Date: 04/13/2019 07:37 AM

| MATRIX SPIKE & MATRIX S | SPIKE DUPLIC | ATE: 25431 | 77 | | 2543178 | | | | | | | |
|-------------------------|--------------|----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|------|
| Parameter | Units | 2617072001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
| Boron | mg/L | 2.3 | 0.05 | 0.05 | 2.4 | 2.4 | 205 | 248 | 75-125 | 1 | 20 | M6 |
| Cadmium | mg/L | 0.0018 | 0.01 | 0.01 | 0.012 | 0.011 | 97 | 96 | 75-125 | 1 | 20 | |
| Calcium | mg/L | 214 | 0.62 | 0.62 | 218 | 216 | 575 | 271 | 75-125 | 1 | 20 | M6 |
| Chromium | mg/L | ND | 0.05 | 0.05 | 0.050 | 0.049 | 99 | 98 | 75-125 | 1 | 20 | |
| Cobalt | mg/L | 0.035 | 0.01 | 0.01 | 0.044 | 0.044 | 97 | 94 | 75-125 | 1 | 20 | |
| Lead | mg/L | 0.000072J | 0.05 | 0.05 | 0.052 | 0.051 | 103 | 102 | 75-125 | 1 | 20 | |
| Lithium | mg/L | 0.00090J | 0.05 | 0.05 | 0.046J | 0.045J | 90 | 88 | 75-125 | 2 | 20 | |
| Molybdenum | mg/L | ND | 0.05 | 0.05 | 0.052 | 0.052 | 104 | 103 | 75-125 | 1 | 20 | |
| Selenium | mg/L | 0.00021J | 0.05 | 0.05 | 0.050 | 0.049 | 99 | 97 | 75-125 | 2 | 20 | |
| Thallium | mg/L | ND | 0.01 | 0.01 | 0.010 | 0.010 | 104 | 102 | 75-125 | 1 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2617072

QC Batch: 26251 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 2617072001, 2617072002, 2617072003

LABORATORY CONTROL SAMPLE: 118507

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers **Total Dissolved Solids** mg/L 400 404 101 84-108

SAMPLE DUPLICATE: 118508

2617035009 Dup Max RPD **RPD** Parameter Units Result Qualifiers Result **Total Dissolved Solids** 85.0 50.0 52 10 D6 mg/L

SAMPLE DUPLICATE: 118509

Date: 04/13/2019 07:37 AM

2617069003 Dup Max Result RPD RPD Qualifiers Parameter Units Result 340 **Total Dissolved Solids** mg/L 341 0 10

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



Project: Plant Hammond

Pace Project No.: 2617072

Date: 04/13/2019 07:37 AM

QC Batch: 26061 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 2617072001, 2617072002, 2617072003

METHOD BLANK: 117670 Matrix: Water

Associated Lab Samples: 2617072001, 2617072002, 2617072003

| | | Blank | Reporting | | | |
|-----------|-------|--------|-----------|-------|----------------|------------|
| Parameter | Units | Result | Limit | MDL | Analyzed | Qualifiers |
| Chloride | mg/L | 0.31 | 0.25 | 0.024 | 04/09/19 19:01 | |
| Fluoride | mg/L | ND | 0.30 | 0.029 | 04/09/19 19:01 | |
| Sulfate | mg/L | ND | 1.0 | 0.017 | 04/09/19 19:01 | |

| LABORATORY CONTROL SAMPLE: | 117671 | | | | | |
|----------------------------|--------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Chloride | mg/L | 10 | 10.1 | 101 | 90-110 | |
| Fluoride | mg/L | 10 | 9.4 | 94 | 90-110 | |
| Sulfate | mg/L | 10 | 10.8 | 108 | 90-110 | |

| MATRIX SPIKE & MATRIX SPIR | (E DUPLIC | CATE: 117672 | 2 | | 117673 | | | | | | | |
|----------------------------|-----------|--------------|-------|-------|--------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2617069001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Chloride | mg/L | 6.9 | 10 | 10 | 16.0 | 16.1 | 91 | 92 | 90-110 | 1 | 15 | |
| Fluoride | mg/L | 0.042J | 10 | 10 | 9.0 | 9.1 | 89 | 91 | 90-110 | 2 | 15 | M1 |
| Sulfate | mg/L | 358 | 10 | 10 | 224 | 224 | -1340 | -1330 | 90-110 | 0 | 15 | M1 |

| MATRIX SPIKE SAMPLE: | 117674 | | | | | | |
|----------------------|--------|----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter | Units | 2617069002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
| Chloride | mg/L | 7.2 | 10 | 16.3 | 91 | 90-110 | |
| Fluoride | mg/L | 0.045J | 10 | 9.3 | 92 | 90-110 | |
| Sulfate | mg/L | 369 | 10 | 226 | -1430 | 90-110 N | 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.



QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2617072

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

Date: 04/13/2019 07:37 AM

B Analyte was detected in the associated method blank.

D6 The precision between the sample and sample duplicate exceeded laboratory control limits.

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

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2617072

Date: 04/13/2019 07:37 AM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|-----------------|----------|-------------------|---------------------|
| 2617072001 | HGWC-15 | EPA 3010A | 468126 | EPA 6020B | 468248 |
| 2617072002 | HGWC-16 | EPA 3010A | 468126 | EPA 6020B | 468248 |
| 2617072003 | MW-21D | EPA 3010A | 468126 | EPA 6020B | 468248 |
| 2617072001 | HGWC-15 | SM 2540C | 26251 | | |
| 2617072002 | HGWC-16 | SM 2540C | 26251 | | |
| 2617072003 | MW-21D | SM 2540C | 26251 | | |
| 2617072001 | HGWC-15 | EPA 300.0 | 26061 | | |
| 2617072002 | HGWC-16 | EPA 300.0 | 26061 | | |
| 2617072003 | MW-21D | EPA 300.0 | 26061 | | |

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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: | 7 2 6 Y |
|-----------------------|--|---|---|--|
| Company: | Georgia Power - Coal Combustion Residuals | Report To: Joiu Abraham | Attention: scsinvoices@southernco.com | |
| Address: | 2480 Maner Road | Copy To: Lauren Petty Geosyntec | Į | |
| nta G | | | Address | |
| | @southernco.com | Purchase Order #; SC310348608 | Pace Quote: | |
|] [8 | Fax | Project Name: Plant Hammond | Pace Project Manager: hatev modernie/@pacelahs.com | |
| ueste | | Project #: | (AP) | 90 |
| | | | l | |
| | | - | | |
| | MATRIX | CODE & S COLLECTED | Preservatives | |
| | SAMPLEID | S & W W W | \$ \$ (O 3 d .V) .qq | (N/A) o |
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| | HCWC-16 | 12:39 WWIP 12:57 | 4 | |
| 0 | MW-21D | X:3 | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | |
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| e | | | | .2617072 |
| 3730 S | | | FB. :Ed | Due Date: 04/12/19 |
| | | | CLIENT: G | GAPouer-CCR |
| C | | | | |
| | Amaticolativo surientes | Remadosico en la princia Control | THE ACCEMENTATIONS | Grandinos Salaritas Salari |
| APP.1 | III + IV (3): Arsenic, Barlum | 1, Dalton Anderson (See) 4/14/19 | 1 1804 July | 91804 |
| 7 | Beryillum, Cadollam, Chromiani | 1/2 | -4-19 20 80 /2 Tran- / Conxyeta 4/4/19 | 20.32 |
| Y. | ity Elmeride, Lea | 16 15 Jan / 6 cos wee 415/19 | 0833 X - 1 Pare 45,19 | 0453 |
| | barram, Selevium, Thailinm | | MAGINDAN WISTI | 9112012 7 7 7 |
|) Page | | PRINT Name of SAMPLER: | | uo p |
| e 15 o | | | DATE Signed II 17 10 | trect (subject of the control of the |
| f 16 | | 7/800 | 1/4 | 5 () () () () () () () () () () |

| · Control of the cont | Sample | Condition | Upon Receipt | | l I |
|--|--|--|--|-----------------------------|------------------------|
| Pace Analy | tical Client Name: | GCA, | Powere | Project # | |
| Courier: Fed E | x 🗌 UPS 🗎 USPS 🗎 Client [| ☐ Commercial → | Pace Other | WO#:26 | |
| | ooler/Box Present:yes | no Seals | intact: | PM: BM CLIENT: GAPou | Due Date: 04/12/19 |
| | Bubble Wrap Bubble Bags | _ | | CLIENI: GHPON | Br-cck |
| Thermometer Used | II .~ | e of Ice: Wei | | Samples on ice. coo | ling process has begun |
| Cooler Temperatur | | | is Frozen: Yes No | Date and Initial | s, of person examining |
| Temp should be above | | | Comments: | contents: | 1/5/14 m |
| Chain of Custody P | resent: 🔎 | es Ono On/A | 1. | | |
| Chain of Custody Fi | ااed Out: العالم | es □No □N/A | 2. | | |
| Chain of Custody R | elinquished: | es □No □N/A | 3. | | |
| Sampler Name & Si | gnature on COC: | es □No □N/A | 4. | | |
| Samples Arrived with | thin Hold Time: | es □No □N/A | 5. | | |
| Short Hold Time A | nalysis (<72hr): | es ⊡No □N/A | 6. | | |
| Rush Turn Around | Time Requested: | es 🕬 🗆 N/A | 7. | | |
| Sufficient Volume: | 5 | es □No □N/A | 8. | | |
| Correct Containers | Used: -□√ | es 🗆 No 🗆 N/A | 9. | | |
| -Pace Container | s Used: •□ | es 🗆 No 🗆 N/A | | | |
| Containers Intact: | -25 | es 🗆 No 🗆 N/A | 10. | | |
| Filtered volume reco | eived for Dissolved tests | es 🗆 No 🗷 MIA | 11. | | |
| Sample Labels mate | ch COC: | es □no □n/a | 12. | : | |
| -Includes date/tir | ne/ID/Analysis Matrix: | \mathcal{W} | | | |
| All containers needing | reservation have been checked. | es □no □n/a | 13. | | |
| All containers needing compliance with EPA | preservation are found to be in ecommendation. | es 🗆 No 🗆 N/A | | | |
| exceptions: VOA, colifor | m, TOC, O&G, WI-DRO (water) | es - ENO | Initial when completed | Lot # of added preservative | |
| Samples checked for | or dechlorination: | es □No J⊒N7A* | 14. | | |
| Headspace in VOA | Vials (>6mm): □ | es 🗆 No 🗷 N7A | 15. | | |
| Trip Blank Present: | | es □No □N /A | 16. | | |
| Trip Blank Custody | Seals Present | es 🗆 No 🖼 🗖 🧸 | | | |
| Pace Trip Blank Lot | # (if purchased): | | | | |
| Client Notification | Resolution: | | | Field Data Require | 1? Y / N |
| Person Cont | | Date/ | Time: | Tiold Bala Hogana | , , ,, |
| Comments/ Reso | | | | | |
| | | | | | |
| - | | | | | |
| | | | | | |
| | | | | | |
| Project Manage | r Review: | | | Date: | |
| Note: Whenever there Certification Office (i. | e is a discrepancy affecting North Carolir out of hold, incorrect preservative, out | a compliance san of temp, incorrect | nples, a copy of this for containers) | m will be sent to the Nort | h Carolina DEHNR |

F-ALLC003rev.3, 11September 2006 of 16





April 29, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2617073

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on April 05, 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

Beton M Damil

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



(770)734-4200



CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2617073

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 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

Missouri Certification #: 235

Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282

South Dakota Certification
Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3 Utah/TNI Certification #: PA014572017-9 USDA Soil Permit #: P330-17-00091 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 9526 Washington Certification #: C868 West Virginia DEP Certification #: 143 West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L



SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2617073

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2617073001 | HGWC-15 | Water | 04/04/19 10:44 | 04/05/19 11:20 |
| 2617073002 | HGWC-16 | Water | 04/04/19 12:52 | 04/05/19 11:20 |
| 2617073003 | MW-21D | Water | 04/04/19 15:38 | 04/05/19 11:20 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2617073

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|--------------------------|----------|----------------------|------------|
| 2617073001 | HGWC-15 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2617073002 | HGWC-16 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2617073003 | MW-21D | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2617073

| Sample: HGWC-15 PWS: | Lab ID: 26170730 Site ID: | O1 Collected: 04/04/19 10:44 Sample Type: | Received: | 04/05/19 11:20 | Matrix: Water | |
|-------------------------|-------------------------------------|--|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | | 0.122 ± 0.231 (0.531) C:92% T:NA | pCi/L | 04/17/19 08:36 | 13982-63-3 | |
| Radium-228 | EPA 9320 | 0.390 ± 0.335 (0.679) C:83% T:87% | pCi/L | 04/18/19 12:30 | 15262-20-1 | |
| Total Radium | Total Radium Calculation | 0.512 ± 0.566 (1.21) | pCi/L | 04/22/19 11:17 | 7440-14-4 | |



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2617073

| Sample: HGWC-16 PWS: | Lab ID: 26170730 Site ID: | O2 Collected: 04/04/19 12:52 Sample Type: | Received: | 04/05/19 11:20 | Matrix: Water | |
|-------------------------|-------------------------------------|--|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | | 0.217 ± 0.246 (0.484) C:77% T:NA | pCi/L | 04/17/19 08:36 | 13982-63-3 | |
| Radium-228 | | 0.743 ± 0.401 (0.730) C:86% T:79% | pCi/L | 04/18/19 12:30 | 15262-20-1 | |
| Total Radium | Total Radium Calculation | 0.960 ± 0.647 (1.21) | pCi/L | 04/22/19 11:17 | 7 7440-14-4 | |



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2617073

| Sample: MW-21D PWS: | Lab ID: 26170730 Site ID: | Collected: 04/04/19 15:38 Sample Type: | Received: | 04/05/19 11:20 | Matrix: Water | |
|------------------------|-------------------------------------|---|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | EPA 9315 | 0.276 ± 0.222 (0.361) C:95% T:NA | pCi/L | 04/17/19 08:36 | 13982-63-3 | |
| Radium-228 | EPA 9320 | 0.515 ± 0.378 (0.745) C:85% T:80% | pCi/L | 04/18/19 12:30 | 15262-20-1 | |
| Total Radium | Total Radium Calculation | 0.791 ± 0.600 (1.11) | pCi/L | 04/22/19 11:17 | 7 7440-14-4 | |



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2617073

QC Batch: 337917 Analysis Method: EPA 9315

QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium

Associated Lab Samples: 2617073001, 2617073002, 2617073003

METHOD BLANK: 1644525 Matrix: Water

Associated Lab Samples: 2617073001, 2617073002, 2617073003

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-226 0.221 ± 0.211 (0.378) C:90% T:NA pCi/L 04/17/19 08:36

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.



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2617073

QC Batch: 337911 Analysis Method: EPA 9320

QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228

Associated Lab Samples: 2617073001, 2617073002, 2617073003

METHOD BLANK: 1644521 Matrix: Water

Associated Lab Samples: 2617073001, 2617073002, 2617073003

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-228 0.526 ± 0.315 (0.569) C:87% T:76% 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.



QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2617073

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

Date: 04/29/2019 03:33 PM

PASI-PA Pace Analytical Services - Greensburg



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2617073

Date: 04/29/2019 03:33 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytica Batch |
|------------|-----------|--------------------------|----------|-------------------|--------------------|
| 2617073001 | HGWC-15 | EPA 9315 | 337917 | | |
| 2617073002 | HGWC-16 | EPA 9315 | 337917 | | |
| 2617073003 | MW-21D | EPA 9315 | 337917 | | |
| 2617073001 | HGWC-15 | EPA 9320 | 337911 | | |
| 2617073002 | HGWC-16 | EPA 9320 | 337911 | | |
| 2617073003 | MW-21D | EPA 9320 | 337911 | | |
| 2617073001 | HGWC-15 | Total Radium Calculation | 339290 | | |
| 2617073002 | HGWC-16 | Total Radium Calculation | 339290 | | |
| 2617073003 | MW-21D | Total Radium Calculation | 339290 | | |

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

COLUMN MROGUIATORY Agency (N/A) saidwes (N/A) Cooler ŏ Polices Custody (N/A) Received on g MO# 2617073 Residual Chlorine (Y/N) Page: TEMP in C 30 30 2933 4-4-19 1804 DATE Signed: OU/OU/14 BATE 61/4/1 ACCEPTED BY (AFFILATION 8SZ/9SS muiba9 D2' CI' E' 204 7227 (O&O & III & Q&A) aleteN betsy modaniel@pacelabs.com Mets (App. III, App. IV, D&O Jan Jak Pore Metals (App. III & App. IV) N/X Analyses Test Attention: scsinvoices@southernco.com Company Name: Pace Profile #: 327 (AP) or 328 (Huff) Olher SIGNATURE OF SAMPLER: & CONT. COLLEGE Nethanol Preservatives Na2S2O3 PRINT Name of SAMPLER: Grant Walter HOBN ace Project Manager ЮН nvoice Information: еомн 3 ace Quote: 4-4-8 2030 15204 0933 DOLONIA 1004 Section C SAMPLER VANE AND SIGNATURE Address: Jupreserved 3 S # OF CONTAINERS **DITE** 115/19 22 SAMPLE TEMP AT COLLECTION | JP:44 DATE WT 6 OM AN 10:23 OHEN PER RETWOMSHED BY JAFFILATION APP I (3): Acente, Brium, Boylling Grad Walto / Georgabee COLLECTED Garreta Copy To: Lauren Petty, Geosyntec Purchase Order #: SCS10348606 Project Name: Plant Hammond Project #: START Required Project Information: Report To: Joju Abraham DATE (G-GRAB C-COMP) BAYT BJAMAS Mossin MATRIX CODE (see valid codes to left) Section B Cadmium, Chromium, Cobalt, Fluorida MATRIX
Directory Wester
Waster
Waster
Waster
Waster
Waster
Waster
Waster
Col
Wipe
Au
Gher
Tissue Abbritolial countering Lead, Lithium, Molybolerum, Phone: (404)\$05-7239 |Fax: Requested Due Date: Stork Band TRY (A-Z, 0-9 / , -) Sample Ids must be unique SAMPLE ID One Character per box. Schiller, Thelling Required Client Information: Company: Georgia Power - Coal med postantant@southernco.com 2480 Maner Road あり、ス Allanta, GA 30339 Address: ē 6.7 . 6 Ö LEW # Page 12 of 14

- Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

(N/A) PLE CONTINONS peln Samples (N/A) ŏ Cooler Due Date: 05/03/19 - Regulatory Aparcy Series Series Colorador perceg Custody 6 (N/A) 8 Received on Residual Chlorina (Y/V) MO#:2617073 Divi GMET 120 20 25 0833 CLIENT: GRPower-CCR 4-4-19 1804 Ander Lan Date Signed ! 4 / 2019 DATE 11/4/11 8\$\$\825 mulbeA PM: BM LDS' CI' L' 204 Metals (App. III & D&O) betsy modaniel@pacelabs.com ACCEPTED BY LAFFILIATION Mets (App. III, App. IV, D&O man ノーセスァルブン Pert & Metals (App. III & App. IV) N٨ Analyses Test Attention: scsinvoices@southernco.com 327 (AP) or 328 (Huff tonariteM Preservatives Na2S2O3 Bioni HOSN Pace Quote: Pace Project Manager: HCI Section C Invoice Information: Palter EONH n 8 Company Name ace Profile #: 0433 1520¢ 4-4-19/4/DXC 1804 Address: Unpreserved H SAMPLER NAME AND SIGNATURE 5 2 SHENIATION TO 6 1 मामिटः १ पामित १८:34 मामि 644M9 12:344MP 12:52AB PRINT Name of SAMPLER: DO TO SAMPLE TEMP AT COLLECTION Anothers on (Ges 74/4/19 SIGNATURE OF GAMPLER: 61/2/1 SS DATE COLLECTED REINOVISHED BY (AFFILIATION からなって TIME Lauren Petty, Geosyntec Purchase Order #: SCS10348606 START Plant Hammond Required Project Information: DATE Report To: Joju Abraham (G-GRAB C-COMP) **34YT 3J9MA2** APP TI 4-TV (3). Arsenic, Barlum, Dalton MATRIX CODE (see valid codes to left) 3 4 Project Name: Project #: Copy To: Section B 8 ₹₹60 ~ 49 \$ \$ ₽ £ Beryillsom, Cadmism, Chromison MATRUX
Derixing Water
Water
Water
Waste Water
Product
SourSoad
Oil
Wipe
Wipe
Au
Cha besits Elwaride, lead, lithium, Sclenium, Thailinm Georgia Power - Coal Combustion Residuals ADDITIONAL COLLIDARS One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique ピーンタの土 MW-2ID SAMPLE ID Email: jabraham@southernco.com 2480 Maner Road (404)506-7239 Required Cilent Information: Morlisbarram Requested Due Date Allanta, GA 30339 Ó 9 9 8 . V # MaTi Page 13 of 14

| | - Carr | 1315 | OUTIC | AILIO! | opon Keceipi | | | |
|--|---|------------------|--------------------|-------------------|---------------------------------------|----------|---------------------------------------|-------------------------|
| Face Anal | <i>ytical</i> Client Name: | 1 | 5(7 | 4_ | Powere | | Project # | |
| Courier: Fed I | Ex UPS USPS Client | | Comm | ercial . | Pace Other | | JO#:26 | |
| | ooler/Box Present:yes | | no | Seals | intact: ves | 11 * | M: BM | Due Date: 05/03 |
| | ☐ Bubble Wrap ☐ Bubble 8 | | | | | | LIENT: GAPO | er-CCR |
| Thermometer Use | l: 23 - | | | | Blue None | \vdash | Samples on ice co | oling process has begun |
| Cooler Temperatu | II. | | | _ | is Frozen: Yes No | | Date and Initia | s, of person examining |
| Temp should be abov | | | | | Comments: | | contents: | 7/5/19 m |
| Chain of Custody P | resent: | _⊒nes | □No | □n/a | 1. | İ | | |
| Chain of Custody F | illed Out: | _ ZYes | □No | □n/a | 2. | | | |
| Chain of Custody R | elinquished: | ÆYes | □No | □n/a | 3. | - | | |
| Sampler Name & S | gnature on COC: | ÆYes | □No | □n/a | 4. | | | |
| Samples Arrived wit | thin Hold Time: | EYes | □No | □n/a | 5. | | | |
| Short Hold Time A | nalysis (<72hr): | □Yes | <u>⊟</u> 400 | [™] □N/A | 6. | | | |
| Rush Turn Around | Time Requested: | □Yes | [] 46 | □n/a | 7. | | | |
| Sufficient Volume: | | €IYes | □No | □n/a | 8. | | | |
| Correct Containers | Used: | TYES | □No | □n/a | 9. | | : | |
| -Pace Container | s Used: | TYES | □No | □n/a | | | | |
| Containers Intact: | | EJY es | □No | □n/a | 10. | | | |
| Filtered volume rece | lved for Dissolved tests | □Y∌s | □No | -DN/A | 11. | | | |
| Sample Labels mate | n COC: | □¥°ES | □No | □n/a | 12. | | | |
| -Includes date/tir | ne/ID/Analysis Matrix: | | ω | _ | | | : | |
| All containers needing p | reservation have been checked. | ₽y is | □No | □n/a | 13. | | | |
| All containers needing compliance with EPA r | preservation are found to be in ecommendation. | -DY s | □No | □n/a | | | | |
| exceptions: VOA, coliforn | m. TOC, O&G, WI-DRO (water) | □Yes⊶ | - □NO | | Initial when completed | | Lot # of added preservative | |
| Samples checked for | r dechlorination: | □Yes | □No · | .DNA | 14. | ĺ | : | |
| Headspace in VOA | Vials (>6mm): | □Yes | □No . | -EN/A | 15. | | | |
| Trip Blank Present: | | □Yes | □No | ₽ N7R | 16. | | | |
| Trip Blank Custody | Seals Present | □Yes | □No | □ N/A | | | | |
| Pace Trip Blank Lot | # (if purchased): | | | | | | | |
| Client Notification/ | Resolution: | \dashv | | | | | Field Data Required | 2 V / M |
| Person Conta | | | | Date/1 | Time [.] | li | Field Data Required | ? Y/N |
| Comments/ Resol | · | | | | | h - | | |
| | | | | | | ĺ | | - |
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| | | | | | | | | |
| | | | | | | | · · · · · · · · · · · · · · · · · · · | |
| Project Manager | Review: | | | | | | Date: | |
| Note: Whenever there Certification Office (i.e | is a discrepancy affecting North Care out of hold, incorrect preservative, o | rolina co | ompliar emp. in | nce sam | nples, a copy of this for | m wi | I be sent to the North | Carolina DEHNR |
| | D | | | | · · · · · · · · · · · · · · · · · · · | 11 | | |

F-ALLC008rev.3, 11September2006





May 01, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2617150

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 4/15/2019. 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

Beton M Damil

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





CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2617150

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



SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2617150

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2617150001 | MW-22 | Water | 04/05/19 09:59 | 04/08/19 15:30 |
| 2617150002 | MW-23D | Water | 04/05/19 11:33 | 04/08/19 15:30 |
| 2617150003 | HGWC-14 | Water | 04/05/19 12:52 | 04/08/19 15:30 |
| 2617150004 | HGWC-17 | Water | 04/05/19 12:25 | 04/08/19 15:30 |
| 2617150005 | HGWC-18 | Water | 04/05/19 14:25 | 04/08/19 15:30 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2617150

| Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-----------|--------------------------|---|----------------------|--|
| MW-22 | EPA 6020B | JMW1, SER | 13 | PASI-A |
| | SM 2540C | RLC | 1 | PASI-GA |
| | EPA 300.0 | RLC | 3 | PASI-GA |
| MW-23D | EPA 6020B | JMW1, SER | 13 | PASI-A |
| | SM 2540C | RLC | 1 | PASI-GA |
| | EPA 300.0 | RLC | 3 | PASI-GA |
| HGWC-14 | EPA 6020B | JMW1, SER | 13 | PASI-A |
| | SM 2540C | RLC | 1 | PASI-GA |
| | EPA 300.0 | RLC | 3 | PASI-GA |
| HGWC-17 | EPA 6020B | JMW1, SER | 13 | PASI-A |
| | SM 2540C | RLC | 1 | PASI-GA |
| | EPA 300.0 | RLC | 3 | PASI-GA |
| HGWC-18 | EPA 6020B | JMW1 | 13 | PASI-A |
| | SM 2540C | RLC | 1 | PASI-GA |
| | EPA 300.0 | RLC | 3 | PASI-GA |
| | MW-23D HGWC-14 HGWC-17 | MW-22 EPA 6020B SM 2540C EPA 300.0 MW-23D EPA 6020B SM 2540C EPA 300.0 HGWC-14 EPA 6020B SM 2540C EPA 300.0 HGWC-17 EPA 6020B SM 2540C EPA 300.0 HGWC-17 EPA 6020B SM 2540C EPA 300.0 EPA 6020B SM 2540C EPA 300.0 EPA 6020B SM 2540C | MW-22 | Sample ID Method Analysts Reported MW-22 EPA 6020B JMW1, SER 13 SM 2540C RLC 1 EPA 300.0 RLC 3 MW-23D EPA 6020B JMW1, SER 13 SM 2540C RLC 1 EPA 300.0 RLC 3 HGWC-14 EPA 6020B JMW1, SER 13 SM 2540C RLC 1 EPA 300.0 RLC 3 HGWC-17 EPA 6020B JMW1, SER 13 SM 2540C RLC 1 EPA 300.0 RLC 1 EPA 6020B JMW1, SER 13 HGWC-18 EPA 6020B JMW1, SER 13 SM 2540C RLC 1 EPA 6020B JMW1 13 SM 2540C RLC 1 SM 2540C RLC 1 |



ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2617150

Date: 05/01/2019 03:28 PM

| Sample: MW-22 | Lab ID: | 2617150001 | Collecte | ed: 04/05/19 | 9 09:59 | Received: 04/ | 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 Pre | paration Met | thod: EF | PA 3010A | | • | - |
| Arsenic | ND | mg/L | 0.10 | 0.0012 | 20 | 04/10/19 19:59 | 04/11/19 21:28 | 7440-38-2 | D3 |
| Barium | 0.036 | mg/L | 0.010 | 0.000060 | 1 | 04/10/19 19:59 | 04/12/19 07:51 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000050 | 1 | 04/10/19 19:59 | 04/12/19 07:51 | 7440-41-7 | |
| Boron | 2.1 | mg/L | 2.0 | 0.051 | 20 | 04/10/19 19:59 | 04/11/19 21:28 | 7440-42-8 | |
| Cadmium | 0.00064J | mg/L | 0.0010 | 0.000070 | 1 | 04/10/19 19:59 | 04/12/19 07:51 | 7440-43-9 | |
| Calcium | 178 | mg/L | 10.0 | 0.41 | 20 | 04/10/19 19:59 | 04/11/19 21:28 | 7440-70-2 | |
| Chromium | ND | mg/L | 0.010 | 0.00042 | 1 | 04/10/19 19:59 | 04/12/19 07:51 | 7440-47-3 | |
| Cobalt | 0.022 | mg/L | 0.010 | 0.000050 | 1 | 04/10/19 19:59 | 04/12/19 07:51 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.000050 | 1 | 04/10/19 19:59 | 04/12/19 07:51 | 7439-92-1 | ВС |
| Lithium | 0.0013J | mg/L | 0.050 | 0.00042 | 1 | 04/10/19 19:59 | 04/12/19 07:51 | 7439-93-2 | |
| Molybdenum | 0.00013J | mg/L | 0.010 | 0.00010 | 1 | 04/10/19 19:59 | 04/12/19 07:51 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.000080 | 1 | 04/10/19 19:59 | 04/12/19 07:51 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.000060 | 1 | 04/10/19 19:59 | 04/12/19 07:51 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 890 | mg/L | 25.0 | 10.0 | 1 | | 04/11/19 20:53 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Chloride | 131 | mg/L | 6.2 | 0.60 | 25 | | 04/15/19 19:25 | 16887-00-6 | |
| Fluoride | 0.13J | mg/L | 0.30 | 0.029 | 1 | | 04/10/19 22:49 | 16984-48-8 | |
| Sulfate | 392 | mg/L | 25.0 | 0.42 | 25 | | 04/15/19 19:25 | 14808-79-8 | |



ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2617150

Date: 05/01/2019 03:28 PM

| Sample: MW-23D | Lab ID: | 2617150002 | Collecte | ed: 04/05/19 | 9 11:33 | Received: 04/ | 08/19 15:30 Ma | atrix: Water | |
|------------------------------|------------|---------------|-----------|--------------|----------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results – | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020 MET ICPMS | Analytical | Method: EPA 6 | 6020B Pre | paration Met | thod: Ef | PA 3010A | | | |
| Arsenic | ND | mg/L | 0.10 | 0.0012 | 20 | 04/10/19 19:59 | 04/11/19 21:35 | 7440-38-2 | D3 |
| Barium | 0.061 | mg/L | 0.010 | 0.000060 | 1 | 04/10/19 19:59 | 04/12/19 07:58 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000050 | 1 | 04/10/19 19:59 | 04/12/19 07:58 | 7440-41-7 | |
| Boron | 3.0 | mg/L | 2.0 | 0.051 | 20 | 04/10/19 19:59 | 04/11/19 21:35 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0010 | 0.000070 | 1 | 04/10/19 19:59 | 04/12/19 07:58 | 7440-43-9 | |
| Calcium | 352 | mg/L | 25.0 | 1.0 | 50 | 04/10/19 19:59 | 04/15/19 11:07 | 7440-70-2 | |
| Chromium | ND | mg/L | 0.010 | 0.00042 | 1 | 04/10/19 19:59 | 04/12/19 07:58 | 7440-47-3 | |
| Cobalt | 0.0012J | mg/L | 0.010 | 0.000050 | 1 | 04/10/19 19:59 | 04/12/19 07:58 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.000050 | 1 | 04/10/19 19:59 | 04/12/19 07:58 | 7439-92-1 | ВС |
| Lithium | 0.0021J | mg/L | 0.050 | 0.00042 | 1 | 04/10/19 19:59 | 04/12/19 07:58 | 7439-93-2 | |
| Molybdenum | 0.0014J | mg/L | 0.010 | 0.00010 | 1 | 04/10/19 19:59 | 04/12/19 07:58 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.000080 | 1 | 04/10/19 19:59 | 04/12/19 07:58 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.000060 | 1 | 04/10/19 19:59 | 04/12/19 07:58 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 1400 | mg/L | 25.0 | 10.0 | 1 | | 04/11/19 20:53 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Chloride | 195 | mg/L | 6.2 | 0.60 | 25 | | 04/15/19 19:48 | 16887-00-6 | |
| Fluoride | 0.14J | mg/L | 0.30 | 0.029 | 1 | | 04/10/19 23:10 | 16984-48-8 | |
| Sulfate | 585 | mg/L | 25.0 | 0.42 | 25 | | 04/15/19 19:48 | 14808-79-8 | |



Date: 05/01/2019 03:28 PM

ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2617150

| Sample: HGWC-14 | Lab ID: | 2617150003 | Collecte | ed: 04/05/19 | 12:52 | Received: 04/ | 08/19 15:30 Ma | atrix: Water | |
|------------------------------|------------|--------------|-----------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020 MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Met | hod: Ef | PA 3010A | | | |
| Arsenic | ND | mg/L | 0.10 | 0.0012 | 20 | 04/10/19 19:59 | 04/11/19 21:42 | 7440-38-2 | D3 |
| Barium | 0.016 | mg/L | 0.010 | 0.000060 | 1 | 04/10/19 19:59 | 04/12/19 08:05 | 7440-39-3 | |
| Beryllium | 0.00027J | mg/L | 0.0030 | 0.000050 | 1 | 04/10/19 19:59 | 04/12/19 08:05 | 7440-41-7 | |
| Boron | 12.5 | mg/L | 5.0 | 0.13 | 50 | 04/10/19 19:59 | 04/15/19 11:11 | 7440-42-8 | |
| Cadmium | 0.000079J | mg/L | 0.0010 | 0.000070 | 1 | 04/10/19 19:59 | 04/12/19 08:05 | 7440-43-9 | |
| Calcium | 606 | mg/L | 50.0 | 2.1 | 100 | 04/10/19 19:59 | 04/15/19 11:39 | 7440-70-2 | |
| Chromium | ND | mg/L | 0.010 | 0.00042 | 1 | 04/10/19 19:59 | 04/12/19 08:05 | 7440-47-3 | |
| Cobalt | 0.021 | mg/L | 0.010 | 0.000050 | 1 | 04/10/19 19:59 | 04/12/19 08:05 | 7440-48-4 | |
| Lead | 0.0012J | mg/L | 0.0050 | 0.000050 | 1 | 04/10/19 19:59 | 04/12/19 08:05 | 7439-92-1 | ВС |
| Lithium | ND | mg/L | 0.050 | 0.00042 | 1 | 04/10/19 19:59 | 04/12/19 08:05 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.00010 | 1 | 04/10/19 19:59 | 04/12/19 08:05 | 7439-98-7 | |
| Selenium | 0.00091J | mg/L | 0.010 | 0.000080 | 1 | 04/10/19 19:59 | 04/12/19 08:05 | 7782-49-2 | |
| Thallium | 0.00028J | mg/L | 0.0010 | 0.000060 | 1 | 04/10/19 19:59 | 04/12/19 08:05 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 2540C | | | | | | |
| Total Dissolved Solids | 2310 | mg/L | 25.0 | 10.0 | 1 | | 04/11/19 20:53 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Chloride | 227 | mg/L | 5.0 | 0.48 | 20 | | 04/15/19 20:11 | 16887-00-6 | |
| Fluoride | 0.66 | mg/L | 0.30 | 0.029 | 1 | | 04/10/19 23:31 | 16984-48-8 | |
| Sulfate | 1520 | mg/L | 50.0 | 0.85 | 50 | | 04/15/19 20:34 | 14808-79-8 | |



ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2617150

Date: 05/01/2019 03:28 PM

| Sample: HGWC-17 | Lab ID: | 2617150004 | Collecte | ed: 04/05/19 | 9 12:25 | Received: 04/ | 08/19 15:30 Ma | atrix: Water | |
|------------------------------|------------|--------------|-----------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020 MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Met | hod: EF | PA 3010A | | | |
| Arsenic | ND | mg/L | 0.10 | 0.0012 | 20 | 04/10/19 19:59 | 04/11/19 21:49 | 7440-38-2 | D3 |
| Barium | 0.022 | mg/L | 0.010 | 0.000060 | 1 | 04/10/19 19:59 | 04/12/19 08:12 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000050 | 1 | 04/10/19 19:59 | 04/12/19 08:12 | 7440-41-7 | |
| Boron | 5.9 | mg/L | 2.0 | 0.051 | 20 | 04/10/19 19:59 | 04/11/19 21:49 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0010 | 0.000070 | 1 | 04/10/19 19:59 | 04/12/19 08:12 | 7440-43-9 | |
| Calcium | 340 | mg/L | 25.0 | 1.0 | 50 | 04/10/19 19:59 | 04/15/19 11:14 | 7440-70-2 | |
| Chromium | ND | mg/L | 0.010 | 0.00042 | 1 | 04/10/19 19:59 | 04/12/19 08:12 | 7440-47-3 | |
| Cobalt | 0.016 | mg/L | 0.010 | 0.000050 | 1 | 04/10/19 19:59 | 04/12/19 08:12 | 7440-48-4 | |
| Lead | 0.000076J | mg/L | 0.0050 | 0.000050 | 1 | 04/10/19 19:59 | 04/12/19 08:12 | 7439-92-1 | ВС |
| Lithium | 0.00074J | mg/L | 0.050 | 0.00042 | 1 | 04/10/19 19:59 | 04/12/19 08:12 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.00010 | 1 | 04/10/19 19:59 | 04/12/19 08:12 | 7439-98-7 | |
| Selenium | 0.000093J | mg/L | 0.010 | 0.000080 | 1 | 04/10/19 19:59 | 04/12/19 08:12 | 7782-49-2 | |
| Thallium | 0.00013J | mg/L | 0.0010 | 0.000060 | 1 | 04/10/19 19:59 | 04/12/19 08:12 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 1260 | mg/L | 25.0 | 10.0 | 1 | | 04/11/19 20:53 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Chloride | 195 | mg/L | 6.2 | 0.60 | 25 | | 04/15/19 20:56 | 16887-00-6 | |
| Fluoride | 0.16J | mg/L | 0.30 | 0.029 | 1 | | 04/10/19 23:52 | 16984-48-8 | |
| Sulfate | 642 | mg/L | 25.0 | 0.42 | 25 | | 04/15/19 20:56 | 14808-79-8 | |



ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2617150

Date: 05/01/2019 03:28 PM

| Sample: HGWC-18 | Lab ID: | 2617150005 | Collecte | ed: 04/05/1 | 9 14:25 | Received: 04/ | 08/19 15:30 Ma | atrix: Water | | |
|------------------------------|------------|--------------|-----------------|-------------|----------|----------------|----------------|--------------|------|--|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual | |
| 6020 MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Me | thod: Ef | PA 3010A | | | | |
| Arsenic | 0.0015J | mg/L | 0.10 | 0.0012 | 20 | 04/10/19 19:59 | 04/11/19 22:23 | 7440-38-2 | D3 | |
| Barium | 0.021 | mg/L | 0.010 | 0.000060 | 1 | 04/10/19 19:59 | 04/12/19 08:20 | 7440-39-3 | | |
| Beryllium | 0.0022J | mg/L | 0.0030 | 0.000050 | 1 | 04/10/19 19:59 | 04/12/19 08:20 | 7440-41-7 | | |
| Boron | 6.4 | mg/L | 2.0 | 0.051 | 20 | 04/10/19 19:59 | 04/11/19 22:23 | 7440-42-8 | | |
| Cadmium | 0.0017 | mg/L | 0.0010 | 0.000070 | 1 | 04/10/19 19:59 | 04/12/19 08:20 | 7440-43-9 | | |
| Calcium | 400 | mg/L | 25.0 | 1.0 | 50 | 04/10/19 19:59 | 04/15/19 11:18 | 7440-70-2 | | |
| Chromium | ND | mg/L | 0.010 | 0.00042 | 1 | 04/10/19 19:59 | 04/12/19 08:20 | 7440-47-3 | | |
| Cobalt | 0.14 | mg/L | 0.010 | 0.000050 | 1 | 04/10/19 19:59 | 04/12/19 08:20 | 7440-48-4 | | |
| Lead | 0.0015J | mg/L | 0.0050 | 0.000050 | 1 | 04/10/19 19:59 | 04/12/19 08:20 | 7439-92-1 | BC | |
| Lithium | 0.0084J | mg/L | 0.050 | 0.00042 | 1 | 04/10/19 19:59 | 04/12/19 08:20 | 7439-93-2 | | |
| Molybdenum | ND | mg/L | 0.010 | 0.00010 | 1 | 04/10/19 19:59 | 04/12/19 08:20 | 7439-98-7 | | |
| Selenium | 0.0018J | mg/L | 0.010 | 0.000080 | 1 | 04/10/19 19:59 | 04/12/19 08:20 | 7782-49-2 | | |
| Thallium | 0.00014J | mg/L | 0.0010 | 0.000060 | 1 | 04/10/19 19:59 | 04/12/19 08:20 | 7440-28-0 | | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | | |
| Total Dissolved Solids | 1610 | mg/L | 25.0 | 10.0 | 1 | | 04/11/19 20:54 | | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | | |
| Chloride | 217 | mg/L | 12.5 | 1.2 | 50 | | 04/15/19 21:19 | 16887-00-6 | | |
| Fluoride | 0.37 | mg/L | 0.30 | 0.029 | 1 | | 04/11/19 00:12 | 16984-48-8 | | |
| Sulfate | 1030 | mg/L | 50.0 | 0.85 | 50 | | 04/15/19 21:19 | 14808-79-8 | | |



Project: Plant Hammond

Pace Project No.: 2617150

Date: 05/01/2019 03:28 PM

 QC Batch:
 468616
 Analysis Method:
 EPA 6020B

 QC Batch Method:
 EPA 3010A
 Analysis Description:
 6020 MET

 Associated Lab Samples:
 2617150001, 2617150002, 2617150003, 2617150004, 2617150005

METHOD BLANK: 2545217 Matrix: Water

Associated Lab Samples: 2617150001, 2617150002, 2617150003, 2617150004, 2617150005

| | | Blank | Reporting | | | |
|------------|-------|--------|-----------|----------|----------------|------------|
| Parameter | Units | Result | Limit | MDL | Analyzed | Qualifiers |
| Arsenic | mg/L | ND | 0.0050 | 0.000060 | 04/11/19 20:31 | |
| Barium | mg/L | ND | 0.010 | 0.000060 | 04/11/19 20:31 | |
| Beryllium | mg/L | ND | 0.0030 | 0.000050 | 04/11/19 20:31 | |
| Boron | mg/L | ND | 0.10 | 0.0026 | 04/11/19 20:31 | |
| Cadmium | mg/L | ND | 0.0010 | 0.000070 | 04/11/19 20:31 | |
| Calcium | mg/L | ND | 0.50 | 0.021 | 04/11/19 20:31 | |
| Chromium | mg/L | ND | 0.010 | 0.00042 | 04/11/19 20:31 | |
| Cobalt | mg/L | ND | 0.010 | 0.000050 | 04/11/19 20:31 | |
| Lead | mg/L | ND | 0.0050 | 0.000050 | 04/11/19 20:31 | |
| Lithium | mg/L | ND | 0.050 | 0.00042 | 04/11/19 20:31 | |
| Molybdenum | mg/L | ND | 0.010 | 0.00010 | 04/11/19 20:31 | |
| Selenium | mg/L | ND | 0.010 | 0.000080 | 04/11/19 20:31 | |
| Thallium | mg/L | ND | 0.0010 | 0.000060 | 04/11/19 20:31 | |

| LABORATORY CONTROL SAMPLE: | 2545218 | | | | | |
|----------------------------|---------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Arsenic | mg/L | 0.01 | 0.0099 | 99 | 80-120 | |
| Barium | mg/L | 0.05 | 0.049 | 97 | 80-120 | |
| Beryllium | mg/L | 0.01 | 0.010 | 103 | 80-120 | |
| Boron | mg/L | 0.05 | 0.052J | 104 | 80-120 | |
| Cadmium | mg/L | 0.01 | 0.010 | 100 | 80-120 | |
| Calcium | mg/L | 0.62 | 0.64 | 102 | 80-120 | |
| Chromium | mg/L | 0.05 | 0.050 | 101 | 80-120 | |
| Cobalt | mg/L | 0.01 | 0.010 | 101 | 80-120 | |
| Lead | mg/L | 0.05 | 0.050 | 100 | 80-120 | |
| Lithium | mg/L | 0.05 | 0.052 | 105 | 80-120 | |
| Molybdenum | mg/L | 0.05 | 0.050 | 100 | 80-120 | |
| Selenium | mg/L | 0.05 | 0.050 | 100 | 80-120 | |
| Thallium | mg/L | 0.01 | 0.010 | 100 | 80-120 | |

| MATRIX SPIKE & MATRIX SPIK | E DUPLICA | ATE: 25452 | 19 | | 2545220 | | | | | | | |
|----------------------------|-----------|------------|-------|-------|---------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | 9 | 2424526001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Arsenic | mg/L | ND | 0.01 | 0.01 | 0.0094 | 0.0092 | 94 | 92 | 75-125 | 2 | 20 | |
| Barium | mg/L | 6.0 ug/L | 0.05 | 0.05 | 0.053 | 0.054 | 95 | 95 | 75-125 | 0 | 20 | |
| Beryllium | mg/L | 0.34 ug/L | 0.01 | 0.01 | 0.0098 | 0.0098 | 95 | 94 | 75-125 | 0 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2617150

Date: 05/01/2019 03:28 PM

| MATRIX SPIKE & MATRIX S | SPIKE DUPLICA | ATE: 25452 | 19 | | 2545220 | | | | | | | |
|-------------------------|---------------|------------|-------------|--------------|---------|--------|-------|-------|--------|-----|-----|------|
| | Ş | 2424526001 | MS Spike | MSD Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Boron | mg/L | 4.0J ug/L | 0.05 | 0.05 | 0.053J | 0.055J | 97 | 101 | 75-125 | 3 | 20 | |
| Cadmium | mg/L | ND | 0.01 | 0.01 | 0.010 | 0.0099 | 100 | 98 | 75-125 | 2 | 20 | |
| Calcium | mg/L | 5980 ug/L | 0.62 | 0.62 | 6.5 | 6.5 | 87 | 81 | 75-125 | 1 | 20 | |
| Chromium | mg/L | 1.4 ug/L | 0.05 | 0.05 | 0.050 | 0.050 | 98 | 98 | 75-125 | 0 | 20 | |
| Cobalt | mg/L | 0.91 ug/L | 0.01 | 0.01 | 0.011 | 0.011 | 98 | 98 | 75-125 | 0 | 20 | |
| Lead | mg/L | 3.1 ug/L | 0.05 | 0.05 | 0.050 | 0.049 | 93 | 92 | 75-125 | 1 | 20 | |
| Lithium | mg/L | 3.8 ug/L | 0.05 | 0.05 | 0.048J | 0.050 | 89 | 93 | 75-125 | 4 | 20 | |
| Molybdenum | mg/L | 0.14J ug/L | 0.05 | 0.05 | 0.049 | 0.049 | 99 | 98 | 75-125 | 1 | 20 | |
| Selenium | mg/L | ND | 0.05 | 0.05 | 0.048 | 0.047 | 96 | 94 | 75-125 | 2 | 20 | |
| Thallium | mg/L | ND | 0.01 | 0.01 | 0.0099 | 0.0098 | 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.



Project: Plant Hammond

Pace Project No.: 2617150

QC Batch: 26252 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 2617150001, 2617150002, 2617150003, 2617150004, 2617150005

LABORATORY CONTROL SAMPLE: 118510

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Total Dissolved Solids mg/L 400 408 102 84-108

SAMPLE DUPLICATE: 118512

Date: 05/01/2019 03:28 PM

2617150003 Dup Max RPD RPD Parameter Units Result Result Qualifiers **Total Dissolved Solids** 2310 2380 3 10 mg/L

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



Project: Plant Hammond

Pace Project No.: 2617150

Date: 05/01/2019 03:28 PM

QC Batch: 26135 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 2617150001, 2617150002, 2617150003, 2617150004, 2617150005

METHOD BLANK: 117979 Matrix: Water

Associated Lab Samples: 2617150001, 2617150002, 2617150003, 2617150004, 2617150005

| | | Blank | Reporting | | | |
|-----------|-------|--------|-----------|-------|----------------|------------|
| Parameter | Units | Result | 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 | | | | | |
|----------------------------|--------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % 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 SPIK | E DUPLIC | CATE: 11798 | 1 | | 117982 | | | | | | | |
|----------------------------|----------|-------------|-------|-------|--------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2617207001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | 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.



QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2617150

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

Date: 05/01/2019 03:28 PM

BC The same analyte was detected in an associated blank at a concentration above 1/2 the reporting limit but below the laboratory reporting limit.

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2617150

Date: 05/01/2019 03:28 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|-----------------|----------|-------------------|---------------------|
| 2617150001 | MW-22 | EPA 3010A | 468616 | EPA 6020B | 468672 |
| 2617150002 | MW-23D | EPA 3010A | 468616 | EPA 6020B | 468672 |
| 2617150003 | HGWC-14 | EPA 3010A | 468616 | EPA 6020B | 468672 |
| 2617150004 | HGWC-17 | EPA 3010A | 468616 | EPA 6020B | 468672 |
| 2617150005 | HGWC-18 | EPA 3010A | 468616 | EPA 6020B | 468672 |
| 2617150001 | MW-22 | SM 2540C | 26252 | | |
| 2617150002 | MW-23D | SM 2540C | 26252 | | |
| 2617150003 | HGWC-14 | SM 2540C | 26252 | | |
| 2617150004 | HGWC-17 | SM 2540C | 26252 | | |
| 2617150005 | HGWC-18 | SM 2540C | 26252 | | |
| 2617150001 | MW-22 | EPA 300.0 | 26135 | | |
| 2617150002 | MW-23D | EPA 300.0 | 26135 | | |
| 2617150003 | HGWC-14 | EPA 300.0 | 26135 | | |
| 2617150004 | HGWC-17 | EPA 300.0 | 26135 | | |
| 2617150005 | HGWC-18 | 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.

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|--|---|--|---------------------|------------------------------------|--------------------|-------------------|------------------------|--|-------------|----------------------------|------------|-------|-------------------|---|-------|---------|---|---------|---|-------------------------------|-------------------------|-------------|--------------------------------|------------------------|----------------------------|
| Page: 1 of 2 | | S. S. S. S. S. S. S. S. S. S. S. S. S. S | | State (State) (beaution) | GA | | (ViV) en | Residual Chlori | 1 | | | | | | | 2617150 | | | The same same and the same and | 5/\£! | 1945 | J. () | 4 (5 % (1) | ody er selos | \neg |
| | | \$4 | | Mabs.com, | | | O&O ,VI .qq/ (O&O & | Mets (App. III. Adap. III. Metals (App. III. TDS, Ct, F, SO. Redium 226/22 | | メメー | <u> </u> | | | | | #01 | | 2617150 | | 1(2007 mbc 4/5/14 | 11/2/19 | É | MAN PIX | | DATE Signed: CAL/US |
| tion: | scsinvoices@southemco.com | | | nager. betsy.mcdaniel@pacelabs.com | (AP) or 328 (Huff) | Preservatives 200 | 33.7J991. | HCI Metanot Othor Metanot Othor Metalos Othor | λ - - | · > | 7 | 1/1/0 |) | | | | | | ACCENTED BY (AFFILIATION | Mole Muchon | 19 Klaw (Bearinte | ST Wase | TAR COM | N. J. C. L. C. | Γ |
| Section C Invoice Information: | Attention: sca | Address: | Paca Ouoto: | Pace Project Manager. | Pace Profile #: | | T COLLECTION | HNO3 HSEO4 PUBLISHEL ROK CONTAINE | 98 65 X | MS PS 2 3 | 12521952 | |) / な て | , | | | | | Out Wile | 5765 A 1943 | 4/2/19 Aus / | 9111 61/8/ | | SAMPLER: (; a) | $\mathbb{T}^{\mathcal{A}}$ |
| ation: | En . | Lauren Peny, Geosyntec | Sinadene | Hammond | | COLLECTED | START END | DATE DATE | 30 | 三 (3 %) X (2 %) X (3 %) | 50/ic 58/0 | | | | 2/2/2 | | | | NOT THE BLANK BY A SPECIAL TOWN | WEGET/ CONTROL | when brought | $\neg \neg$ | | PRINT Name of SAMPLER: | SIGNATURE of SAMPLER: |
| Section B Required Projact Information: | Report To: Joju Abraham | | herbasa Order #: S. | Project Name: Plant Hammond | roject #: | (pel of | M M M M M | \$ € € € ₩ | さいき | 3 13 | 67 G ST/05 | | | | | | + | | T SEEDINGUESIE | , Correct | Yolia M | WHW / | | | |
| Client Information: | Georgia Power - Coal Combustion Residuals | | | Phone: (404)506-7239 Fax P | | AIGLERI | SAMPLEID On Soulsond | One Character per box. Who Ar (A-Z, 0-9 i, -) One One Sample ids must be unique Tissue | TO MY | WW-230 | | | | | | | | | apamoniu coluisms | I (3) Axaic, Barren, Profiler | adrive. (hrosian while | 33 | TO DOMESTAN STANDARY I HALLIAM | | |
| Section A Required | Company | Atlanta G | Fmail | Phone: | Requester | | | (TEM # | | | | 76 | G | | | | 0 | | | 1 62 | (00) | . ؟ : دا | | ^o age ′ | 16 of 1 |

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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| Company: Georgia Powe | Georgia Power - Coal Combustion Residuals | Report To: | Jojn A | Joju Abraham | | | ¥ d | Attention: | SCSi | scsinvoices@southemco.com | South | вттсо. | E | | | | Ì | | | | | | | | | |
| A 30339 | KORO | copy 10. | Laure | Lauren Petty, Geosyntec | | | 3 8 | Address: | Vanne. | | | | | | | | | 100 Table 100 Ta | | Hequistor Anency | Series | SE SE | No. | | 200 | |
| Email jabraham@southemco.com | 000.000 | Purchase Order #: | ## | -SCS10348606 | | | a a | Pace Quote: | | | | | | | | | | | | | | | | | | 1 |
| (404)506-723 | Fax: | Project Name | 1 | Plant Hammond | | | P. | se Proje | Pace Project Manager | ger. | belsy | modan | el@ba | betsy.modaniel@pacelabs.com, | 8 8 | | | | | 300 | Shelefile | 1997 | 1119 | | | |
| Requested Oue Date: | | Project #: | 11 | | | | <u>&</u> | Pace Profile #: | Н | 327 (AP) or 328 (Huff) |) or 32(| 8 (Huff) | 1 | | | 777 | | | 201000000 | | | GA | | | | |
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| SAN | SAMPLE ID | MA WA a st o | | START | END | | | | | | | | | | | | | | | | (N/Y) er | | | | | |
| One Cha (A-) Sample Id | One Character per box. Wee Arg. (A.Z. 0.9 /) One Sample Ids must be unique Tasse | 2 % & P & T |) ABYT BIRMAS | SAMPLE TYPE DATE | DATE | TIME | SAMPLE TEMP A' | Devreserved | HZSO4 | MBOH HCI | Na2S2O3 | Methanol | 808VIBTA | Metals (App. III, A | III .qqA) elsteM | TDS, CI, F, SO4 Radium 226/228 | | | | | Residual Chloric | | | | | |
| H | 514C-17 | | 13 | | 1/5/19 | 5.17 | 5/54 | 7 | 8 | | | | | <u> </u> | Í | λV | | | | | | | | | | |
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| Less 11 tage | | | | ž | PRINT Name of SAMPLER: | SAMPL | ä | | / / | | با | L | ∭ ∨ | | | | | | | | D ri | uo pe | Ą | | en. | |
| | | | | To . | SIGNATURE OF SAMPLER: | SAMPLE | $\mathcal{J}_{\mathcal{J}}$ | 1 | <u> </u> | 1/8 | ₹, | ğ \ | J I | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | TE Sign | DATE Signed: | 7 | 61/ | | T | 4M3T | Receiv ce | (Y/N) Custoc Sealed | (V/N) | Sampl ntact (Y/V) | |
| | | | |] | | | ₹ | | \parallel | 1 | $\ \ $ | $\ \ $ | 1 | | | F | 1 | | | 1 | .[| | | 7 | | |

| Carried Co. | Sample | Condition | Opon Receipt | | |
|-------------------------|---|-----------------|------------------------|--|-------------------------|
| Face Analy | tical Client Name: | GCA | Power | Project # | |
| Tracking #: | x UPS USPS Client [| Commercial | | WO#: 26 PM: BM CLIENT: GRPOW | Due Date: 04/15/1 |
| | | | | CLIENT: CHI OM | |
| Packing Material: | | None | | · · · · | |
| Thermometer Use | | e of Ice: Well | | | oling process has begun |
| Cooler Temperatu | <u> </u> | ological lissue | is Frozen: Yes No | | 4/8/19 MZ |
| Temp should be abov | | 1 | Comments: | | |
| Chain of Custody P | | es No N/A | | | |
| Chain of Custody F | | es ONO ON/A | | | |
| Chain of Custody R | | es 🗆 No 🗆 N/A | | | |
| Sampler Name & S | | es 🗆 No 🗆 N/A | | | |
| Samples Arrived wi | _ | Yes DNO DN/A | | | |
| Short Hold Time A | | | | | |
| | | Yes □NO □N/A | | | |
| Sufficient Volume: | | Yes ONO ON/A | | | |
| Correct Containers | | Yes □No □N/A | | | |
| -Pace Containe | | Yes ONO ON/A | | | |
| Containers Intact: | | res □No □N/A | | | |
| | | res 🗆 No 🗆 N/A | | | |
| Sample Labels ma | | | 12. | | |
| | me/ID/Analysis Matrix: preservation have been checked. | Yes DNo DN/A | 13 | | |
| A.U | | _ | | , | |
| compliance with EPA | | Yes □No □N/A | | | |
| exceptions: VOA, colifo | rm, TOC, O&G, WI-DRO (water) | Yes 🗖 No | Initial when completed | Lot # of added preservative | |
| Samples checked | or dechlorination: | Yes □No ☑N/A | 14. | | |
| Headspace in VO | Vials (>6mm): | Yes □No □NA | 15. | | |
| Trip Blank Present | | Yes □No ☑ÑÃ | 16. | | |
| Trip Blank Custody | Seals Present | Yes □No ☑M | \ | | |
| Pace Trip Blank Lo | ot # (if purchased): | | | | |
| Client Notificatio | n/ Resolution: | | | Field Data Requir | ed? Y / N |
| | tacted: | Date | /Time: | | |
| | olution: | | | | |
| | | | | | |
| | | | | <u> </u> | |
| | | | | | |
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| | | | | | |
| Project Manag | er Review: | | | Date: | |
| | | | | | W. O |
| | ere is a discrepancy affecting North Card l.e out of hold, incorrect preservative, o | | | form will be sent to the N | prtn Carolina DEHNR |

F-ALLC 003rev.3, 11Septer 1882000 f 18





May 01, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2617152

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

Beton M Damil

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



(770)734-4200



CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2617152

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

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

EPA Region 4 DW Rad

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 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

Missouri Certification #: 235

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

Ohio EPA Rad Approval: #41249

Texas/TNI Certification #: T104704188-17-3 Utah/TNI Certification #: PA014572017-9 USDA Soil Permit #: P330-17-00091 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 9526 Washington Certification #: C868 West Virginia DEP Certification #: 143 West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L



SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2617152

| Lab ID | Sample ID | Matrix | Date Collected | Date Received | |
|------------|-----------|--------|----------------|----------------|--|
| 2617152001 | MW-22 | Water | 04/05/19 09:59 | 04/08/19 15:30 | |
| 2617152002 | MW-23D | Water | 04/05/19 11:33 | 04/08/19 15:30 | |
| 2617152003 | HGWC-14 | Water | 04/05/19 12:52 | 04/08/19 15:30 | |
| 2617152004 | HGWC-17 | Water | 04/05/19 12:25 | 04/08/19 15:30 | |
| 2617152005 | HGWC-18 | Water | 04/05/19 14:25 | 04/08/19 15:30 | |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2617152

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|--------------------------|----------|----------------------|------------|
| 2617152001 | MW-22 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2617152002 | MW-23D | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2617152003 | HGWC-14 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2617152004 | HGWC-17 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2617152005 | HGWC-18 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | JLW | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |



Project: Plant Hammond

Pace Project No.: 2617152

| Sample: MW-22 PWS: | Lab ID: 26171520 Site ID: | O1 Collected: 04/05/19 09:59 Sample Type: | Received: | 04/08/19 15:30 | Matrix: Water | |
|-----------------------|-------------------------------------|--|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | | 0.381 ± 0.272 (0.444) C:93% T:NA | pCi/L | 04/18/19 08:05 | 13982-63-3 | |
| Radium-228 | | 0.674 ± 0.557 (1.13) C:81% T:73% | pCi/L | 04/18/19 15:33 | 3 15262-20-1 | |
| Total Radium | Total Radium Calculation | 1.06 ± 0.829 (1.57) | pCi/L | 04/22/19 11:27 | 7440-14-4 | |



Project: Plant Hammond

Total Radium

Calculation

Pace Project No.: 2617152

Total Radium

Sample: MW-23D Lab ID: 2617152002 Collected: 04/05/19 11:33 Received: 04/08/19 15:30 Matrix: Water PWS: Site ID: Sample Type: Method Act ± Unc (MDC) Carr Trac CAS No. **Parameters** Units Analyzed Qual EPA 9315 0.524 ± 0.328 (0.520) Radium-226 pCi/L 04/18/19 08:05 13982-63-3 C:92% T:NA EPA 9320 $0.408 \pm 0.470 \quad (0.992)$ Radium-228 pCi/L 04/18/19 15:33 15262-20-1 C:83% T:71%

pCi/L

04/22/19 11:27 7440-14-4

 $0.932 \pm 0.798 \quad (1.51)$



Project: Plant Hammond

Pace Project No.: 2617152

| Sample: HGWC-14 PWS: | Lab ID: 26171520 Site ID: | Collected: 04/05/19 12:52 Sample Type: | Received: | 04/08/19 15:30 | Matrix: Water | |
|-------------------------|-------------------------------------|---|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | | 0.689 ± 0.372 (0.571) C:97% T:NA | pCi/L | 04/18/19 08:06 | 13982-63-3 | |
| Radium-228 | | 0.740 ± 0.491 (0.955) C:84% T:73% | pCi/L | 04/18/19 15:33 | 3 15262-20-1 | |
| Total Radium | Total Radium Calculation | 1.43 ± 0.863 (1.53) | pCi/L | 04/22/19 11:27 | 7440-14-4 | |



Project: Plant Hammond

Pace Project No.: 2617152

| Sample: HGWC-17 PWS: | Lab ID: 26171520 Site ID: | O4 Collected: 04/05/19 12:25 Sample Type: | Received: | 04/08/19 15:30 | Matrix: Water | |
|-------------------------|-------------------------------------|--|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | | 0.275 ± 0.261 (0.500) C:96% T:NA | pCi/L | 04/18/19 08:05 | 13982-63-3 | |
| Radium-228 | | 0.793 ± 0.521 (1.02) C:81% T:75% | pCi/L | 04/18/19 15:33 | 3 15262-20-1 | |
| Total Radium | Total Radium Calculation | 1.07 ± 0.782 (1.52) | pCi/L | 04/22/19 11:27 | 7440-14-4 | |



Project: Plant Hammond

Pace Project No.: 2617152

| Sample: HGWC-18 PWS: | Lab ID: 26171520 Site ID: | 05 Collected: 04/05/19 14:25 Sample Type: | Received: | 04/08/19 15:30 | Matrix: Water | |
|-------------------------|-------------------------------------|--|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | | 1.13 ± 0.443 (0.451) C:92% T:NA | pCi/L | 04/18/19 08:00 | 13982-63-3 | |
| Radium-228 | | 1.09 ± 0.540 (0.976) C:85% T:80% | pCi/L | 04/18/19 15:33 | 3 15262-20-1 | |
| Total Radium | Total Radium Calculation | 2.22 ± 0.983 (1.43) | pCi/L | 04/22/19 11:27 | 7 7440-14-4 | |



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2617152

QC Batch: 337915 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228

Associated Lab Samples: 2617152001, 2617152002, 2617152003, 2617152004, 2617152005

METHOD BLANK: 1644524 Matrix: Water

Associated Lab Samples: 2617152001, 2617152002, 2617152003, 2617152004, 2617152005

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-228 $0.664 \pm 0.303 \quad (0.504) \text{ C:}90\% \text{ T:}91\%$ pCi/L $04/18/19 \quad 12:31$

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.



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2617152

QC Batch: 337923 Analysis Method: EPA 9315

QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium

Associated Lab Samples: 2617152001, 2617152002, 2617152003, 2617152004, 2617152005

METHOD BLANK: 1644541 Matrix: Water

Associated Lab Samples: 2617152001, 2617152002, 2617152003, 2617152004, 2617152005

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.



QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2617152

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

Date: 05/01/2019 02:10 PM

PASI-PA Pace Analytical Services - Greensburg



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2617152

Date: 05/01/2019 02:10 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|--------------------------|----------|-------------------|---------------------|
| 2617152001 | MW-22 | EPA 9315 | 337923 | | |
| 2617152002 | MW-23D | EPA 9315 | 337923 | | |
| 2617152003 | HGWC-14 | EPA 9315 | 337923 | | |
| 2617152004 | HGWC-17 | EPA 9315 | 337923 | | |
| 2617152005 | HGWC-18 | EPA 9315 | 337923 | | |
| 2617152001 | MW-22 | EPA 9320 | 337915 | | |
| 2617152002 | MW-23D | EPA 9320 | 337915 | | |
| 2617152003 | HGWC-14 | EPA 9320 | 337915 | | |
| 2617152004 | HGWC-17 | EPA 9320 | 337915 | | |
| 2617152005 | HGWC-18 | EPA 9320 | 337915 | | |
| 2617152001 | MW-22 | Total Radium Calculation | 339294 | | |
| 2617152002 | MW-23D | Total Radium Calculation | 339294 | | |
| 2617152003 | HGWC-14 | Total Radium Calculation | 339294 | | |
| 2617152004 | HGWC-17 | Total Radium Calculation | 339294 | | |
| 2617152005 | HGWC-18 | 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.

| Š | Section A | | Section B Populary Project Information: | act Infe | xmation: | | | | & ₹ | Section C Invoice In | Section C Invoice Information: | ü. | | | | | | | | | | Page: | | _ | ŏ | 6 | |
|--|-----------|---|--|--|--|-----------------------------|---------------------|----------------|---------------------------------|-------------------------|-----------------------------------|----------------------------|---|-----------------------------|---|-------------------|---------------------|---------------|---------------|---------------------------------------|----------|-------------------|----------------|--|------------------------|---------------------|-----------------|
| 2 <u>[</u> 2 | Company | Georgia Power - Coal Combustion Residuals | Report To: | Joju Abraham | raham | | - | | Aut | Attention: | SCS | scsinvoices@southernco.com | @south | emco.cc | Ę | | | Ш | П | | | | | | | | |
| \$ ₹ | Address: | 2480 Maner Road | 1 1 | auren | Lauren Petty, Geosyntec | syntec | | | ပိ | Company Name | Name: | | | | | | ľ | | 1 | | | | | | | *** | П |
| ₹ | anta, GA | A 30339 | | | | | | | ₹ | Address: | | | | | | | | 1 | † | .53 (1) | S | Regulatory Agency | iatory / | Agency | | , ALC: (184) | d |
| 5 | ight. | 0.000 | Purchase Order #: SCS10348606 | 31.00 | SCS103 | 18606 | | | ٩ | Pece Ouole | و | | | | | | | | | 1 | 12 | | | | | SAN SEL | li s |
| £ | ione: | Fax | Project Name. | | Plant Hammond | brd | - | | <u></u> | Se Pro | Pace Project Manager | ager. | betsy. | betsy.mcdaniel@pacelabs.com | ed B B B B B B B B B B B B B B B B B B B | selabs.o | Ę | | | | | | | 101101 | | 1 | |
| 8 | anested | Requested Due Date: | Project #: | | | | | | = | Pace Profile #: | <u>ş</u> | 327 (A | 327 (AP) or 328 (Huff) | E E | (S) | . C. Y.D. | on teaching | d Analy | A SISTER | ** Recriected Analysis/Filterod (Y/N) | 2 | 1000 | 5 (A) | 1.00 to 1.00 t | | | (A) |
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| | | SAMPLE ID | W W W W | see valid codes (G=GRAB C=C) | | START | ENG | | | | | | | | | | | 93 | | | | | (N/A) eus | | | | |
| | LEM # | anb | 7 ¥ £ P \$ | | DATE | <u> </u> | DAF | T M | SAMPLE TEMP A # OF CONTAINEI | Devieserded | H2SO4 | HCI | Na2S203 | Methanot | sesylenA | Metats (App. III, | Metals (App. III | Redium S26/22 | | | | | Residual Chlo: | | | | |
| (35f) | | | | 1 | | | 7 | _ | 2 | -7 | | | | _ | | - / | J.] - | <u> ></u> | | | | | | | | | H |
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| 1142 | | | | | \ | | | | | | | | | | | | | 3 | 6 | | 2617152 | 1 | Fi | 22 | | | li |
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| | ge 14 | | | | | PRIN | NT Name of SAMPLER: | of SAME | LER | 35 ; 17) | £4.74 | | *\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\. | | | ľ | | | | | | <u> </u> | MP in | (N | 18fody 1964 1960 | acı Iwbies N/ | (N/ |
| | 4 of 1 | | | | | SIGN | NATURE of SAMPLER: | of SAMP | LER: | 3/5 | | | 17.77 | | | <u> </u> | DATE Signed: | • • | 1/1-21 | 7 15 | | 4 | ᅦ | (人) ICG | 38S | | |
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Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Intact (V/V) Regulatory Agency Samples SAMPLE CONDITIONS (N/A) Cooler ŏ Custody JO#: 2617152 (N/A) ð Received on Residual Chlorine (Y/N) TEMP in C THE 15.50 5451 1945 114 АССЕРТЕР ВУ ЛАТПИЛОИ 4/3/14 6115/1 Ñ DATE Signed: 8ZZ/9ZZ Wnipes Tollie Musica I Carry Me LDS, CL, F, SO4 (O2G 8 III .qqA) stateM betsy modaniel@pacelabs com Aets (App. III, App. IV, D&O nder 500 Metals (App. III & App. IV) 129T ZOSYIRAM NIĂ Attention: scsinvoices@southernco.com 327 (AP) or 328 (Huff) Methanol KOSSZ6N Preservatives НОВИ Pace Project Manager. Pace Profile #. 327 invoice information: PRINT Name of SAMPLER: DallED $\overline{\omega}$ (4) CONH Company Name +520¢ THE PHY 1945 Section C SAMPLER NAME AND SIGNATURE SIGNATURE OF SAMPLER: Address: pewasaudun OF CONTAINERS (12cd) 4/5/19 SAMPLE TEMP AT COLLECTION 61/3/1 DATE Norlia Minhon Buchal 4/5/19 200 15. E. RELINQUISHED BY / AFFILIATION COLLECTED Angles 501 Var. wt 10 W 11/5/14 OF Lauren Petty, Geosyntec 4/4/4/12 Purchase Order # SCS10348506 Project Name: Plant Hammond START Required Project Information: Report To: Joju Abraham Jal Hon (GeGRAB CeCOMP) BRYT BJRMA (Ref of seboo bilay see) 3000 XIRTA Copy To. Section B MATRIX
Dinning Water
Water
Water
Water
Water
Product
Product
Osio:Solid
Osi
Wipe
Asi
Cither
Tissue APPITTA II (3): Arsenic Baring Cadmina Chramina Lithium, Maybdenium Selevium ADDITIONAL COMMENTS Georgia Power - Coal Combustion Residuals shalt, Flascide, Lead a One Character per box. (A-Z, 0-9 /, -). Sample Ids must be unique SAMPLE ID J. Wanta, GA 30339 7 2480 Maner Road Phone: (404)506-7239 Requested Due Date: Required Cilent Information: Zorallinan. M3 1 1 2 20 Page Company: 10 7 8 7 9 3 6 # W31 15 of 16

| - Caracana | Sample | Condition | Sport Receipt | | |
|-------------------------|---|----------------------|-------------------------|----------------------------|--|
| Face Analy | tical Client Name: | GLA 1 | Power | Project # | |
| | x UPS USPS Client | کر Commercial | Pace Other | WO#:20 | |
| | ooler/Box Present: | | | PM: BM CLIENT: GAP | Due Date: 05/06/ uer-CCR |
| Packing Material: | ☐ Bubble Wrap ☐ Bubble Bags | None [| Other | | |
| Thermometer Used | | e of Ice: Wel | | | ling process has begun |
| Cooler Temperatur | e /·/ Bio | ogical Tissue is | s Frozen: Yes No | Date and Initial contents: | s of person examining |
| Temp should be above | freezing to 6°C | (| Comments: | | 7-7 |
| Chain of Custody Pr | esent: | es 🗆 No 🗆 N/A | 1 | | |
| Chain of Custody Fi | led Out: | es □No □N/A | 2. | | |
| Chain of Custody Re | elinquished: | es □No □N/A | 3 | | |
| Sampler Name & Si | gnature on COC: | es □No □N/A | 4. | | |
| Samples Arrived wit | hin Hold Time: | es □no □n/A | 5. | | |
| Short Hold Time A | nalysis (<72hr): | es ☐N/A ☐N/A | 6. | | |
| Rush Turn Around | Time Requested: | es DINO ON/A | 7. | | |
| Sufficient Volume: | 45 | es □No □N/A | 8. | | |
| Correct Containers | Used: | es 🗆 No 🗆 N/A | 9. | | |
| -Pace Container | s Used: | es □No □N/A | | | |
| Containers Intact: | Æ | es □No □N/A | 10. | | |
| Filtered volume rec | eived for Dissolved tests | res □No □N/A | 11. | | |
| Sample Labels mat | ch COC: ما | es 🗆 No 🗆 N/A | 12. | | |
| -Includes date/ti | | ω | | | |
| | reseasinting have been shocked | es □no □n/a | 13. | | |
| All containers needing | preservation are found to be in | res 🗆 No 🗆 N/A | | | |
| compliance with EPA | recommendation. | | Initial when | Lot # of added | |
| exceptions: VOA, colifo | rm, TOC, O&G. WI-DRO (water) | res 🖾 No | completed | preservative | |
| Samples checked f | or dechlorination: | Yes □No ☑N/A | 14. | | |
| Headspace in VOA | Vials (>6mm): □ | Yes □No □NA | 15. | | |
| Trip Blank Present | | Yes □No ØÑ/A | 16. | | |
| Trip Blank Custody | Seals Present | Yes □No ☑N/A | | | |
| Pace Trip Blank Lo | t # (if purchased): | | | | |
| Oli and Manifi and an | (81-4) | | | Field Data Require | ed? Y / N |
| Client Notification | | Date/ | Time: | Tield Bald Hogelin | |
| | acted: | Date | | | |
| Commence, recor | | | | | |
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| Ducinet ** | ar Boulous | | | Date: | |
| Project Manage | ai Vaaism: | | | _ | |
| Note: Whenever the | re is a discrepancy affecting North Caro | ina compliance sa | mples, a copy of this f | orm will be sent to the No | rth Carolina DEHNR |
| Certification Office (| e out of hold, incorrect preservative, or | It of temp, incorred | t containers) | | 003rev.3. 11Septe mber 2 00 6of 16 |

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Unon Recein





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

Beton M Damil

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





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





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 | |



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 |



ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2617148

Date: 05/01/2019 03:04 PM

| Sample: FB-01 | Lab ID: | 2617148001 | Collecte | ed: 04/05/19 | 08:50 | Received: 04/ | '08/19 15:30 Ma | atrix: Water | |
|------------------------------|-------------|--------------|------------------------|--------------|---------|----------------|-----------------|--------------|-----|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qua |
| 6020 MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Met | hod: Ef | PA 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 Pre _l | paration Met | hod: EF | PA 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 2 | 540C | | | | | | |
| 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 | В |
| Fluoride | 0.113 ND | mg/L | 0.20 | 0.024 | 1 | | 04/10/19 22:29 | 16984-48-8 | 5 |
| Sulfate | 0.069J | mg/L | 1.0 | 0.029 | 1 | | 04/10/19 22:29 | | |



Project: Plant Hammond

Pace Project No.: 2617148

Date: 05/01/2019 03:04 PM

QC Batch: 468895 Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury

Associated Lab Samples: 2617148001

METHOD BLANK: 2546716 Matrix: Water

Associated Lab Samples: 2617148001

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Mercury mg/L ND 0.00020 0.00010 04/15/19 18:06

LABORATORY CONTROL SAMPLE: 2546717

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers 83 Mercury mg/L 0.0025 0.0021 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2546718 2546719

MS MSD MS 92424398001 Spike Spike MS MSD MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD RPD Qual ND 0.0025 0.0025 0.0019 0.0019 77 75-125 0 25 Mercury mg/L 77

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



Project: Plant Hammond

Pace Project No.: 2617148

Date: 05/01/2019 03:04 PM

QC Batch: 469500 Analysis Method: EPA 6020B
QC Batch Method: EPA 3010A 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 | | 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 | | | | | |
|----------------------------|---------|-------|---------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % 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 | |
| ₋ead | 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 | |

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



Project: Plant Hammond

Pace Project No.: 2617148

Date: 05/01/2019 03:04 PM

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 | | | | | | | | | | | | |
|--|-------|------------|-------|-------|--------|---------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2617148001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Antimony | mg/L | ND | 0.1 | 0.1 | 0.099 | 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.



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

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers **Total Dissolved Solids** mg/L 400 408 102 84-108

SAMPLE DUPLICATE: 118512

Date: 05/01/2019 03:04 PM

2617150003 Dup Max RPD RPD Parameter Units Result Result Qualifiers **Total Dissolved Solids** 2310 2380 3 10 mg/L

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



Project: Plant Hammond

Pace Project No.: 2617148

QC Batch: 26135 QC Batch Method: EPA 300.0

Associated Lab Samples: 2617148001

Analysis Method:

EPA 300.0

Analysis Description:

300.0 IC Anions

METHOD BLANK: 117979

Date: 05/01/2019 03:04 PM

Matrix: Water

Associated Lab Samples: 2617148001

| | | Blank | Reporting | | | |
|-----------|-------|--------|-----------|-------|----------------|------------|
| Parameter | Units | Result | 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 | | | | | |
|----------------------------|--------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Chloride | mg/L | | 10.2 | 102 | 90-110 | |
| Fluoride | mg/L | 10 | 10.0 | 100 | 90-110 | |
| Sulfate | ma/L | 10 | 9.9 | 99 | 90-110 | |

| MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 117981 117982 | | | | | | | | | | | | |
|--|-------|------------|-------|-------|--------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2617207001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | 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.



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

Date: 05/01/2019 03:04 PM

B Analyte was detected in the associated method blank.

C0 Result confirmed by second analysis.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2617148

Date: 05/01/2019 03:04 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch 469558 | |
|------------|-----------|-----------------|----------|-------------------|-------------------------------|--|
| 2617148001 | FB-01 | EPA 3010A | 469500 | EPA 6020B | | |
| 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.

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| _ | - | | | ryangen | See Manual Value | GA | | | | | | ' | \bigvee | | | | | | | | | | | | | X | _ | Custod) (Y/V) Se |
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| | Georgia Power - Coal Combustion Residuals | | | | | | | | X. Yidare | | | | | | | | | | | $\setminus \mid$ | | 9 | | | | | | |
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| 美 | | :53 | Atlanta, GA 30339 | jabral | Phone: (404)506-7239 Fax | 260 | L | | | Y | gare | F230.26131 | gradus p | gtazzi | B CFB 6501 | See See | Topice 22 | CONTRACT OF | 202763 | gy) adjust | 20,2000 | | | | | | | |
| Section A Required | Company: | Address: | Atlant | E E | Phone | Verding | | | ITEM # | | 8 | | | | 9 | | | | 0 | | C | | | | | | Page | 13 of |

| (Company | Sampl | e Condition | Upon Receip | | |
|--|--|-------------------|--------------------------|-----------------------------|---------------------------------------|
| Face Anal | vtical Client Name: | GTA | Power | Project # | |
| Courier: Fed E | x UPS USPS Client | | • | WO#:2 | 617148 Due Date: 04/15/ |
| Custody Seal on C | ooler/Box Present: Ves | no Seals | intact: yes | CLIENT: GAP | |
| Packing Material: | ☐ Bubble Wrap ☐ Bubble Bag | s None | Other | | |
| Thermometer Use | d <u>84</u> ту | pe of Ice: Wet | ¹ Blue None | | oling process has begun |
| Cooler Temperatu | | | is Frozen: Yes No | Date and Initia | ls of person examining |
| Temp should be abov | | 4 | Comments: | | |
| Chain of Custody P | | res □No □N/A | 1 | <u> </u> | |
| Chain of Custody F | | res □No □N/A | | | ***** |
| Chain of Custody R | | es □No □N/A | | | |
| Sampler Name & S | | es 🗆 No 🗆 N/A | | | |
| Samples Arrived wi | | es □No □N/A | | | -0 |
| Short Hold Time A | | res □Mor □N/A | | | |
| | | res DNG DN/A | | | |
| Sufficient Volume: | | es Ono On/A | | | |
| Correct Containers | | res ONO ON/A | 9. | | |
| -Pace Container Containers Intact: | | es ONO ON/A | 40 | | |
| | | es DNo DN/A | | : | |
| Sample Labels mat | | es Ono On/A | | <u> </u> | |
| -Includes date/til | | | 12. | | |
| | reservation have been checked | es DNo DN/A | 12 | | |
| All containers needing compliance with EPA | preservation are found to be in | es DNo DN/A | 13. | | |
| exceptions: VOA, colifor | m, TOC, O&G, WI-DRO (water) | es DNo | Initial when completed | Lot # of added preservative | |
| Samples checked for | or dechlorination: | res 🗆 No 🗷 N/A | | | |
| Headspace in VOA | | es □No □NA | | | |
| Trip Blank Present: | | res □No ☑Ñ/Ā | | | |
| Trip Blank Custody | Seals Present | res 🗆 No 🔎 N/A | | : | |
| Pace Trip Blank Lot | # (if purchased): | | | <u> </u> | |
| Client Notification | Resolution: | | | Field Data Require | d? Y / N |
| Person Cont | | Date/1 | Time: | ried bata require | , , , , , , , , , , , , , , , , , , , |
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| Project Manage | Review: | | | Date: | |
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| Certification Office (i. | is a discrepancy affecting North Carolin | na compliance san | nples, a copy of this fo | rm will be sent to the Nor | h Carolina DEHNR |

F-ALLCO03rev.3, 11Septembe 2006 of 14





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

Beton M Damil

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



(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 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

Missouri Certification #: 235

Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282

South Dakota Certification
Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3 Utah/TNI Certification #: PA014572017-9 USDA Soil Permit #: P330-17-00091 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 9526 Washington Certification #: C868 West Virginia DEP Certification #: 143 West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L





SAMPLE SUMMARY

Project: 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 |



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 |



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2617149

| Sample: FB-01 | Lab ID: 26171490 | | 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 | | 0.114 ± 0.161 (0.330) C:92% T:NA | pCi/L | 04/18/19 08:25 | 5 13982-63-3 | |
| Radium-228 | | 0.160 ± 0.258 (0.561) C:88% T:76% | pCi/L | 04/18/19 12:31 | 1 15262-20-1 | |
| Total Radium | Total Radium Calculation | 0.274 ± 0.419 (0.891) | pCi/L | 04/22/19 11:27 | 7 7440-14-4 | |



QUALITY CONTROL - RADIOCHEMISTRY

EPA 9320

Project: Plant Hammond

Pace Project No.: 2617149

QC Batch: 337915

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

Analysis Method:

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



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond

Parameter

Pace Project No.: 2617149

QC Batch: 337923

23 Analysis Method:

EPA 9315

QC Batch Method: EPA 9315

331923

Analysis Description:

9315 Total Radium

Associated Lab Samples:

2617149001

Matrix: Water

METHOD BLANK: 1644541 Associated Lab Samples: 2

oles: 2617149001

Act ± Unc (MDC) Carr Trac

Units pCi/L Analyzed

Qualifiers

Radium-226

0.170 ± 0.213 (0.439) C:94% T:NA

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.



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

Date: 05/01/2019 02:10 PM

PASI-PA Pace Analytical Services - Greensburg



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2617149

Date: 05/01/2019 02:10 PM

| 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.

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| P. Companyor | Sample | Condition | Jpon Receipt | | |
|------------------------------|--|--------------------|--------------------------|-----------------------------|--------------------------------------|
| . Face Analy | tical Client Name: | GTA | Power | Project # | |
| Courier: Fed E | x UPS USPS Client | لر Commercial | Pace Other | WO#:2 | 617149 |
| Tracking #:Custody Seal on C | poler/Box Present: Ves | no Seals i | ntact: yes | PM: BM CLIENT: GAP | Due Date: 05/06/ wer-CCR |
| Packing Material: | Bubble Wrap Bubble Bags | None [| Other | | |
| Thermometer Used | 84 туг | e of Ice: Well | Blue None | | ling process has begun |
| Cooler Temperatur | | | s Frozen: Yes No | Date and Initia contents: | s of person examining |
| Temp should be above | | (| Comments: | - Contonio | 70, |
| Chain of Custody P | resent: | es □No □N/A | 1. | | |
| Chain of Custody F | lled Out: | es □No □N/A | 2. · | | |
| Chain of Custody R | elinquished: | es 🗆 No 🗆 N/A | 3. | | |
| Sampler Name & S | gnature on COC: 🔑 | es 🗆 No 🗆 N/A | 4. | | |
| Samples Arrived wi | المر hin Hold Time: | es □No □N/A | 5. | | |
| Short Hold Time A | nalysis (<72hr): | es □No □N/A | 6. | | |
| Rush Turn Around | Time Requested: | es DINO ON/A | 7. | | |
| Sufficient Volume: | \$ | es 🗆 No 🗆 N/A | 8. | | |
| Correct Containers | Used: | res □No □N/A | 9. | | |
| -Pace Container | s Used: | res 🗆 No 🗆 N/A | | | |
| Containers Intact: | Z. | es 🗆 No 🗆 N/A | 10. | | |
| Filtered volume rec | eived for Dissolved tests | res □No ☑MA | 11. | | |
| Sample Labels mat | | res □no □n/a | | | |
| -Includes date/ti | _ | ω | | | |
| | proceguation have been checked | res □no □n/a | 13. | | |
| All containers needing | procession are found to be in | | | : | |
| compliance with EPA | | Yes □No □N/A | | | |
| exceptions: VOA, colifo | m, TOC, O&G, WI-DRO (water) | Yes 🗖 No | Initial when completed | Lot # of added preservative | |
| Samples checked f | | Yes □No ØNÆ | 14. | • | |
| Headspace in VOA | | Yes □No □NA | 15. | i | |
| Trip Blank Present: | | Yes □No ☑Ñ/Ā | | | |
| Trip Blank Custody | | Yes □No ☑N/A | | 1 | |
| Pace Trip Blank Lo | | | | | |
| | | | • | | |
| Client Notification | | | | Field Data Require | d? Y / N |
| | acted: | Date/ | ıme: | | |
| Comments/ Reso | lution: | · · · | - | | |
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| | | | | | |
| Project Manage | r Review: | | | Date: | |
| Note: Whenever the | re is a discrepancy affecting North Carol | ina compliance sar | nples, a copy of this fo | orm will be sent to the No | rth Carolina DEHNR |
| | e out of hold, incorrect preservative, or | | | | |
| | li | | | F-ALLC | 03rev.3, 11 Septer Rober 2010 6 of 1 |





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

Beton M Damil

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





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





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 | |



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 |



ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2617207

Date: 05/03/2019 02:13 PM

| Sample: FB-02 | Lab ID: | 2617207001 | Collecte | ed: 04/08/19 | 9 17:45 | Received: 04/ | 09/19 13:30 Ma | atrix: Water | |
|------------------------------|------------|--------------|-----------|--------------|----------|----------------|----------------|--------------|-----|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qua |
| 6020 MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Met | thod: El | PA 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 Pre | paration Met | hod: EF | PA 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 2 | 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 | В |
| Fluoride | ND | mg/L | 0.30 | 0.024 | 1 | | 04/11/19 00:54 | 16984-48-8 | 5 |
| Sulfate | 0.13J | mg/L | 1.0 | 0.023 | 1 | | 04/11/19 00:54 | | |



ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2617207

Date: 05/03/2019 02:13 PM

| Sample: EB-01 | Lab ID: | 2617207002 | Collecte | ed: 04/08/19 | 9 18:00 | Received: 04/ | 09/19 13:30 Ma | atrix: Water | |
|------------------------------|-------------|--------------|-----------|--------------|----------|----------------|----------------|--------------|-----|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qua |
| 6020 MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Met | thod: El | PA 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 Pre | paration Met | thod: EF | PA 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 2 | 540C | | | | | | |
| 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 | В |
| Fluoride | 0.223 ND | mg/L | 0.20 | 0.024 | 1 | | 04/11/19 03:19 | 16984-48-8 | 5 |
| Sulfate | 0.38J | mg/L | 1.0 | 0.029 | 1 | | 04/11/19 03:19 | | |



Project:

Plant Hammond

Pace Project No.:

2617207

QC Batch: QC Batch Method: 468895

Analysis Method:

EPA 7470A

EPA 7470A

Analysis Description:

7470 Mercury

Associated Lab Samples:

2617207001, 2617207002

METHOD BLANK: 2546716

Matrix: Water

Associated Lab Samples:

2617207001, 2617207002

Blank

Reporting

Parameter

Units mg/L

Units

mg/L

Result

ND

Limit 0.00020 MDL 0.00010

Analyzed 04/15/19 18:06 Qualifiers

LABORATORY CONTROL SAMPLE:

Parameter

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

2546717

Spike Conc.

LCS Result

0.0021

LCS % Rec % Rec Limits

80-120

Qualifiers

2546718

2546719

MS

0.0025

MSD Spike

MS MSD Result

MS % Rec

MSD % Rec % Rec Limits RPD

RPD

Parameter

92424398001

Spike Conc.

Result

0.0019

83

Max

Qual

Mercury

Mercury

Mercury

Result ND

Units

mg/L

Conc. 0.0025 0.0025

0.0019

77

77

75-125 0

25

Date: 05/03/2019 02:13 PM

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



Project: Plant Hammond

Pace Project No.: 2617207

Date: 05/03/2019 02:13 PM

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 | | | | | |
|----------------------------|---------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Antimony | mg/L | 0.1 | 0.10 | 100 | 80-120 | |
| Arsenic | mg/L | 0.01 | 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 | |

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



Project: Plant Hammond

Pace Project No.: 2617207

Date: 05/03/2019 02:13 PM

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 S | SPIKE DUPLIC | ATE: 25452 | 35 | | 2545266 | | | | | | | |
|-------------------------|--------------|------------|-------|-------|---------|---------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2617144001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | 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 | |

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



Project: Plant Hammond

Pace Project No.: 2617207

QC Batch: 26252 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 2617207001, 2617207002

LABORATORY CONTROL SAMPLE: 118510

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers **Total Dissolved Solids** mg/L 400 408 102 84-108

SAMPLE DUPLICATE: 118512

Date: 05/03/2019 02:13 PM

2617150003 Dup Max RPD RPD Parameter Units Result Result Qualifiers **Total Dissolved Solids** 2310 2380 3 10 mg/L

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



EPA 300.0

300.0 IC Anions

Project: Plant Hammond

Pace Project No.: 2617207

Date: 05/03/2019 02:13 PM

QC Batch: 26135 Analysis Method:
QC Batch Method: EPA 300.0 Analysis Description:

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 | | | | | |
|----------------------------|--------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % 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 SPI | KE DUPLIC | CATE: 11798 | 1 | | 117982 | | | | | | | |
|---------------------------|-----------|-------------|-------|-------|--------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2617207001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | 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.



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

Date: 05/03/2019 02:13 PM

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.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2617207

Date: 05/03/2019 02:13 PM

| 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.

| Section A | A | Section B | | | | | | | Ø | Section C | o | | | | | | | | | | | | _ | | | ' | ľ | | . | Г | |
|------------|--|---|-------------|--------------------|---------------|-----------|-----------------------|--------|----------------|-----------------------|--|---------------|---------------|----------|-----------------------------|----------|--------------------|-------------------|-----------------|--------------------|---------|--------------------------------|-----------------|----------------|------------------|--------------------------|--------------|--|----------------------------|----------------|-----|
| Require | illent Information: | Required Project Information: | roject | Informa | ţou: | | | ı | 5 | Involce Information: | 5 | vation. | | | | | | | | | ſ | | | Page: | : 0 | _ | | ŏ | 1 | | |
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| Phone: | | Project Name: Plant Hammond | ا يَوْ | Plant H. | pucurure | | | | <u>a.</u> | Pace Project Manager. | yed N | anage | يا | belsy. | betsy.mcdaniel@pacelabs.com | iel@p | acelab | S.COT | | | | | State/I or (10) | | | 1 | į, | | XX | 8 | |
| Request | ¥ | Project #: | | | | | | | ٩ | Pace Profile #: | offic # | 1 | 7 (AP) | or 326 | 327 (AP) or 328 (Huff) | | | | | | П | | | | | 8 | | | | | |
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| # MƏTI | One Character per box. Wee (A-Z, 0-9 /, -) One Sample Ids must be unique Tasse | | MATRIX CODE | | DATE TI | TIME | DATE | TIME | * OF CONTAINER | Uppreserved | HSSO4 | HCI HNO3 | HOSN | Na2S2O3 | Nethanol Terito | eesylanA | Metals (App. III a | Mets (App. III. A | TDS, CI, F, SO4 | Radium 226/228 | | | | | Residuel Chlorin | | | | | | |
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| | (in the control of th | | | RET MOUTSHED BY LA | 2.7 | тимтон | | DIE. | 作物 | | | | | | ACCUPATION AFFECTION | 18 | | | | | OATE | 1970 | | | | | silomunos pa | | | 10000 | |
| | | 1//00 | tin | M | Mollin Mushen | 2) (2) | Ş | 4/B/19 | 6 | 0102 | 0 | 92 | 3 | □ | Consiste | 1/2 | 14 | | | 1/2 | 4/12/10 | | 200 | | | | ⊩ | | | 31 | |
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| Page | | | | | | SAUPLER N | JAME AND SIGNATUR | DSIGN | N TO | 8373 | 1 | | | | | | | | | | | | | <u>J</u> | | L 101 | 1 | \vdash | | 1 | |
| e 14 of | | | | | | SIGNA | SIGNATURE of SAMPLER: | SAMPU | | Notio | Social odlia | 3 <u>Z</u> | 73 | M Se My | MUSTUS | | ğ | DATE Signed: | med: | 7 | 0 | 61/e/h | 15 | 1 | ni 9M3T | Received Ice (Y/N) | Custody | (V/N) | Samples Intect (Y/V) | | |
| 15 | | | | | | | | | | | | | - | | | | | | | $\ $ | | | $\ $ | ┨ | 1 | | 1 | 1 | ıl I | , | |

| 5 | Jampi | , containon | Opon Receipt | | |
|--|--|------------------|------------------------|---------------------------|--------------------------|
| Face Anal | rtical Client Name: | GIA | Power | Project # | |
| Tracking #: | x UPS USPS Client [| | | WO#:26 | 17207 Due Date: 04/16/19 |
| Custody Seal on C | ooler/Box Present: yes | no Seals | intact: 🔲 yes | CLIENT: GAPou | r-CCR |
| Packing Material: | Bubble Wrap Bubble Bag | None | Other | | · |
| Thermometer Use | △ | e of Ice: Wet | _ | Samples on ice co | olingsprocess has begun |
| Cooler Temperatu | | _ | is Frozen: Yes No | Date and Initial | s of person examining |
| Temp should be abov | | | Comments: | contents: 7 | 19/19 M |
| Chain of Custody P | resent: | r es □No □N/A | 1. | | |
| Chain of Custody F | lled Out: | es □No □N/A | 2. | | |
| Chain of Custody R | elinguished: | es □No □N/A | 3. | | |
| Sampler Name & S | | es □No □N/A | | | |
| Samples Arrived wi | | es □No □N/A | | | |
| Short Hold Time A | nalysis (<72hr): | es ᠒ੴ □N/A | 6. | | |
| | | es ⊠No □N/A | 7. | | |
| Sufficient Volume: | Æ | es □No □N/A | 8. | | |
| Correct Containers | | es 🗆 No 🗆 N/A | | | |
| -Pace Container | s Used: | es □No □N/A | | | |
| Containers Intact: | 1 | res □No □N/A | 10. | | |
| Filtered volume rec | eived for Dissolved tests | res □no ☑ANIA | 11. | j | |
| Sample Labels mat | ch COC: على | es 🗆 No 🗆 N/A | 12. | | |
| -Includes date/ti | me/ID/Analysis Matrix: | ω | | | |
| All containers needing | preservation have been checked. | es 🗆 No 🗆 N/A | 13. | | |
| All containers needing compliance with EPA | preservation are found to be in ecommendation. | es □No □N/A | | | |
| exceptions: VOA. colifor | m. TOC. O&G, WI-DRO (water) | res □No | Initial when completed | Lot # of added | |
| Samples checked f | or dechlorination: | Yes □No □MTA | 14. | | |
| Headspace in VOA | Vials (>6mm): □ | Yes □No ,□NA | 15. | | |
| Trip Blank Present: | | res □No ØN/A | 16. | | |
| Trip Blank Custody | Seals Present | res 🗆 No 🗘 MA | , | | |
| Pace Trip Blank Lo | # (if purchased): | | | | |
| Client Notification | / Resolution: | | | Field Data Require | d? Y / N |
| Person Cont | | Date/ | Time: | 1 | |
| Comments/ Reso | III | | | | |
| | | | | | |
| | | | | | |
| | <u>. </u> | | | | |
| | | | | | |
| | | | | | |
| Project Manage | r Review: | | | Date: | |
| | e is a discrepancy affecting North Caroli e out of hold, incorrect preservative, ou | | | m will be sent to the Nor | h Carolina DEHNR |

F-ALLC003rev.3, 11September2006





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

Beton M Damil

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



(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 Montana Certification #: Cert0082 Nebraska Certification #: NE-OS-29-14

Missouri Certification #: 235

Nevada Certification #: PA014572018-1 New Hampshire/TNI Certification #: 297617 New Jersey/TNI Certification #: PA051 New Mexico Certification #: PA01457

New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282

South Dakota Certification
Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3 Utah/TNI Certification #: PA014572017-9 USDA Soil Permit #: P330-17-00091 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 9526 Washington Certification #: C868 West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L



SAMPLE SUMMARY

Project: 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 | |



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 |



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 | |



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 | |



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.



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 $0.552 \pm 0.362 \quad (0.681) \text{ C:81\% T:74\%}$ pCi/L $04/25/19 \quad 11:04$

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.



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

Date: 05/01/2019 02:20 PM

PASI-PA Pace Analytical Services - Greensburg



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2617208

Date: 05/01/2019 02:20 PM

| 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 | | |

CHAIN-OF-CUSTODY / Analytical Request Document
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

(N/V) Requision Agency Samples SAMPLE CONDITIONS (N/Y) Cooler ŏ Custod State 1 State 7 Location 40#:2617208 (AVA) Received on Page: (N/V) enitoIn3 (Eubise) LEMP in C 133 CONTE TAME 245 49.19112 で//の/た Reguested Analysis Filtered (Y/N) 41814 9ZZ/9ZZ wnipe ァ DATE Signed: 7 D2' CI' E' 204 ACCEPTED BY JAPPILIATION betsy.mcdaniel@pacelabs.com, (O.8G & III .qqA) elato) nnan OSC (V) rqqA (III ,qqA) stel ァ etals (App. III & App. IV) bery mite Pearle NA Jast zesyland scsinvoices@southernco.com Pace Project Manager: betsy modani Pace Profile #: 327 (AP) or 328 (Huff) JOU) えぶんと condra icasma Preservatives 192S203 HOE IOI Section C Invoice Information: Noolia EQNI ~ SIGNATURE OF SAMPLER: MOLL'L Address: Pace Quote: 2010 , rine 7082 1127 Attention: bevieserdni 5 OF CONTAINERS S | | 4/8/14 6 MPLE TEMP AT COLLECTION 5 DATE PRINT NAME OF SAMPLER: 51/6/h 8 1310 PR/ OAC) 200 Nollia Musson laso 61/9/₂ | 5361 REINQUISHED BY / AFFILIATION Lary utte Lauren Petty, Geosyntec Purchase Order #: SCS10348606 Project Name: Plan Hammond START 4/8/14 4/8/19 Required Project Information: Report To: Joju Abraham 15 Tolow <u>ن</u> MPLE TYPE (G-GRAB C-COMP) ¥ \$ (see valid codes to left) Section B Copy To: Project #: MATRIX
Direking Water
Water
Waste Water
Product
SourSould
Out
Wipe
Au
Cither
Tissue Georgia Power - Coal Combustion Residuals One Character per box.
(A-Z, 0-9 /, -)
Sample Ids must be unique Phone: (404)506-7239 Fax Requested Due Date: **Characters** SAMPLE ID 20-0 2480 Maner Road Required Client Information: TO Manta, GA 30339 company. 8 8 5 t a ie e # Mati Page 11 of 12

| Carlot and the second | Sample | Condition | Opon Receipt | | |
|--|--|----------------|-----------------------------|----------------------------|------------------------------|
| Pace Analy | tical Client Name: | GIA | Power | Project # | |
| | x 🗌 UPS 🗌 USPS 🗎 Client [| Commercial | Pace Other | WO#:2 | 617208 |
| Tracking #: Custody Seal on C | ooler/Box Present: yes | no Seals | intact: Ves | PM: BM | Due Date: 05/07/1 wer-CCR |
| Packing Material: Thermometer Used | ☐ Bubble Wrap ☐ Bubble Bags | None | _ | Samples on ice, coo | lingthrocege has begun |
| | | | | | s of person examining |
| Cooler Temperatur Temp should be above | | logical rissue | is Frozen: Yes No Comments: | | 19/19 MZ |
| Chain of Custody Pr | | es 🗆 No 🗆 N/A | | | |
| Chain of Custody Fi | | es □No □N/A | | | |
| Chain of Custody R | | es □No □N/A | | | |
| Sampler Name & Si | | es □No □N/A | | <u> </u> | |
| Samples Arrived wit | | es 🗆 No 🗆 N/A | | | |
| Short Hold Time A | | es ☑n/o □n/a | | | |
| Rush Turn Around | | es ØNo □N/A | 7. | | |
| Sufficient Volume: | .ex | es 🗆 No 🗆 N/A | 8. | | |
| Correct Containers | Used: | es 🗆 No 🗀 N/A | 9. | | |
| -Pace Container | S Used: | es □No □N/A | | | |
| Containers Intact: | 47 | es □No □N/A | 10. | | |
| Filtered volume rece | eived for Dissolved tests | es 🗆 No 🖼 N/A | 11. | | |
| Sample Labels mate | h COC: רבע | es DNo DN/A | 12. | | |
| -Includes date/tir | ne/ID/Analysis Matrix: | W | | | |
| | reservation have been checked | e9 □No □N/A | 13. | | |
| All containers needing compliance with EPA | preservation are found to be in ecommendation. | es □No □N/A | | | |
| exceptions: VOA, colifor | m, TOC, O&G, WI-DRO (water) | es 🗆 No | Initial when completed | preservative | |
| Samples checked for | or dechlorination: | es □No □N/A | 14. | | |
| Headspace in VOA | Vials (>6mm): □ | es ONO DNA | 15. | | |
| Trip Blank Present: | | es 🗆 No 🗷 N/A | 16. | | |
| Trip Blank Custody | Seals Present | es □No □NA | ĺ | : | |
| Pace Trip Blank Lot | # (if purchased): | | | | |
| Client Notification | Resolution: | | | Field Data Required | l? Y / N |
| | acted: | Date/ | Time: | | |
| Comments/ Reso | II. | | | ; | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | <u> </u> | |
| | | | | İ | |
| Project Manage | Review: | | | Date: | |
| | e is a discrepancy affecting North Carolin out of hold, incorrect preservative, out | | | m will be sent to the Nort | h Carolina DEHNR |

F-ALLC003rev.3, 11September2006



December 11, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond AP GW6581

Pace Project No.: 2623500

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 24, 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 report issued on 10/1/2019. The report has been revised to remove mercury data per consultant request. No other changes have been made to this report.

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

Sincerely,

Kevin Herring for

Kein Slern

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





CERTIFICATIONS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623500

Pace Analytical Services Atlanta

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 Asheville

2225 Riverside Drive, Asheville, NC 28804 Florida/NELAP Certification #: E87648 Massachusetts Certification #: M-NC030

North Carolina Drinking Water Certification #: 37712

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



SAMPLE SUMMARY

Project: Plant Hammond AP GW6581

Pace Project No.: 2623500

| Lab ID | Sample ID | Matrix | Date Collected | Date Received | |
|------------|-----------|--------|----------------|----------------|--|
| 2623500001 | HGWA-1 | Water | 09/23/19 16:15 | 09/24/19 15:23 | |
| 2623500002 | HGWA-2 | Water | 09/23/19 16:55 | 09/24/19 15:23 | |
| 2623500003 | HGWA-3 | Water | 09/23/19 17:10 | 09/24/19 15:23 | |



SAMPLE ANALYTE COUNT

Project: Plant Hammond AP GW6581

Pace Project No.: 2623500

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|------------------------|----------|----------------------|------------|
| 2623500001 | HGWA-1 | EPA 6020B | CSW | 14 | PASI-GA |
| | | SM 2540C | ALW | 1 | PASI-GA |
| | | EPA 300.0 Rev 2.1 1993 | CDC | 3 | PASI-A |
| 2623500002 | HGWA-2 | EPA 6020B | CSW | 14 | PASI-GA |
| | | SM 2540C | ALW | 1 | PASI-GA |
| | | EPA 300.0 Rev 2.1 1993 | CDC | 3 | PASI-A |
| 2623500003 | HGWA-3 | EPA 6020B | CSW | 14 | PASI-GA |
| | | SM 2540C | ALW | 1 | PASI-GA |
| | | EPA 300.0 Rev 2.1 1993 | CDC | 3 | PASI-A |



Project: Plant Hammond AP GW6581

Pace Project No.: 2623500

Date: 12/11/2019 03:00 PM

| Sample: HGWA-1 | Lab ID: | 2623500001 | Collecte | ed: 09/23/19 | 16:15 | Received: 09/ | 24/19 15:23 Ma | atrix: Water | |
|------------------------------|------------|--------------|-------------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00027 | 1 | 09/27/19 15:26 | 09/30/19 19:49 | 7440-36-0 | |
| Arsenic | 0.00046J | mg/L | 0.0050 | 0.00035 | 1 | 09/27/19 15:26 | 09/30/19 19:49 | 7440-38-2 | В |
| Barium | 0.042 | mg/L | 0.010 | 0.00049 | 1 | 09/27/19 15:26 | 09/30/19 19:49 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000074 | 1 | 09/27/19 15:26 | 09/30/19 19:49 | 7440-41-7 | |
| Boron | 0.021J | mg/L | 0.040 | 0.0049 | 1 | 09/27/19 15:26 | 09/30/19 19:49 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0025 | 0.00011 | 1 | 09/27/19 15:26 | 09/30/19 19:49 | 7440-43-9 | |
| Calcium | 118 | mg/L | 5.0 | 0.55 | 50 | 09/27/19 15:26 | 09/30/19 19:54 | 7440-70-2 | M6 |
| Chromium | ND | mg/L | 0.010 | 0.00039 | 1 | 09/27/19 15:26 | 09/30/19 19:49 | 7440-47-3 | |
| Cobalt | ND | mg/L | 0.0050 | 0.00030 | 1 | 09/27/19 15:26 | 09/30/19 19:49 | 7440-48-4 | |
| Lead | 0.000078J | mg/L | 0.0050 | 0.000046 | 1 | 09/27/19 15:26 | 09/30/19 19:49 | 7439-92-1 | |
| Lithium | 0.0011J | mg/L | 0.030 | 0.00078 | 1 | 09/27/19 15:26 | 09/30/19 19:49 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.00095 | 1 | 09/27/19 15:26 | 09/30/19 19:49 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0013 | 1 | 09/27/19 15:26 | 09/30/19 19:49 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.000052 | 1 | 09/27/19 15:26 | 09/30/19 19:49 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 442 | mg/L | 10.0 | 10.0 | 1 | | 09/26/19 18:04 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 Rev 2 | 2.1 1993 | | | | | |
| Chloride | 17.7 | mg/L | 1.0 | 0.60 | 1 | | 09/27/19 21:18 | 16887-00-6 | |
| Fluoride | 0.078J | mg/L | 0.30 | 0.050 | 1 | | 09/27/19 21:18 | 16984-48-8 | |
| Sulfate | 70.2 | mg/L | 1.0 | 0.50 | 1 | | 09/27/19 21:18 | 14808-79-8 | |



Project: Plant Hammond AP GW6581

Pace Project No.: 2623500

Date: 12/11/2019 03:00 PM

| Sample: HGWA-2 | Lab ID: | 2623500002 | Collecte | ed: 09/23/19 | 9 16:55 | Received: 09/ | 24/19 15:23 Ma | atrix: Water | |
|------------------------------|------------|---------------|-------------|--------------|----------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA 6 | 6020B Pre | paration Met | thod: EF | PA 3005A | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00027 | 1 | 09/27/19 15:26 | 09/30/19 20:40 | 7440-36-0 | |
| Arsenic | 0.00067J | mg/L | 0.0050 | 0.00035 | 1 | 09/27/19 15:26 | 09/30/19 20:40 | 7440-38-2 | В |
| Barium | 0.13 | mg/L | 0.010 | 0.00049 | 1 | 09/27/19 15:26 | 09/30/19 20:40 | 7440-39-3 | |
| Beryllium | 0.00011J | mg/L | 0.0030 | 0.000074 | 1 | 09/27/19 15:26 | 09/30/19 20:40 | 7440-41-7 | |
| Boron | 0.040J | mg/L | 0.040 | 0.0049 | 1 | 09/27/19 15:26 | 09/30/19 20:40 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0025 | 0.00011 | 1 | 09/27/19 15:26 | 09/30/19 20:40 | 7440-43-9 | |
| Calcium | 19.5 | mg/L | 5.0 | 0.55 | 50 | 09/27/19 15:26 | 09/30/19 20:46 | 7440-70-2 | |
| Chromium | 0.00058J | mg/L | 0.010 | 0.00039 | 1 | 09/27/19 15:26 | 09/30/19 20:40 | 7440-47-3 | |
| Cobalt | 0.038 | mg/L | 0.0050 | 0.00030 | 1 | 09/27/19 15:26 | 09/30/19 20:40 | 7440-48-4 | |
| Lead | 0.000092J | mg/L | 0.0050 | 0.000046 | 1 | 09/27/19 15:26 | 09/30/19 20:40 | 7439-92-1 | |
| Lithium | 0.0016J | mg/L | 0.030 | 0.00078 | 1 | 09/27/19 15:26 | 09/30/19 20:40 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.00095 | 1 | 09/27/19 15:26 | 09/30/19 20:40 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0013 | 1 | 09/27/19 15:26 | 09/30/19 20:40 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.000052 | 1 | 09/27/19 15:26 | 09/30/19 20:40 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 129 | mg/L | 10.0 | 10.0 | 1 | | 09/26/19 18:04 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 Rev 2 | 2.1 1993 | | | | | |
| Chloride | 5.1 | mg/L | 1.0 | 0.60 | 1 | | 09/27/19 21:33 | 16887-00-6 | |
| Fluoride | ND | mg/L | 0.30 | 0.050 | 1 | | 09/27/19 21:33 | 16984-48-8 | |
| Sulfate | 47.2 | mg/L | 1.0 | 0.50 | 1 | | 09/27/19 21:33 | 14808-79-8 | |



Project: Plant Hammond AP GW6581

Pace Project No.: 2623500

Date: 12/11/2019 03:00 PM

| Sample: HGWA-3 | Lab ID: | 2623500003 | Collecte | ed: 09/23/19 | 77:10 | Received: 09/ | 24/19 15:23 Ma | atrix: Water | |
|------------------------------|-----------------------|---------------|-----------------|--------------|---------|----------------|----------------|--------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | - ——— - Analytical | Method: EPA 6 | 6020B Pre | paration Met | hod: Ef | PA 3005A | | • | _ |
| Antimony | ND | mg/L | 0.0030 | 0.00027 | 1 | 09/27/19 15:26 | 09/30/19 20:52 | 7440-36-0 | |
| Arsenic | 0.0011J | mg/L | 0.0050 | 0.00035 | 1 | 09/27/19 15:26 | 09/30/19 20:52 | 7440-38-2 | В |
| Barium | 0.13 | mg/L | 0.010 | 0.00049 | 1 | 09/27/19 15:26 | 09/30/19 20:52 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000074 | 1 | 09/27/19 15:26 | 09/30/19 20:52 | 7440-41-7 | |
| Boron | 0.0081J | mg/L | 0.040 | 0.0049 | 1 | 09/27/19 15:26 | 09/30/19 20:52 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0025 | 0.00011 | 1 | 09/27/19 15:26 | 09/30/19 20:52 | 7440-43-9 | |
| Calcium | 71.0 | mg/L | 5.0 | 0.55 | 50 | 09/27/19 15:26 | 09/30/19 20:57 | 7440-70-2 | |
| Chromium | ND | mg/L | 0.010 | 0.00039 | 1 | 09/27/19 15:26 | 09/30/19 20:52 | 7440-47-3 | |
| Cobalt | ND | mg/L | 0.0050 | 0.00030 | 1 | 09/27/19 15:26 | 09/30/19 20:52 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.000046 | 1 | 09/27/19 15:26 | 09/30/19 20:52 | 7439-92-1 | |
| Lithium | 0.0029J | mg/L | 0.030 | 0.00078 | 1 | 09/27/19 15:26 | 09/30/19 20:52 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.00095 | 1 | 09/27/19 15:26 | 09/30/19 20:52 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0013 | 1 | 09/27/19 15:26 | 09/30/19 20:52 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.000052 | 1 | 09/27/19 15:26 | 09/30/19 20:52 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 268 | mg/L | 10.0 | 10.0 | 1 | | 09/26/19 18:04 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 Rev 2 | 2.1 1993 | | | | | |
| Chloride | 5.9 | mg/L | 1.0 | 0.60 | 1 | | 09/27/19 21:47 | 16887-00-6 | |
| Fluoride | ND | mg/L | 0.30 | 0.050 | 1 | | 09/27/19 21:47 | 16984-48-8 | |
| Sulfate | 43.9 | mg/L | 1.0 | 0.50 | 1 | | 09/27/19 21:47 | 14808-79-8 | |



Project: Plant Hammond AP GW6581

Pace Project No.: 2623500

Date: 12/11/2019 03:00 PM

QC Batch: 36079 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET

Associated Lab Samples: 2623500001, 2623500002, 2623500003

METHOD BLANK: 162814 Matrix: Water

Associated Lab Samples: 2623500001, 2623500002, 2623500003

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------|-------|-----------------|--------------------|----------|----------------|------------|
| Authoriza | | | | | | |
| Antimony | mg/L | ND | 0.0030 | 0.00027 | 09/30/19 19:37 | |
| Arsenic | mg/L | 0.00043J | 0.0050 | 0.00035 | 09/30/19 19:37 | |
| Barium | mg/L | ND | 0.010 | 0.00049 | 09/30/19 19:37 | |
| Beryllium | mg/L | ND | 0.0030 | 0.000074 | 09/30/19 19:37 | |
| Boron | mg/L | ND | 0.040 | 0.0049 | 09/30/19 19:37 | |
| Cadmium | mg/L | ND | 0.0025 | 0.00011 | 09/30/19 19:37 | |
| Calcium | mg/L | ND | 0.10 | 0.011 | 09/30/19 19:37 | |
| Chromium | mg/L | ND | 0.010 | 0.00039 | 09/30/19 19:37 | |
| Cobalt | mg/L | ND | 0.0050 | 0.00030 | 09/30/19 19:37 | |
| Lead | mg/L | ND | 0.0050 | 0.000046 | 09/30/19 19:37 | |
| Lithium | mg/L | ND | 0.030 | 0.00078 | 09/30/19 19:37 | |
| Molybdenum | mg/L | ND | 0.010 | 0.00095 | 09/30/19 19:37 | |
| Selenium | mg/L | ND | 0.010 | 0.0013 | 09/30/19 19:37 | |
| Thallium | mg/L | ND | 0.0010 | 0.000052 | 09/30/19 19:37 | |

| LABORATORY CONTROL SAMPLE: | 162815 | | | | | | | | | | |
|--------------------------------|---------------|-------|-------|--------|--------|-------|--------|------------|-----|-----|------|
| | | Spike | LC | S | LCS | % F | Rec | | | | |
| Parameter | Units | Conc. | Res | sult | % Rec | Lin | nits (| Qualifiers | | | |
| Antimony | mg/L | 0.1 | 1 | 0.11 | 10 | 6 | 80-120 | | | | |
| Arsenic | mg/L | 0.1 | 1 | 0.10 | 10 |) | 80-120 | | | | |
| Barium | mg/L | 0.1 | 1 | 0.11 | 10 | 6 | 80-120 | | | | |
| Beryllium | mg/L | 0.1 | 1 | 0.10 | 10 | 1 | 80-120 | | | | |
| Boron | mg/L | • | 1 | 1.0 | 10 | 3 | 80-120 | | | | |
| Cadmium | mg/L | 0.1 | 1 | 0.10 | 10 | 0 | 80-120 | | | | |
| Calcium | mg/L | , | 1 | 1.0 | 10 | 1 | 80-120 | | | | |
| Chromium | mg/L | 0.1 | 1 | 0.099 | 9 | 9 | 80-120 | | | | |
| Cobalt | mg/L | 0.1 | 1 | 0.097 | 9 | 7 | 80-120 | | | | |
| Lead | mg/L | 0.1 | 1 | 0.11 | 10 | 3 | 80-120 | | | | |
| Lithium | mg/L | 0.1 | 1 | 0.10 | 10- | 4 | 80-120 | | | | |
| Molybdenum | mg/L | 0.1 | 1 | 0.10 | 10- | 4 | 80-120 | | | | |
| Selenium | mg/L | 0.1 | 1 | 0.099 | 9 | 9 | 80-120 | | | | |
| Thallium | mg/L | 0.1 | 1 | 0.11 | 10 | 6 | 80-120 | | | | |
| MATRIX SPIKE & MATRIX SPIKE DU | PLICATE: 1628 | 16 | | 162817 | | | | | | | |
| | | MS | MSD | | | | | | | | |
| | 2623500001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter Unit | s Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Antimony mg/ | L ND | 0.1 | 0.1 | 0.11 | 0.10 | 108 | 104 | 75-125 | 3 | 20 | |

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



Project: Plant Hammond AP GW6581

Pace Project No.: 2623500

Date: 12/11/2019 03:00 PM

| MATRIX SPIKE & MATRIX | SPIKE DUPL | ICATE: 1628 | 16 MS | MSD | 162817 | | | | | | | |
|-----------------------|------------|-------------|----------|-------|--------|--------|-------|-------|--------|-----|-----|------|
| _ | | 2623500001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Arsenic | mg/L | 0.00046J | 0.1 | 0.1 | 0.10 | 0.10 | 103 | 100 | 75-125 | 3 | 20 | |
| Barium | mg/L | 0.042 | 0.1 | 0.1 | 0.15 | 0.15 | 110 | 106 | 75-125 | 3 | 20 | |
| Beryllium | mg/L | ND | 0.1 | 0.1 | 0.098 | 0.094 | 98 | 94 | 75-125 | 4 | 20 | |
| Boron | mg/L | 0.021J | 1 | 1 | 1.0 | 0.99 | 99 | 97 | 75-125 | 2 | 20 | |
| Cadmium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.098 | 101 | 98 | 75-125 | 3 | 20 | |
| Calcium | mg/L | 118 | 1 | 1 | 116 | 129 | -296 | 1090 | 75-125 | 11 | 20 | M6 |
| Chromium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.098 | 102 | 98 | 75-125 | 3 | 20 | |
| Cobalt | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.097 | 100 | 97 | 75-125 | 3 | 20 | |
| Lead | mg/L | 0.000078J | 0.1 | 0.1 | 0.10 | 0.10 | 104 | 101 | 75-125 | 3 | 20 | |
| Lithium | mg/L | 0.0011J | 0.1 | 0.1 | 0.10 | 0.098 | 102 | 97 | 75-125 | 4 | 20 | |
| Molybdenum | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.10 | 108 | 102 | 75-125 | 6 | 20 | |
| Selenium | mg/L | ND | 0.1 | 0.1 | 0.098 | 0.098 | 98 | 98 | 75-125 | 1 | 20 | |
| Thallium | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.10 | 105 | 101 | 75-125 | 4 | 20 | |

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



Project: Plant Hammond AP GW6581

Pace Project No.: 2623500

QC Batch: 36029 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 2623500001, 2623500002, 2623500003

LABORATORY CONTROL SAMPLE: 162444

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers **Total Dissolved Solids** mg/L 400 393 98 84-108

SAMPLE DUPLICATE: 162445

2623494001 Dup Max RPD **RPD** Parameter Units Result Qualifiers Result **Total Dissolved Solids** 222 248 11 10 D6 mg/L

SAMPLE DUPLICATE: 162446

Date: 12/11/2019 03:00 PM

Parameter Units 2623553001 Dup Max Result RPD RPD Qualifiers

Total Dissolved Solids mg/L ND ND 10 D6

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



Project: Plant Hammond AP GW6581

Pace Project No.: 2623500

Date: 12/11/2019 03:00 PM

QC Batch: 500244 Analysis Method: EPA 300.0 Rev 2.1 1993

QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 2623500001, 2623500002, 2623500003

METHOD BLANK: 2691483 Matrix: Water

Associated Lab Samples: 2623500001, 2623500002, 2623500003

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|-----------------|--------------------|-------|----------------|------------|
| Chloride | mg/L | ND | 1.0 | 0.60 | 09/27/19 16:24 | |
| Fluoride | mg/L | ND | 0.10 | 0.050 | 09/27/19 16:24 | |
| Sulfate | mg/L | ND | 1.0 | 0.50 | 09/27/19 16:24 | |

| LABORATORY CONTROL SAMPLE: | 2691484 | | | | | |
|----------------------------|---------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Chloride | mg/L | 50 | 50.9 | 102 | 90-110 | |
| Fluoride | mg/L | 2.5 | 2.7 | 109 | 90-110 | |
| Sulfate | mg/L | 50 | 52.1 | 104 | 90-110 | |

| MATRIX SPIKE & MATRIX SP | ATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2691487 | | | | | | | | | | | |
|--------------------------|---|------------|-------|-------|--------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | 9 | 2447237002 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Chloride | mg/L | 16.9 | 50 | 50 | 69.7 | 69.4 | 105 | 105 | 90-110 | 0 | 10 | |
| Fluoride | mg/L | ND | 2.5 | 2.5 | 2.8 | 2.7 | 110 | 108 | 90-110 | 2 | 10 | |
| Sulfate | mg/L | 91.9 | 50 | 50 | 139 | 139 | 94 | 95 | 90-110 | 0 | 10 | |

| MATRIX SPIKE & MATRIX SP | IKE DUPI | LICATE: 2691 | 489 | | 2691490 | | | | | | | |
|--------------------------|----------|--------------|-------|-------|---------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 92447233001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Chloride | mg/L | 7.9 | 50 | 50 | 60.5 | 60.9 | 105 | 106 | 90-110 | 1 | 10 | |
| Fluoride | mg/L | ND | 2.5 | 2.5 | 3.0 | 3.1 | 120 | 125 | 90-110 | 4 | 10 | M1 |
| Sulfate | mg/L | 36.6 | 50 | 50 | 90.2 | 90.3 | 107 | 107 | 90-110 | 0 | 10 | |

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



QUALIFIERS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623500

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

Date: 12/11/2019 03:00 PM

B Analyte was detected in the associated method blank.

D6 The precision between the sample and sample duplicate exceeded laboratory control limits.

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

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond AP GW6581

Pace Project No.: 2623500

Date: 12/11/2019 03:00 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|------------------------|----------|-------------------|---------------------|
| 2623500001 | HGWA-1 | EPA 3005A | 36079 | EPA 6020B | 36104 |
| 2623500002 | HGWA-2 | EPA 3005A | 36079 | EPA 6020B | 36104 |
| 2623500003 | HGWA-3 | EPA 3005A | 36079 | EPA 6020B | 36104 |
| 2623500001 | HGWA-1 | SM 2540C | 36029 | | |
| 2623500002 | HGWA-2 | SM 2540C | 36029 | | |
| 2623500003 | HGWA-3 | SM 2540C | 36029 | | |
| 2623500001 | HGWA-1 | EPA 300.0 Rev 2.1 1993 | 500244 | | |
| 2623500002 | HGWA-2 | EPA 300.0 Rev 2.1 1993 | 500244 | | |
| 2623500003 | HGWA-3 | EPA 300.0 Rev 2.1 1993 | 500244 | | |



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| Required | Required Client Information: | Required Project Information: | oject Ir | nformatic | Ë | | | | Invoi | Section C Invoice Information: | rmatic | Ë | | | | | | | | | | | Page . | | | 2 | ~ | |
| Company: | Georgia Power - Coal Combustion Residuals | Report To: | Jol A | Join Abraham | | | | | Attention: | ion: | SCSir | scsinvoices@southernco.com | @ sout | hernco | E 00 | | | ١ | | Γ | | <u>ן</u> | | | | 1 | | 7 |
| Address: | | Copy To: | | Lauren Petty, Geosyntec | Beosynte | B | | | Comit | Company Name: | ame: | | | | | | | | | | | | | | | | | 1 |
| 1~1 | AA 30339 | | 1 1 | | | | | | Address: | ess: | | | | | | | | | | | | | Heg. | listory | Regulatory/Agency | | | Trans |
| | о.сот | Purchase Order #: | der #: | SCS1 | SCS10382775 | | | | Pace | Pace Quote: | | | | | | | | | | | | | | | | | | |
| Phone: |)6-7239 Fa | Project Name: | | Plant Hammond | puouu | | | | Расе | Pace Project Manager: | t Mana | ger: | bets | y.mcda | niel@p | pacelal | betsy.mcdaniel@pacelabs.com, | | | 1000 | | | 8 | State //Location | atton | | | www |
| Requeste | Requested Due Date: Standard THT | Project #: | <u>કુ</u> | Gw6591 | | | | | Расе | Pace Profile #: | . [| 327 (AP | Œ. | | ļ | | | | | | | | | B | | | | Fi |
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| # M3TI | Sample Ids must be unique | A P P S T | MATRIX CODE | SAMPLE TYPE | F | | | T M A AMPLE TEMP | # OF CONTAIN | HZSO4 Unpreserved | EONH | N ^S OH HCI | Na2S2O3 | Methanol | Other Analyses | erA .ynomitnA | Beryllium, Boro Cadmium, Chri | ,muidtid ,bsed | Selenium, Thai TDS, CI, F, SC | Radium 226/2 | | | | Residual Chlo | | | • | |
| Ų | HEWA- 1 | | 11 | b1/62/b 9 | 15:40 | 6/82/6 01 | 1/9 16:15 | 28.81 S | 7 | - | \sim | | | | _ | | ١ | 7 | > | 7 | | \vdash | | | | |) | |
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| 12 | | | | | | | _ | | | - | | - | | | r | | _ | | _ | | | | | | | | | |
| | ADDITIONAL COMMENTS | ¥ . | RELINO | RELINQUISHED BY// AFFILIATION | Y/ABRILL | ATTON | | ряте | F | TIME | | | ACC | ea mar | SY / AT | АССЕРТЕВ ВУ// АРЕПДАТОМ | ₹ | | | DATE | | ТИВ | | 8 | MPLE CO | SAMPLE CONDITIONS | 8 | annusiasi |
| | | G | $ \mathcal{G} $ | /rates | Seaso | ¥ | 60 | 91-62-60 | 1 | 54.7 | 2 | 100 | .3 | m | Congras | / | Seesynder | مدد | 72 | क्र(१३)४ | | 17:42 | | | | | | |
| | | Mail | 7 | Much | Jun 16 | Geam | 100 2 TH | 41162/60 | \vdash | (4:40 | | V | | 5 | σ | Y | a | | ō | 6,24,19 | 77 6 | 253 | | | | | | |
| |)#:2623566 | را <u>×</u> | | -1 | 0 | Parce | 41,6 | 9,24,19 | | 1523 | 2 | 3 | 3 | The state of the s | # | 7 | | | 22 | 元 | 2 | $\widetilde{\Sigma}$ | 3 | 200 | N. | × | * | |
| je 14 | | - | | | SAM. | SAMPLERINA | IAME/AND SIGNATURE | SIGNATI | 罪 | | ∏ ; | | | | | | | | | | | | | ╫ | | | | - |
| 2823999 | | | | | | PRINT NE | PRINT Name of SAMPLER: SIGNATURE of SAMPLER: | MPLER | OAN | 1 1/ | GEBBS | | | | | ٥ | DATE Signed: 09.03.08.0 | med: | 90 | | 9 | | o ni 9M≣ | ecejved | (N/. | ustody saled ooler V/V) | act amples | |
| ; ; | | | | | | | | | $\sqrt{}$ | V | | | | | | | | | 7 | 3 | _ | | 11 | 1 | | ව ම | ini S | .J |



| Section A | ⋖ | Section B | | Section C | 2 | | | | | | | | | | l | ١ | | | _ |
|-----------|---|----------------------------------|----------------------------|----------------|-----------------------|----------------------------|-----------------------------|------------------------------------|-------------------------------------|----------------|--------------------------------------|------------------------------------|-------|-----------|------------------|---------------------|-------------------------|------|----------------------|
| Require | <u>ē</u> | Required Project Information: | | Invoic | Invoice Information | ë | | | | | | | | Page: | | ہے | ŏ | Ŋ | _ |
| Company | Georgia Power - Coal Combustion Residuals | Report To: Joju Abraham | | Attention: | | scsinvoices@southernco.com | mco.com | | | | | Γ | • | ١ | | | | | |
| Address: | 2480 Maner Road | Copy To: Lauren Petty, Geosyntec | | Comp | Ŗ | | | | | | ĺ | Π | | | | | | | |
| Atlanta, | | | | Address: | | | | | | | | | | 8 | of High | Requisitory/Agency. | | | - Square |
| Email: | о.сот | Purchase Order #: SCS10382775 | | Pace Quote: | note: | | | | | | | + | | | | | | | 1 |
| Phone: | Fax: | ne: Plar | | Pace | Pace Project Manager: | İ | betsy.mcdaniel@pacelabs.com | @pacel | арѕ.сош | ١. | | | | 3 | State / Location | postlon | | | town |
| Hequest | Requested Due Date: 分しょう いな | Project #: Gい68) | | Pace | Pace Profile #: | (AP) | | | | | | _ | | | β | | | | |
| | | | | | | | | | Red | bested/ | | Requested Analysis (Filtered (VA)) | (N/N) | | | | | | nozwe |
| | MATRIX | OOE to left) | COLLECTED | - | Pre | Preservatives | | Z NA | <u>ک</u> | 2. | 2 | <u>,</u> | | + | , | | | 1 | Vision promovednice. |
| | | See vailed codes | G 50115311001 | | | | | | | | | 1 | | | (V/V) er | | | | |
| # MƏTI | One Character per box. Wester (A-Z, 0-97, -) Sample Ids must be unique Tasue | 자 다 가 다 A M | TIME TAMAS | # OF CONTAINER | FOSA | Methanot Na2S2O3 HCI | Other | Secyland Antimony, Arsen | Beryllium, Boron. Cadmium, Chron | M, muithium, M | Selenium, Thalliu TDS, Cl, F, SO4 | Radium 226/228 | | | Residual Chlorin | | | (| |
| Ĵ | HOWA-2 | SC51 81/11/16 2 | 59716/E/P S | - - | 2 3 | | | 7 | | 7 7 | > | 7 | | - | 2 | | | A | - |
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| 10 | | | | | | | | | | | | \vdash | | <u> </u> | | | | | T |
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| | A <u>d</u> ibritonal.comments | HELINGUISHED BY / AFFILATION | TION DATE | EMILE | | Асоент | ACCEPTED BY / ÁFFILIATION | FFILIA | NOL | | | рате | TIME | | 8 | AMPLEO | ВАМРЫЕ СОКРИТОКЯ | | 100000 |
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| | |) - (Parce | 9,24,19 1823 | 182 | 3 6 | hule | 7 | Ž | く | $ \cdot $ | 10 | かべ | 151 | 3 3 | 38 | メ | ላ | 人 | $\neg \neg$ |
| | # 2623500 | | | | | | //1 | | | | | - | | | | | Ę | | TI. |
| 15 Q | | | SAMPLER KAME AND SIGNATURE | JAB. | | | | | | - | | | | ig e | | | | | |
| - i | BM Due Date: 10/01/19 | | RINT Name of SAMPLER | Ben | WEINWANN | LANN | | | | | - | | | | ni 9 | bevie (| 19 | selq | , |
| CLIE | CLIENT: GAPower-CCR | is | SIGNATURE of SAMPLER: | 7 | 3 | 1 | ! | Ľ | DATE Signed: Q | :peu6 | 2/2 | 1,0 | į | Γ | _ | (N/) | 9 86 9 00: | | , NI |

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DATE Signed: q/z3/19

SIGNATURE of SAMPLER: 3 W



| Section A | 4 | Section B | Section C | |
|------------|--|----------------------------------|---|---|
| Require | <u>ē</u> | ١ځ | Invoice Information: | Page: 3 of 5 |
| Company: | - 1 | Report To: Joju Abraham | Attention: scsinvoices@southernco.com | |
| Address: | 2480 Maner Road | Copy To: Lauren Petty, Geosyntec | Сотралу Name: | |
| Atlanta, (| Atlanta, GA 30339 | l | Address: | Régulationy/Agency/ |
| Email: | jabraham@southernco.com | Purchase Order #: SCS10382775 | Pace Quote: | |
| Phone: | 06-7239 Fax: | Project Name: Plant Hammond | Pace Project Manager: betsy.mcdaniel@pacelabs.com, | Starte//Location |
| Requeste | Requested Due Date: Standard TAT | Project #: CIN 659 (| (AP) | GA |
| | | | Requested/graysts strategy (YAN) | (NVA) |
| | MATERIA | () Tel of | Preservatives NW | |
| | SAMPLE ID One Character per hox One Character per hox One Character per hox One Character per hox Where | See valid codes | B.Teat nic , Barlum n. Calcium omium, Cobalt Molybdenum llium | (M/Y) enir |
| # M3TI | (A-Z, 0-9 /) Sample Ids must be unique Tissue | AR OT TS | SAMPLE TEMP 4 OF CONTAIN Unpreserved H2SO4 H4C1 N4C1 N4C1 N4C1 Other Other Other | OhO Isubize⊟ |
| F | Hawa-3 | 0151 Mala 1631 PIKZAR 27W | ٠ - T - 3 | N |
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| | ADDITIONAL COMMENTS | RELINGUISHED BY / AMELIATION D | TIME | THE SAMPLE CONDITIONS |
| | | Mockia Murbon George 9/21/9 | 0h:61 | 1418 |
| | | 1 Page 122 | 1523 Chul | 573 3.8 x > y |
| | | | | - |
| 2 | MUH - 2623500 | s wwwrww.co.ico.www. | DAMARITUE | |
| i Se | BM Due Date: 10/01/19 | 19 PRINT Name of SAMPLEB: | | иор |
| CLIENT | GOP | | Joella Muskus | tody ed vier vi) sples tr |
| 1 | | SIGNATURE of SAMPLER: | PLEH: Walte Minhum DATE Signed: 09/23 | TEM Rece (Y/N Cust Seald Cust Seald (Y/N |

| Sar | nple Condition | Upon Receip | WO#: 2623500 | - |
|--|-------------------|-----------------------------|---|----|
| Face Analytical Client Name | : GA Powe | x C/L | PM: BM Due Date: 10/01/ CLIENT: GAPower-CCR | /1 |
| Courier: Fed Ex UPS USPS Client | nt Commercial | Pace Other | Proj Due Date: | |
| Custody Seal on Cooler/Box Present: | ☐ no Seals. | intact: | no | |
| Packing Material: Bubble Wrap Bubble | Bags 🗌 None 🔟 | Other | | |
| Thermometer Used 214 | Type of Ice: Wet |) Blue None | Samples on ice, cooling process has begun | |
| Cooler Temperature Temp should be above freezing to 6°C | Biological Tissue | is Frozen: Yes No Comments: | Date and Initials of person examining contents: 4/9/0 | 7 |
| Chain of Custody Present: | ØYes □No □N/A | 1. | |] |
| Chain of Custody Filled Out: | QYes □No □N/A | 2. | | |
| Chain of Custody Relinquished: | Qres □no □n/A | 3. | • | |
| Sampler Name & Signature on COC: | ØYes □No □N/A | 4. | | |
| Samples Arrived within Hold Time: | -ElYes Ono On/A | 5. | | |
| Short Hold Time Analysis (<72hr): | □Yes ☑NO □N/A | 6. | | |
| Rush Turn Around Time Requested: | □Yes ☑No □N/A | 7. | | |
| Sufficient Volume: | 4 Yes □No □N/A | 8. | • | |
| Correct Containers Used: | Tyes ONO ON/A | 9. | | 1 |
| -Pace Containers Used: | ÚYes □No □N/A | | | ╛ |
| Containers Intact: | ☐Yes ☐No ☐N/A | 10. | | |
| Filtered volume received for Dissolved tests | □Yes □No ŒN/A | 11. | - | |
| Sample Labels match COC: | Yes ONO ON/A | 12. | | |
| -Includes date/time/ID/Analysis Matrix: | <u> </u> | | | _ |
| 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. | ØYes □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 •ÐÑÂ | 14. | | |
| Headspace in VOA Vials (>6mm): | □Yes □No □MA | 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: | | | | |

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)

Project Manager Review:

Date:





December 11, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2623553

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 25, 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,

Kevin Herring for Betsy McDaniel

Kein Slury

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





CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2623553

Pace Analytical Services Atlanta

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 Asheville

2225 Riverside Drive, Asheville, NC 28804 Florida/NELAP Certification #: E87648 Massachusetts Certification #: M-NC030

North Carolina Drinking Water Certification #: 37712

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





SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2623553

| Lab ID | Sample ID | Matrix | Date Collected | Date Received | |
|------------|-----------|--------|----------------|----------------|--|
| 2623553001 | FB-01 | Water | 09/24/19 17:25 | 09/25/19 14:03 | |
| 2623553002 | EB-01 | Water | 09/24/19 17:40 | 09/25/19 14:03 | |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2623553

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|------------------------|----------|----------------------|------------|
| 2623553001 | FB-01 | EPA 6020B | CSW | 14 | PASI-GA |
| | | SM 2540C | ALW | 1 | PASI-GA |
| | | EPA 300.0 Rev 2.1 1993 | CDC | 3 | PASI-A |
| 2623553002 | EB-01 | EPA 6020B | CSW | 14 | PASI-GA |
| | | SM 2540C | ALW | 1 | PASI-GA |
| | | EPA 300.0 Rev 2.1 1993 | CDC | 3 | PASI-A |



Project: Plant Hammond

Pace Project No.: 2623553

Date: 12/11/2019 03:04 PM

| Sample: FB-01 | Lab ID: | 2623553001 | Collecte | ed: 09/24/19 | 17:25 | Received: 09/ | 25/19 14:03 Ma | atrix: Water | |
|------------------------------|------------|--------------|-----------------|--------------|---------|----------------|----------------|--------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Met | hod: EF | PA 3005A | - | - | |
| Antimony | ND | mg/L | 0.0030 | 0.00027 | 1 | 09/27/19 15:26 | 10/01/19 10:40 | 7440-36-0 | |
| Arsenic | 0.00060J | mg/L | 0.0050 | 0.00035 | 1 | 09/27/19 15:26 | 10/01/19 10:40 | 7440-38-2 | В |
| Barium | ND | mg/L | 0.010 | 0.00049 | 1 | 09/27/19 15:26 | 10/01/19 10:40 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000074 | 1 | 09/27/19 15:26 | 10/01/19 10:40 | 7440-41-7 | |
| Boron | ND | mg/L | 0.040 | 0.0049 | 1 | 09/27/19 15:26 | 10/01/19 10:40 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0025 | 0.00011 | 1 | 09/27/19 15:26 | 10/01/19 10:40 | 7440-43-9 | |
| Calcium | 0.028J | mg/L | 0.10 | 0.011 | 1 | 09/27/19 15:26 | 10/01/19 10:40 | 7440-70-2 | |
| Chromium | ND | mg/L | 0.010 | 0.00039 | 1 | 09/27/19 15:26 | 10/01/19 10:40 | 7440-47-3 | |
| Cobalt | ND | mg/L | 0.0050 | 0.00030 | 1 | 09/27/19 15:26 | 10/01/19 10:40 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.000046 | 1 | 09/27/19 15:26 | 10/01/19 10:40 | 7439-92-1 | |
| Lithium | ND | mg/L | 0.030 | 0.00078 | 1 | 09/27/19 15:26 | 10/01/19 10:40 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.00095 | 1 | 09/27/19 15:26 | 10/01/19 10:40 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0013 | 1 | 09/27/19 15:26 | 10/01/19 10:40 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.000052 | 1 | 09/27/19 15:26 | 10/01/19 10:40 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | ND | mg/L | 10.0 | 10.0 | 1 | | 09/26/19 18:05 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 Rev 2 | 2.1 1993 | | | | | |
| Chloride | ND | mg/L | 1.0 | 0.60 | 1 | | 10/01/19 18:33 | 16887-00-6 | |
| Fluoride | ND | mg/L | 0.30 | 0.050 | 1 | | 10/01/19 18:33 | 16984-48-8 | |
| Sulfate | ND | mg/L | 1.0 | 0.50 | 1 | | 10/01/19 18:33 | 14808-79-8 | |



Project: Plant Hammond

Pace Project No.: 2623553

Date: 12/11/2019 03:04 PM

| Sample: EB-01 | Lab ID: | 2623553002 | Collecte | ed: 09/24/19 | 17:40 | Received: 09/ | 25/19 14:03 Ma | atrix: Water | |
|------------------------------|------------|---------------|-------------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA 6 | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00027 | 1 | 09/27/19 15:26 | 10/01/19 10:46 | 7440-36-0 | |
| Arsenic | 0.00046J | mg/L | 0.0050 | 0.00035 | 1 | 09/27/19 15:26 | 10/01/19 10:46 | 7440-38-2 | В |
| Barium | ND | mg/L | 0.010 | 0.00049 | 1 | 09/27/19 15:26 | 10/01/19 10:46 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000074 | 1 | 09/27/19 15:26 | 10/01/19 10:46 | 7440-41-7 | |
| Boron | ND | mg/L | 0.040 | 0.0049 | 1 | 09/27/19 15:26 | 10/01/19 10:46 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0025 | 0.00011 | 1 | 09/27/19 15:26 | 10/01/19 10:46 | 7440-43-9 | |
| Calcium | 0.064J | mg/L | 0.10 | 0.011 | 1 | 09/27/19 15:26 | 10/01/19 10:46 | 7440-70-2 | |
| Chromium | ND | mg/L | 0.010 | 0.00039 | 1 | 09/27/19 15:26 | 10/01/19 10:46 | 7440-47-3 | |
| Cobalt | ND | mg/L | 0.0050 | 0.00030 | 1 | 09/27/19 15:26 | 10/01/19 10:46 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.000046 | 1 | 09/27/19 15:26 | 10/01/19 10:46 | 7439-92-1 | |
| Lithium | ND | mg/L | 0.030 | 0.00078 | 1 | 09/27/19 15:26 | 10/01/19 10:46 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.00095 | 1 | 09/27/19 15:26 | 10/01/19 10:46 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0013 | 1 | 09/27/19 15:26 | 10/01/19 10:46 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.000052 | 1 | 09/27/19 15:26 | 10/01/19 10:46 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | ND | mg/L | 10.0 | 10.0 | 1 | | 09/26/19 18:05 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 Rev 2 | 2.1 1993 | | | | | |
| Chloride | ND | mg/L | 1.0 | 0.60 | 1 | | 10/01/19 19:16 | 16887-00-6 | |
| Fluoride | ND | mg/L | 0.30 | 0.050 | 1 | | 10/01/19 19:16 | 16984-48-8 | |
| Sulfate | ND | mg/L | 1.0 | 0.50 | 1 | | 10/01/19 19:16 | 14808-79-8 | |



Project: Plant Hammond

Pace Project No.: 2623553

Antimony

Date: 12/11/2019 03:04 PM

QC Batch: 36079 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET

Associated Lab Samples: 2623553001, 2623553002

METHOD BLANK: 162814 Matrix: Water

mg/L

ND

0.1

Associated Lab Samples: 2623553001, 2623553002

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------|-------|-----------------|--------------------|----------|----------------|------------|
| Antimony | mg/L | ND ND | 0.0030 | 0.00027 | 09/30/19 19:37 | |
| Arsenic | mg/L | 0.00043J | 0.0050 | 0.00035 | 09/30/19 19:37 | |
| Barium | mg/L | ND | 0.010 | 0.00049 | 09/30/19 19:37 | |
| Beryllium | mg/L | ND | 0.0030 | 0.000074 | 09/30/19 19:37 | |
| Boron | mg/L | ND | 0.040 | 0.0049 | 09/30/19 19:37 | |
| Cadmium | mg/L | ND | 0.0025 | 0.00011 | 09/30/19 19:37 | |
| Calcium | mg/L | ND | 0.10 | 0.011 | 09/30/19 19:37 | |
| Chromium | mg/L | ND | 0.010 | 0.00039 | 09/30/19 19:37 | |
| Cobalt | mg/L | ND | 0.0050 | 0.00030 | 09/30/19 19:37 | |
| Lead | mg/L | ND | 0.0050 | 0.000046 | 09/30/19 19:37 | |
| Lithium | mg/L | ND | 0.030 | 0.00078 | 09/30/19 19:37 | |
| Molybdenum | mg/L | ND | 0.010 | 0.00095 | 09/30/19 19:37 | |
| Selenium | mg/L | ND | 0.010 | 0.0013 | 09/30/19 19:37 | |
| Thallium | mg/L | ND | 0.0010 | 0.000052 | 09/30/19 19:37 | |

| LABORATORY CONTROL SAMP | LE: 162815 | | | | | | | | |
|-----------------------------|-----------------|---------|-------------|----------|-----------|------------|-----|-----|---|
| | | Spike | LCS | LCS | % Rec | | | | |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers | | | |
| Antimony | mg/L | 0.1 | 0.11 | 106 | 80-120 | | _ | | |
| Arsenic | mg/L | 0.1 | 0.10 | 100 | 80-120 | | | | |
| Barium | mg/L | 0.1 | 0.11 | 106 | 80-120 | | | | |
| Beryllium | mg/L | 0.1 | 0.10 | 101 | 80-120 | | | | |
| Boron | mg/L | 1 | 1.0 | 103 | 80-120 | | | | |
| Cadmium | mg/L | 0.1 | 0.10 | 100 | 80-120 | | | | |
| Calcium | mg/L | 1 | 1.0 | 101 | 80-120 | | | | |
| Chromium | mg/L | 0.1 | 0.099 | 99 | 80-120 | | | | |
| Cobalt | mg/L | 0.1 | 0.097 | 97 | 80-120 | | | | |
| Lead | mg/L | 0.1 | 0.11 | 106 | 80-120 | | | | |
| Lithium | mg/L | 0.1 | 0.10 | 104 | 80-120 | | | | |
| Molybdenum | mg/L | 0.1 | 0.10 | 104 | 80-120 | | | | |
| Selenium | mg/L | 0.1 | 0.099 | 99 | 80-120 | | | | |
| Thallium | mg/L | 0.1 | 0.11 | 106 | 80-120 | | | | |
| MATRIX SPIKE & MATRIX SPIKE | DUPLICATE: 1628 | 316 | 162817 | | | | | | _ |
| | | MS N | MSD | | | | | | |
| | 2623500001 | Spike S | pike MS | MSD | MS MSD | % Rec | | Max | |
| Parameter | Units Result | Conc. C | onc. Result | Result % | Rec % Rec | Limits | RPD | RPD | |

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

0.1

0.11

0.10

108

104

75-125

3 20



Project: Plant Hammond

Pace Project No.: 2623553

Date: 12/11/2019 03:04 PM

| MATRIX SPIKE & MATRIX SP | PIKE DUPL | ICATE: 1628 | 16 | | 162817 | | | | | | | |
|--------------------------|-----------|-------------|-------|-------|--------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2623500001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Arsenic | mg/L | 0.00046J | 0.1 | 0.1 | 0.10 | 0.10 | 103 | 100 | 75-125 | 3 | 20 | |
| Barium | mg/L | 0.042 | 0.1 | 0.1 | 0.15 | 0.15 | 110 | 106 | 75-125 | 3 | 20 | |
| Beryllium | mg/L | ND | 0.1 | 0.1 | 0.098 | 0.094 | 98 | 94 | 75-125 | 4 | 20 | |
| Boron | mg/L | 0.021J | 1 | 1 | 1.0 | 0.99 | 99 | 97 | 75-125 | 2 | 20 | |
| Cadmium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.098 | 101 | 98 | 75-125 | 3 | 20 | |
| Calcium | mg/L | 118 | 1 | 1 | 116 | 129 | -296 | 1090 | 75-125 | 11 | 20 | M6 |
| Chromium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.098 | 102 | 98 | 75-125 | 3 | 20 | |
| Cobalt | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.097 | 100 | 97 | 75-125 | 3 | 20 | |
| Lead | mg/L | 0.000078J | 0.1 | 0.1 | 0.10 | 0.10 | 104 | 101 | 75-125 | 3 | 20 | |
| Lithium | mg/L | 0.0011J | 0.1 | 0.1 | 0.10 | 0.098 | 102 | 97 | 75-125 | 4 | 20 | |
| Molybdenum | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.10 | 108 | 102 | 75-125 | 6 | 20 | |
| Selenium | mg/L | ND | 0.1 | 0.1 | 0.098 | 0.098 | 98 | 98 | 75-125 | 1 | 20 | |
| Thallium | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.10 | 105 | 101 | 75-125 | 4 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2623553

QC Batch: 36029 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 2623553001, 2623553002

162446

LABORATORY CONTROL SAMPLE: 162444

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers **Total Dissolved Solids** mg/L 400 393 98 84-108

SAMPLE DUPLICATE: 162445

SAMPLE DUPLICATE:

Date: 12/11/2019 03:04 PM

2623494001 Dup Max RPD **RPD** Parameter Units Result Result Qualifiers **Total Dissolved Solids** 222 248 11 10 D6 mg/L

ParameterUnits2623553001 ResultDup ResultMax ResultTotal Dissolved Solidsmg/LNDND10 D6

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



Project: Plant Hammond

Pace Project No.: 2623553

Date: 12/11/2019 03:04 PM

QC Batch: 500861 Analysis Method: EPA 300.0 Rev 2.1 1993

QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 2623553001, 2623553002

METHOD BLANK: 2694298 Matrix: Water

Associated Lab Samples: 2623553001, 2623553002

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|-----------------|--------------------|-------|----------------|------------|
| Chloride | mg/L | ND | 1.0 | 0.60 | 10/01/19 16:22 | |
| Fluoride | mg/L | ND | 0.10 | 0.050 | 10/01/19 16:22 | |
| Sulfate | mg/L | ND | 1.0 | 0.50 | 10/01/19 16:22 | |

| LABORATORY CONTROL SAMPLE: | 2694299 | | | | | |
|----------------------------|---------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Chloride | mg/L | 50 | 49.2 | 98 | 90-110 | |
| Fluoride | mg/L | 2.5 | 2.3 | 92 | 90-110 | |
| Sulfate | mg/L | 50 | 50.4 | 101 | 90-110 | |

| MATRIX SPIKE & MATRIX SP | PIKE DUPLI | CATE: 2694 | 300 | | 2694301 | | | | | | | |
|--------------------------|------------|------------|-------|-------|---------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2623559001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Chloride | mg/L | 1.7 | 50 | 50 | 53.7 | 53.7 | 104 | 104 | 90-110 | 0 | 10 | |
| Fluoride | mg/L | 0.058J | 2.5 | 2.5 | 2.5 | 2.5 | 98 | 99 | 90-110 | 1 | 10 | |
| Sulfate | mg/L | 20.7 | 50 | 50 | 72.4 | 72.6 | 103 | 104 | 90-110 | 0 | 10 | |

| MATRIX SPIKE & MATRIX SP | IKE DUPL | ICATE: 2694 | 302 | | 2694303 | | | | | | | |
|--------------------------|----------|-------------|-------------|--------------|---------|--------|-------|-------|--------|-----|-----|------|
| | | 2623584001 | MS Spike | MSD Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Chloride | mg/L | 89.4 | 50 | 50 | 132 | 133 | 86 | 87 | 90-110 | 1 | 10 | M1 |
| Fluoride | mg/L | 0.42 | 2.5 | 2.5 | 4.2 | 4.3 | 152 | 153 | 90-110 | 1 | 10 | M1 |
| Sulfate | mg/L | 142 | 50 | 50 | 177 | 180 | 69 | 74 | 90-110 | 2 | 10 | M1 |

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



QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2623553

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

Date: 12/11/2019 03:04 PM

B Analyte was detected in the associated method blank.

D6 The precision between the sample and sample duplicate exceeded laboratory control limits.

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

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2623553

Date: 12/11/2019 03:04 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|------------------------|----------|-------------------|---------------------|
| 2623553001 | FB-01 | EPA 3005A | 36079 | EPA 6020B | 36104 |
| 2623553002 | EB-01 | EPA 3005A | 36079 | EPA 6020B | 36104 |
| 2623553001 | FB-01 | SM 2540C | 36029 | | |
| 2623553002 | EB-01 | SM 2540C | 36029 | | |
| 2623553001 | FB-01 | EPA 300.0 Rev 2.1 1993 | 500861 | | |
| 2623553002 | EB-01 | EPA 300.0 Rev 2.1 1993 | 500861 | | |



| | _ • | | | |
|----------|---|--|---|---|
| Required | Section A Required Client Information: | Section B Required Project Information: | Section C Invoice Information: | |
| Company: | Iny: Georgia Power - Coal Combustion Residuals | | Attention: escinations & southerness some | Page: Of |
| Address: | l | Lauren Petty, Geosyntec | Company Name: | |
| Attanta | | | Address: | |
| Email: | jabraham@southernco.com | 75 | Pace Quote: | |
| Phone: | (404)506-7239 Fax: | Pant Hammond | Pace Project Manager: betsy.mcdaniel@pacelabs.com, | State/(Location |
| Redue | Requested Due Date: Standard TRY | | Pace Profile #: 327 (AP) | |
| | | (Heli o | N N N N N | |
| | SAMPLE ID | See valid codes | Calcium into Nybdaenum | |
| # M3TI | Character per box. (A-Z, 0-9 f, -) o Ids must be unique | WP AR OI TS | # OF CONTAINEF Unpreserved H2SO4 H0G3 HCI Na2S2C3 Na2S2C3 Na2S2C3 Na2S2C3 Other Other Cadmium, Analium, Boron, Chron Beryllium, Boron, Chron Cadmium, Chron | Rodium S26/228 |
| - | NO FB-01 | 2 25 25 WILL 175 9/16 135 24 | λ λ λ λ λ λ λ λ λ λ λ λ λ λ λ λ λ λ λ | |
| 7 | EB-01 | wr 6 /24/19 1750 apally 1740 w | Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y | |
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| 9 | PORKETI | | | |
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| .0 | Washing and a second | | | |
| 6 | ACID-ACID- | | #03 | : 2623553 |
| 10 | H. Harashina | | | |
| Ę | | | | |
| 2 | | | 2623553 | |
| | Айбіті Ондії сомментя | DUSHED BY / ACTUATION | THE ASSETTED BY AFFLANDING DATE | TE TABE SAULE CAUTIONS |
| | | " Updia Muster Kressinde 9/23/19 | 10:10 X 125.19 | 2111 |
| | | Pa. 6 Page 9.55.19 | 1403 Man Man glas | 1191423 |
| Pa | | | | 3.7 \$ |
| ge 13 | | SAMPLER HAME AND SIGNATURE | | 2 |
| of 1 | | | Noglia Muskus | ples () () () () () () () () () (|
| 4 | | SIGNATURE of SAMPLER: | Nollic Muslam DATE Signed: 09/24 | (19 TEM |

Sample Condition Upon Receipt Client Name: Project # WO#: 2623553 Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other Due Date: 10/02/19 Tracking #: Seals intact: CLIENT: GAPower-CCR Packing Material: Bubble Wrap Bubble Bags None Dother Type of Ice: Wet Blue None Thermometer Used Samples on ice, cooling process has begun Date and initials of person examining Biological Tissue is Frozen: Yes Cooler Temperature contents: Temp should be above freezing to 6°C Comments: Jayes □No □N/A Chain of Custody Present: Chain of Custody Filled Out: -BYes □No □N/A 2. →ETYES □No □N/A 3. Chain of Custody Relinquished: -EYes □No □N/A 4. Sampler Name & Signature on COC: -EYes □No □N/A 5. Samples Arrived within Hold Time: Short Hold Time Analysis (<72hr): □Yes -□No □N/A 6. □Yes □N/A 7. Rush Turn Around Time Requested: □N/A 8. Sufficient Volume: □N/A 9. -- Yes □No Correct Containers Used: -Pace Containers Used: -ElYes □No □N/A Yes No Containers Intact: □N/A 110. ☐Yes ☐No DNAT11. Filtered volume received for Dissolved tests ₽Yes □No. □N/A Sample Labels match COC: 12. -Includes date/time/ID/Analysis All containers needing preservation have been checked. All containers needing preservation are found to be in -□Yes □No □N/A compliance with EPA recommendation. Initial when Lot # of added ☐Yes -巳No preservative completed exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) □Yes □No -□N/A 14. Samples checked for dechlorination: □Yes □No -ÐNA 15. Headspace in VOA Vials (>6mm): □Yes □No toN/A 16. Trip Blank Present: ☐Yes ☐No -□N/A Trip Blank Custody Seals Present Pace Trip Blank Lot # (if purchased): Client Notification/ Resolution: Field Data Required? Y / N Date/Time: Person Contacted: 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)

Project Manager Review:

Date:





October 25, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2623555

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 25, 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

Beton M Damil

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



(770)734-4200



CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2623555

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 Montana Certification #: Cert0082 Nebraska Certification #: NE-OS-29-14

Missouri Certification #: 235

Nevada Certification #: PA014572018-1 New Hampshire/TNI Certification #: 297617 New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282

South Dakota Certification
Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3 Utah/TNI Certification #: PA014572017-9 USDA Soil Permit #: P330-17-00091 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 9526 Washington Certification #: C868 West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L





SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2623555

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2623555001 | FB-01 | Water | 09/24/19 17:25 | 09/25/19 14:03 |
| 2623555002 | EB-01 | Water | 09/24/19 17:40 | 09/25/19 14:03 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2623555

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|--------------------------|----------|----------------------|------------|
| 2623555001 | FB-01 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | VAL | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2623555002 | EB-01 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | VAL | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |



Project: Plant Hammond

Pace Project No.: 2623555

| Sample: FB-01 PWS: | Lab ID: 26235550 Site ID: | O1 Collected: 09/24/19 17:25 Sample Type: | Received: | 09/25/19 14:03 | Matrix: Water | |
|-----------------------|-------------------------------------|--|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | | 0.213 ± 0.236 (0.475) C:90% T:NA | pCi/L | 10/15/19 09:42 | 13982-63-3 | |
| Radium-228 | EPA 9320 | 0.361 ± 0.477 (1.02) C:80% T:70% | pCi/L | 10/18/19 11:07 | 15262-20-1 | |
| Total Radium | | 0.574 ± 0.713 (1.50) | pCi/L | 10/21/19 11:40 | 7440-14-4 | |



Project: Plant Hammond

Calculation

Pace Project No.: 2623555

| Sample: EB-01 PWS: | Lab ID: 262355 Site ID: | 5002 Collected: 09/24/19 17:40 Sample Type: | Received: | 09/25/19 14:03 | Matrix: Water | |
|-----------------------|-----------------------------------|--|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | EPA 9315 | 0.371 ± 0.265 (0.418) C:84% T:NA | pCi/L | 10/15/19 08:4 | 9 13982-63-3 | |
| Radium-228 | EPA 9320 | 0.896 ± 0.500 (0.914) C:81% T:73% | pCi/L | 10/18/19 14:14 | 4 15262-20-1 | |
| Total Radium | Total Radium | 1.27 ± 0.765 (1.33) | pCi/L | 10/21/19 11:40 | 7440-14-4 | |



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2623555

QC Batch: 365380 Analysis Method: EPA 9320

QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228

Associated Lab Samples: 2623555001, 2623555002

METHOD BLANK: 1772185 Matrix: Water

Associated Lab Samples: 2623555001, 2623555002

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-228 0.766 ± 0.438 (0.794) C:80% T:71% pCi/L 10/18/19 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.



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2623555

QC Batch: 365376 Analysis Method: EPA 9315

QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium

Associated Lab Samples: 2623555001, 2623555002

METHOD BLANK: 1772181 Matrix: Water

Associated Lab Samples: 2623555001, 2623555002

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-226 0.470 ± 0.253 (0.295) C:98% T:NA pCi/L 10/15/19 08:49

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



QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2623555

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

Date: 10/25/2019 09:20 AM

PASI-PA Pace Analytical Services - Greensburg



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2623555

Date: 10/25/2019 09:20 AM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|--------------------------|----------|-------------------|---------------------|
| 2623555001 | FB-01 | EPA 9315 | 365376 | | |
| 2623555002 | EB-01 | EPA 9315 | 365376 | | |
| 2623555001 | FB-01 | EPA 9320 | 365380 | | |
| 2623555002 | EB-01 | EPA 9320 | 365380 | | |
| 2623555001 | FB-01 | Total Radium Calculation | 367107 | | |
| 2623555002 | EB-01 | Total Radium Calculation | 367107 | | |

| | The Chain-of-Cu | ustody is a LEGAL DOCUMI | The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately. | ed accuratery. |
|--|---|---|--|--|
| Section A Required Client Information: | Section B Required Project Information: | Section C Invoice Information: | | Page: Of |
| Company: Georgia Power - Coal Combustion Residuals | Is Report To: Joju Abraham | Altention: scsinvoices@ or | outhernco.com | |
| Atlanta, GA 30339 | Caulin Tany, Causynac | Address: | | The second secon |
| nail: jabraham@southemco.com | Purchase Order #: SCS10382775 | | | |
| Phone: (404)506-7239 Fax: | Project Name: Plant Hammond | Pace Project Manager: De | etsy.mcdaniel@pacelabs.com. | VO |
| descent one one: Ollumburg | IGEANT | ı | | |
| W | (cone collected | Preservatives | 8 N N N N N N N | |
| SAMPLEID | G-GRAB C-C | | c, Barium Calcium nium, Coball blybdenum im | (N/V) e |
| Character per box. (A-Z, 0-9 / , -) e ids must be unique | S # # P P P P P P P P P P P P P P P P P | NªSSO3 HCI HUO3 HUD3 * OF CONTAINER SAMPLE TEMP A | Melhanot Antimony, Arsen Beryllium, Boron Cadmium, Chron Lead, Lithium, M Selenium, Thallium, M Selenium, Thallium, Thallium, M Selenium, Thallium, M Selenium, Thallium, M Selenium, Thallium, M Selenium, Thallium, M Selenium, Thallium, Thallium, M | Residual Chlorin |
| NO FR-01 | 25 M/18/9 71F1 | 8 1 h 3 | 7 7 7 X X X X X X | |
| EB-01 | OFFI WHAP OFFI | 5 1 7 8 | アングァファ | |
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| 100 | | | | |
| | | | | |
| (Q) / Companiem / Comment | Participanti (Ing. av. (4270anos | | Comment of the Control of the Contro | |
| | Nortia Musher Parsyntic 9/23/19 | 10:10 | <i>6</i> 0 | |
| | Pa.cs., Pa.a.o. 9.cs., P | 1403 Md | an apst | 28/16/ |
| | | | - | 3.0 x x |
| | PRINT Name of SAMPLER: NO. D. SIGNATURE of SAMPLER: N. D. | dia | が ない DATE Signed | O magnetical Conference on |
| | | mille | ma land | |

Sample Condition Upon Receipt Project # Client Name: WO#: 2623555 Courier: Fed Ex UPS USPS Client Commercial Pace Other Due Date: 10/23/19 Tracking #: Custody Seal on Cooler/Box Present: ____yes CLIENT: GAPower-CCR □ no Seals intact: Packing Material: Bubble Wrap Bubble Bags None Other Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun Thermometer Used Date and Initials of person examining Biological Tissue is Frozen: Yes Cooler Temperature contents:_ Comments: Temp should be above freezing to 6°C JEY93 □No Chain of Custody Present: □n/A JEYes □No □N/A Chain of Custody Filled Out: □N/A _ElYes □No Chain of Custody Relinquished: Sampler Name & Signature on COC: □N/A -EIYes □No □N/A 5. Samples Arrived within Hold Time: □Yes -□No □N/A 6. Short Hold Time Analysis (<72hr): □Yes □No □N/A 7. Rush Turn Around Time Requested: -- □Yes □No □N/A 8. Sufficient Volume: Correct Containers Used: - □Yes □No ⊔N/A □N/A -Pace Containers Used: ElYes □No □N/A 110. Containers Intact: ☐Yes ☐No ☐N##11. Filtered volume received for Dissolved tests - Yes - □No □N/A 12. Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: All containers needing preservation have been checked. All containers needing preservation are found to be in -- ☐Yes ☐No ☐N/A compliance with EPA recommendation. Lot # of added Initial when ☐Yes -☐No completed preservative exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) □Yes □No -□N/A Samples checked for dechlorination: ☐Yes ☐No -☐N/A 15. Headspace in VOA Vials (>6mm):

Client Notification/ Resolution:

Person Contacted:

Comments/ Resolution:

Project Manager Review:

Field Data Required? Y / N

Date:

☐Yes ☐No ☐N/A

□Yes □No -□N/A

Trip Blank Present:

Trip Blank Custody Seals Present
Pace Trip Blank Lot # (if purchased):

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)





December 11, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2623559

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 25, 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,

Kevin Herring for Betsy McDaniel

Kein Slury

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





CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2623559

Pace Analytical Services Atlanta

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 Asheville

2225 Riverside Drive, Asheville, NC 28804 Florida/NELAP Certification #: E87648

Massachusetts Certification #: M-NC030 North Carolina Drinking Water Certification #: 37712 North Carolina Wastewater Certification #: 40 South Carolina Certification #: 99030001 Virginia/VELAP Certification #: 460222



SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2623559

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2623559001 | HGWA-5 | Water | 09/24/19 12:20 | 09/25/19 14:03 |
| 2623559002 | HGWA-6 | Water | 09/24/19 11:27 | 09/25/19 14:03 |
| 2623559003 | HGWA-4 | Water | 09/24/19 10:52 | 09/25/19 14:03 |
| 2623559004 | HGWC-14 | Water | 09/24/19 12:30 | 09/25/19 14:03 |
| 2623559005 | HGWC-15 | Water | 09/24/19 14:25 | 09/25/19 14:03 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2623559

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|------------------------|----------|----------------------|------------|
| 2623559001 | HGWA-5 | EPA 6020B | CSW | 13 | PASI-GA |
| | | SM 2540C | ALW | 1 | PASI-GA |
| | | EPA 300.0 Rev 2.1 1993 | CDC | 3 | PASI-A |
| 2623559002 | HGWA-6 | EPA 6020B | CSW | 13 | PASI-GA |
| | | SM 2540C | ALW | 1 | PASI-GA |
| | | EPA 300.0 Rev 2.1 1993 | CDC | 3 | PASI-A |
| 2623559003 | HGWA-4 | EPA 6020B | CSW | 13 | PASI-GA |
| | | SM 2540C | ALW | 1 | PASI-GA |
| | | EPA 300.0 Rev 2.1 1993 | CDC | 3 | PASI-A |
| 2623559004 | HGWC-14 | EPA 6020B | CSW | 13 | PASI-GA |
| | | SM 2540C | ALW | 1 | PASI-GA |
| | | EPA 300.0 Rev 2.1 1993 | CDC | 3 | PASI-A |
| 2623559005 | HGWC-15 | EPA 6020B | CSW | 13 | PASI-GA |
| | | SM 2540C | ALW | 1 | PASI-GA |
| | | EPA 300.0 Rev 2.1 1993 | CDC | 3 | PASI-A |
| | | | | | |



Project: Plant Hammond

Pace Project No.: 2623559

Date: 12/11/2019 04:10 PM

| Sample: HGWA-5 | Lab ID: | 2623559001 | Collecte | ed: 09/24/19 | 12:20 | Received: 09/ | 25/19 14:03 Ma | atrix: Water | |
|------------------------------|------------|--------------|-------------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Met | hod: Ef | PA 3005A | | | |
| Arsenic | 0.00055J | mg/L | 0.0050 | 0.00035 | 1 | 09/27/19 15:26 | 10/01/19 10:51 | 7440-38-2 | В |
| Barium | 0.053 | mg/L | 0.010 | 0.00049 | 1 | 09/27/19 15:26 | 10/01/19 10:51 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000074 | 1 | 09/27/19 15:26 | 10/01/19 10:51 | 7440-41-7 | |
| Boron | 0.0088J | mg/L | 0.040 | 0.0049 | 1 | 09/27/19 15:26 | 10/01/19 10:51 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0025 | 0.00011 | 1 | 09/27/19 15:26 | 10/01/19 10:51 | 7440-43-9 | |
| Calcium | 29.3 | mg/L | 5.0 | 0.55 | 50 | 09/27/19 15:26 | 10/01/19 10:57 | 7440-70-2 | |
| Chromium | ND | mg/L | 0.010 | 0.00039 | 1 | 09/27/19 15:26 | 10/01/19 10:51 | 7440-47-3 | |
| Cobalt | 0.00063J | mg/L | 0.0050 | 0.00030 | 1 | 09/27/19 15:26 | 10/01/19 10:51 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.000046 | 1 | 09/27/19 15:26 | 10/01/19 10:51 | 7439-92-1 | |
| Lithium | 0.0035J | mg/L | 0.030 | 0.00078 | 1 | 09/27/19 15:26 | 10/01/19 10:51 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.00095 | 1 | 09/27/19 15:26 | 10/01/19 10:51 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0013 | 1 | 09/27/19 15:26 | 10/01/19 10:51 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.000052 | 1 | 09/27/19 15:26 | 10/01/19 10:51 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 133 | mg/L | 10.0 | 10.0 | 1 | | 10/01/19 16:32 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 Rev 2 | 2.1 1993 | | | | | |
| Chloride | 1.7 | mg/L | 1.0 | 0.60 | 1 | | 10/01/19 16:51 | 16887-00-6 | |
| Fluoride | 0.058J | mg/L | 0.30 | 0.050 | 1 | | 10/01/19 16:51 | 16984-48-8 | |
| Sulfate | 20.7 | mg/L | 1.0 | 0.50 | 1 | | 10/01/19 16:51 | 14808-79-8 | |



Project: Plant Hammond

Pace Project No.: 2623559

Date: 12/11/2019 04:10 PM

| Sample: HGWA-6 | Lab ID: | 2623559002 | Collecte | ed: 09/24/1 | 9 11:27 | Received: 09/ | 25/19 14:03 Ma | atrix: Water | |
|------------------------------|------------|--------------|-----------------|-------------|---------|----------------|----------------|--------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Me | hod: Ef | PA 3005A | | | |
| Arsenic | ND | mg/L | 0.0050 | 0.00035 | 1 | 09/27/19 15:26 | 10/01/19 11:03 | 7440-38-2 | |
| Barium | 0.22 | mg/L | 0.010 | 0.00049 | 1 | 09/27/19 15:26 | 10/01/19 11:03 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000074 | 1 | 09/27/19 15:26 | 10/01/19 11:03 | 7440-41-7 | |
| Boron | 0.016J | mg/L | 0.040 | 0.0049 | 1 | 09/27/19 15:26 | 10/01/19 11:03 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0025 | 0.00011 | 1 | 09/27/19 15:26 | 10/01/19 11:03 | 7440-43-9 | |
| Calcium | 52.5 | mg/L | 5.0 | 0.55 | 50 | 09/27/19 15:26 | 10/01/19 11:09 | 7440-70-2 | |
| Chromium | ND | mg/L | 0.010 | 0.00039 | 1 | 09/27/19 15:26 | 10/01/19 11:03 | 7440-47-3 | |
| Cobalt | ND | mg/L | 0.0050 | 0.00030 | 1 | 09/27/19 15:26 | 10/01/19 11:03 | 7440-48-4 | |
| Lead | 0.000071J | mg/L | 0.0050 | 0.000046 | 1 | 09/27/19 15:26 | 10/01/19 11:03 | 7439-92-1 | |
| Lithium | 0.011J | mg/L | 0.030 | 0.00078 | 1 | 09/27/19 15:26 | 10/01/19 11:03 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.00095 | 1 | 09/27/19 15:26 | 10/01/19 11:03 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0013 | 1 | 09/27/19 15:26 | 10/01/19 11:03 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.000052 | 1 | 09/27/19 15:26 | 10/01/19 11:03 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 222 | mg/L | 10.0 | 10.0 | 1 | | 10/01/19 16:33 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 Rev 2 | 2.1 1993 | | | | | |
| Chloride | 1.3 | mg/L | 1.0 | 0.60 | 1 | | 10/01/19 17:35 | 16887-00-6 | |
| Fluoride | ND | mg/L | 0.30 | 0.050 | 1 | | 10/01/19 17:35 | 16984-48-8 | |
| Sulfate | 35.4 | mg/L | 1.0 | 0.50 | 1 | | 10/01/19 17:35 | 14808-79-8 | |



Project: Plant Hammond

Pace Project No.: 2623559

Date: 12/11/2019 04:10 PM

| Sample: HGWA-4 | Lab ID: | 2623559003 | Collecte | ed: 09/24/19 | 9 10:52 | Received: 09/ | 25/19 14:03 Ma | atrix: Water | |
|------------------------------|------------|--------------|-------------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Arsenic | ND | mg/L | 0.0050 | 0.00035 | 1 | 09/27/19 15:26 | 10/01/19 11:14 | 7440-38-2 | |
| Barium | 0.030 | mg/L | 0.010 | 0.00049 | 1 | 09/27/19 15:26 | 10/01/19 11:14 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000074 | 1 | 09/27/19 15:26 | 10/01/19 11:14 | 7440-41-7 | |
| Boron | 0.013J | mg/L | 0.040 | 0.0049 | 1 | 09/27/19 15:26 | 10/01/19 11:14 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0025 | 0.00011 | 1 | 09/27/19 15:26 | 10/01/19 11:14 | 7440-43-9 | |
| Calcium | 36.6 | mg/L | 5.0 | 0.55 | 50 | 09/27/19 15:26 | 10/01/19 11:20 | 7440-70-2 | |
| Chromium | ND | mg/L | 0.010 | 0.00039 | 1 | 09/27/19 15:26 | 10/01/19 11:14 | 7440-47-3 | |
| Cobalt | ND | mg/L | 0.0050 | 0.00030 | 1 | 09/27/19 15:26 | 10/01/19 11:14 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.000046 | 1 | 09/27/19 15:26 | 10/01/19 11:14 | 7439-92-1 | |
| Lithium | ND | mg/L | 0.030 | 0.00078 | 1 | 09/27/19 15:26 | 10/01/19 11:14 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.00095 | 1 | 09/27/19 15:26 | 10/01/19 11:14 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0013 | 1 | 09/27/19 15:26 | 10/01/19 11:14 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.000052 | 1 | 09/27/19 15:26 | 10/01/19 11:14 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 131 | mg/L | 10.0 | 10.0 | 1 | | 10/01/19 16:33 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 Rev 2 | 2.1 1993 | | | | | |
| Chloride | 3.6 | mg/L | 1.0 | 0.60 | 1 | | 10/01/19 17:49 | 16887-00-6 | |
| Fluoride | ND | mg/L | 0.30 | 0.050 | 1 | | 10/01/19 17:49 | 16984-48-8 | |
| Sulfate | ND | mg/L | 1.0 | 0.50 | 1 | | 10/01/19 17:49 | 14808-79-8 | |



Project: Plant Hammond

Pace Project No.: 2623559

Date: 12/11/2019 04:10 PM

| Sample: HGWC-14 | Lab ID: | 2623559004 | Collecte | ed: 09/24/19 | 9 12:30 | Received: 09/ | 25/19 14:03 Ma | atrix: Water | |
|------------------------------|------------|---------------|-------------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA 6 | 6020B Pre | paration Met | hod: El | PA 3005A | | | |
| Arsenic | 0.0039J | mg/L | 0.0050 | 0.00035 | 1 | 09/27/19 15:26 | 10/01/19 11:44 | 7440-38-2 | В |
| Barium | 0.021 | mg/L | 0.010 | 0.00049 | 1 | 09/27/19 15:26 | 10/01/19 11:44 | 7440-39-3 | |
| Beryllium | 0.00044J | mg/L | 0.0030 | 0.000074 | 1 | 09/27/19 15:26 | 10/01/19 11:44 | 7440-41-7 | |
| Boron | 14.7 | mg/L | 2.0 | 0.25 | 50 | 09/27/19 15:26 | 10/01/19 11:50 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0025 | 0.00011 | 1 | 09/27/19 15:26 | 10/01/19 11:44 | 7440-43-9 | |
| Calcium | 507 | mg/L | 25.0 | 2.7 | 250 | 09/27/19 15:26 | 10/01/19 17:47 | 7440-70-2 | |
| Chromium | ND | mg/L | 0.010 | 0.00039 | 1 | 09/27/19 15:26 | 10/01/19 11:44 | 7440-47-3 | |
| Cobalt | 0.026 | mg/L | 0.0050 | 0.00030 | 1 | 09/27/19 15:26 | 10/01/19 11:44 | 7440-48-4 | |
| Lead | 0.0013J | mg/L | 0.0050 | 0.000046 | 1 | 09/27/19 15:26 | 10/01/19 11:44 | 7439-92-1 | |
| Lithium | ND | mg/L | 0.030 | 0.00078 | 1 | 09/27/19 15:26 | 10/01/19 11:44 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.00095 | 1 | 09/27/19 15:26 | 10/01/19 11:44 | 7439-98-7 | |
| Selenium | 0.0064J | mg/L | 0.010 | 0.0013 | 1 | 09/27/19 15:26 | 10/01/19 11:44 | 7782-49-2 | |
| Thallium | 0.00030J | mg/L | 0.0010 | 0.000052 | 1 | 09/27/19 15:26 | 10/01/19 11:44 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 2470 | mg/L | 10.0 | 10.0 | 1 | | 10/01/19 16:33 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 Rev 2 | 2.1 1993 | | | | | |
| Chloride | 188 | mg/L | 25.0 | 15.0 | 25 | | 10/02/19 07:25 | 16887-00-6 | |
| Fluoride | 0.053J | mg/L | 0.30 | 0.050 | 1 | | 10/01/19 18:04 | 16984-48-8 | |
| Sulfate | 1110 | mg/L | 25.0 | 12.5 | 25 | | 10/02/19 07:25 | | |



Project: Plant Hammond

Pace Project No.: 2623559

Date: 12/11/2019 04:10 PM

| Sample: HGWC-15 | Lab ID: | 2623559005 | Collecte | ed: 09/24/19 | 9 14:25 | Received: 09/ | 25/19 14:03 Ma | atrix: Water | |
|------------------------------|------------|--------------|-----------------|--------------|---------|----------------|----------------|--------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Met | hod: EF | PA 3005A | - | - | -, |
| Arsenic | 0.00037J | mg/L | 0.0050 | 0.00035 | 1 | 09/27/19 15:26 | 10/01/19 11:56 | 7440-38-2 | В |
| Barium | 0.019 | mg/L | 0.010 | 0.00049 | 1 | 09/27/19 15:26 | 10/01/19 11:56 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000074 | 1 | 09/27/19 15:26 | 10/01/19 11:56 | 7440-41-7 | |
| Boron | 2.9 | mg/L | 2.0 | 0.25 | 50 | 09/27/19 15:26 | 10/01/19 12:02 | 7440-42-8 | |
| Cadmium | 0.0014J | mg/L | 0.0025 | 0.00011 | 1 | 09/27/19 15:26 | 10/01/19 11:56 | 7440-43-9 | |
| Calcium | 202 | mg/L | 5.0 | 0.55 | 50 | 09/27/19 15:26 | 10/01/19 12:02 | 7440-70-2 | |
| Chromium | 0.00041J | mg/L | 0.010 | 0.00039 | 1 | 09/27/19 15:26 | 10/01/19 11:56 | 7440-47-3 | |
| Cobalt | 0.022 | mg/L | 0.0050 | 0.00030 | 1 | 09/27/19 15:26 | 10/01/19 11:56 | 7440-48-4 | |
| Lead | 0.00020J | mg/L | 0.0050 | 0.000046 | 1 | 09/27/19 15:26 | 10/01/19 11:56 | 7439-92-1 | |
| Lithium | 0.0012J | mg/L | 0.030 | 0.00078 | 1 | 09/27/19 15:26 | 10/01/19 11:56 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.00095 | 1 | 09/27/19 15:26 | 10/01/19 11:56 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0013 | 1 | 09/27/19 15:26 | 10/01/19 11:56 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.000052 | 1 | 09/27/19 15:26 | 10/01/19 11:56 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 1140 | mg/L | 10.0 | 10.0 | 1 | | 10/01/19 16:34 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 Rev 2 | 2.1 1993 | | | | | |
| Chloride | 120 | mg/L | 9.0 | 5.4 | 9 | | 10/02/19 07:39 | 16887-00-6 | |
| Fluoride | 0.12J | mg/L | 0.30 | 0.050 | 1 | | 10/01/19 18:18 | 16984-48-8 | |
| Sulfate | 382 | mg/L | 9.0 | 4.5 | 9 | | 10/02/19 07:39 | 14808-79-8 | |



Project: Plant Hammond

Pace Project No.: 2623559

Date: 12/11/2019 04:10 PM

 QC Batch:
 36079
 Analysis Method:
 EPA 6020B

 QC Batch Method:
 EPA 3005A
 Analysis Description:
 6020B MET

 Associated Lab Samples:
 2623559001, 2623559002, 2623559003, 2623559004, 2623559005

METHOD BLANK: 162814 Matrix: Water

Associated Lab Samples: 2623559001, 2623559002, 2623559003, 2623559004, 2623559005

| | | Blank | Reporting | | | |
|------------|-------|----------|-----------|----------|----------------|------------|
| Parameter | Units | Result | Limit | MDL | Analyzed | Qualifiers |
| Arsenic | mg/L | 0.00043J | 0.0050 | 0.00035 | 09/30/19 19:37 | |
| Barium | mg/L | ND | 0.010 | 0.00049 | 09/30/19 19:37 | |
| Beryllium | mg/L | ND | 0.0030 | 0.000074 | 09/30/19 19:37 | |
| Boron | mg/L | ND | 0.040 | 0.0049 | 09/30/19 19:37 | |
| Cadmium | mg/L | ND | 0.0025 | 0.00011 | 09/30/19 19:37 | |
| Calcium | mg/L | ND | 0.10 | 0.011 | 09/30/19 19:37 | |
| Chromium | mg/L | ND | 0.010 | 0.00039 | 09/30/19 19:37 | |
| Cobalt | mg/L | ND | 0.0050 | 0.00030 | 09/30/19 19:37 | |
| Lead | mg/L | ND | 0.0050 | 0.000046 | 09/30/19 19:37 | |
| Lithium | mg/L | ND | 0.030 | 0.00078 | 09/30/19 19:37 | |
| Molybdenum | mg/L | ND | 0.010 | 0.00095 | 09/30/19 19:37 | |
| Selenium | mg/L | ND | 0.010 | 0.0013 | 09/30/19 19:37 | |
| Thallium | mg/L | ND | 0.0010 | 0.000052 | 09/30/19 19:37 | |

| | | Spike | LCS | LCS | % Rec | |
|-----------|-------|-------|--------|-------|--------|------------|
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| enic | mg/L | 0.1 | 0.10 | 100 | 80-120 | |
| ium | mg/L | 0.1 | 0.11 | 106 | 80-120 | |
| yllium | mg/L | 0.1 | 0.10 | 101 | 80-120 | |
| on | mg/L | 1 | 1.0 | 103 | 80-120 | |
| dmium | mg/L | 0.1 | 0.10 | 100 | 80-120 | |
| cium | mg/L | 1 | 1.0 | 101 | 80-120 | |
| omium | mg/L | 0.1 | 0.099 | 99 | 80-120 | |
| alt | mg/L | 0.1 | 0.097 | 97 | 80-120 | |
| i | mg/L | 0.1 | 0.11 | 106 | 80-120 | |
| ium | mg/L | 0.1 | 0.10 | 104 | 80-120 | |
| ybdenum | mg/L | 0.1 | 0.10 | 104 | 80-120 | |
| enium | mg/L | 0.1 | 0.099 | 99 | 80-120 | |
| llium | mg/L | 0.1 | 0.11 | 106 | 80-120 | |

| MATRIX SPIKE & MATRIX | SPIKE DUPL | ICATE: 1628 | 16 | | 162817 | | | | | | | |
|-----------------------|------------|----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|------|
| Parameter | Units | 2623500001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
| Arsenic | mg/L | 0.00046J | 0.1 | 0.1 | 0.10 | 0.10 | 103 | 100 | 75-125 | 3 | 20 | |
| Barium | mg/L | 0.042 | 0.1 | 0.1 | 0.15 | 0.15 | 110 | 106 | 75-125 | 3 | 20 | |
| Beryllium | mg/L | ND | 0.1 | 0.1 | 0.098 | 0.094 | 98 | 94 | 75-125 | 4 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2623559

Date: 12/11/2019 04:10 PM

| MATRIX SPIKE & MATRIX | SPIKE DUPL | ICATE: 1628 | 16 | | 162817 | | | | | | | |
|-----------------------|------------|----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|------|
| Parameter | Units | 2623500001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
| Boron | mg/L | 0.021J | 1 | 1 | 1.0 | 0.99 | 99 | 97 | 75-125 | 2 | 20 | |
| Cadmium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.098 | 101 | 98 | 75-125 | 3 | 20 | |
| Calcium | mg/L | 118 | 1 | 1 | 116 | 129 | -296 | 1090 | 75-125 | 11 | 20 | M6 |
| Chromium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.098 | 102 | 98 | 75-125 | 3 | 20 | |
| Cobalt | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.097 | 100 | 97 | 75-125 | 3 | 20 | |
| Lead | mg/L | 0.000078J | 0.1 | 0.1 | 0.10 | 0.10 | 104 | 101 | 75-125 | 3 | 20 | |
| Lithium | mg/L | 0.0011J | 0.1 | 0.1 | 0.10 | 0.098 | 102 | 97 | 75-125 | 4 | 20 | |
| Molybdenum | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.10 | 108 | 102 | 75-125 | 6 | 20 | |
| Selenium | mg/L | ND | 0.1 | 0.1 | 0.098 | 0.098 | 98 | 98 | 75-125 | 1 | 20 | |
| Thallium | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.10 | 105 | 101 | 75-125 | 4 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2623559

QC Batch: 36262 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 2623559001, 2623559002, 2623559003, 2623559004, 2623559005

LABORATORY CONTROL SAMPLE: 163778

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers **Total Dissolved Solids** mg/L 400 357 89 84-108

SAMPLE DUPLICATE: 163780

2623620001 Dup Max RPD **RPD** Parameter Units Result Result Qualifiers **Total Dissolved Solids** 146 139 5 10 mg/L

SAMPLE DUPLICATE: 163844

Date: 12/11/2019 04:10 PM

2623559001 Dup Max Result RPD RPD Qualifiers Parameter Units Result mg/L 133 **Total Dissolved Solids** 124 7 10

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



Project: Plant Hammond

Pace Project No.: 2623559

Date: 12/11/2019 04:10 PM

QC Batch: 500861 Analysis Method: EPA 300.0 Rev 2.1 1993

QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 2623559001, 2623559002, 2623559003, 2623559004, 2623559005

METHOD BLANK: 2694298 Matrix: Water

Associated Lab Samples: 2623559001, 2623559002, 2623559003, 2623559004, 2623559005

| | | Blank | Reporting | | | |
|-----------|-------|--------|-----------|-------|----------------|------------|
| Parameter | Units | Result | Limit | MDL | Analyzed | Qualifiers |
| Chloride | mg/L | ND ND | 1.0 | 0.60 | 10/01/19 16:22 | |
| Fluoride | mg/L | ND | 0.10 | 0.050 | 10/01/19 16:22 | |
| Sulfate | mg/L | ND | 1.0 | 0.50 | 10/01/19 16:22 | |

| LABORATORY CONTROL SAMPLE: | 2694299 | | | | | |
|----------------------------|---------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Chloride | mg/L | | 49.2 | 98 | 90-110 | |
| Fluoride | mg/L | 2.5 | 2.3 | 92 | 90-110 | |
| Sulfate | mg/L | 50 | 50.4 | 101 | 90-110 | |

| MATRIX SPIKE & MATRIX SP | PIKE DUPLI | CATE: 2694 | 300 | | 2694301 | | | | | | | |
|--------------------------|------------|------------|-------|-------|---------|--------|-------|-------|--------|-----|-----|------|
| | | 0000550004 | MS | MSD | | 1400 | | 1405 | ۵/ ۵ | | | |
| | | 2623559001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Chloride | mg/L | 1.7 | 50 | 50 | 53.7 | 53.7 | 104 | 104 | 90-110 | 0 | 10 | |
| Fluoride | mg/L | 0.058J | 2.5 | 2.5 | 2.5 | 2.5 | 98 | 99 | 90-110 | 1 | 10 | |
| Sulfate | mg/L | 20.7 | 50 | 50 | 72.4 | 72.6 | 103 | 104 | 90-110 | 0 | 10 | |

| MATRIX SPIKE & MATRIX SP | IKE DUPL | ICATE: 2694 | 302 | | 2694303 | | | | | | | |
|--------------------------|----------|-------------|-------------|--------------|---------|--------|-------|-------|--------|-----|-----|------|
| | | 2623584001 | MS Spike | MSD Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Chloride | mg/L | 89.4 | 50 | 50 | 132 | 133 | 86 | 87 | 90-110 | 1 | 10 | M1 |
| Fluoride | mg/L | 0.42 | 2.5 | 2.5 | 4.2 | 4.3 | 152 | 153 | 90-110 | 1 | 10 | M1 |
| Sulfate | mg/L | 142 | 50 | 50 | 177 | 180 | 69 | 74 | 90-110 | 2 | 10 | M1 |

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



QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2623559

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

Date: 12/11/2019 04:10 PM

B Analyte was detected in the associated method blank.

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

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2623559

Date: 12/11/2019 04:10 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|------------------------|----------|-------------------|---------------------|
| 2623559001 | HGWA-5 | EPA 3005A | 36079 | EPA 6020B | 36104 |
| 2623559002 | HGWA-6 | EPA 3005A | 36079 | EPA 6020B | 36104 |
| 2623559003 | HGWA-4 | EPA 3005A | 36079 | EPA 6020B | 36104 |
| 2623559004 | HGWC-14 | EPA 3005A | 36079 | EPA 6020B | 36104 |
| 2623559005 | HGWC-15 | EPA 3005A | 36079 | EPA 6020B | 36104 |
| 2623559001 | HGWA-5 | SM 2540C | 36262 | | |
| 2623559002 | HGWA-6 | SM 2540C | 36262 | | |
| 2623559003 | HGWA-4 | SM 2540C | 36262 | | |
| 2623559004 | HGWC-14 | SM 2540C | 36262 | | |
| 2623559005 | HGWC-15 | SM 2540C | 36262 | | |
| 2623559001 | HGWA-5 | EPA 300.0 Rev 2.1 1993 | 500861 | | |
| 2623559002 | HGWA-6 | EPA 300.0 Rev 2.1 1993 | 500861 | | |
| 2623559003 | HGWA-4 | EPA 300.0 Rev 2.1 1993 | 500861 | | |
| 2623559004 | HGWC-14 | EPA 300.0 Rev 2.1 1993 | 500861 | | |
| 2623559005 | HGWC-15 | EPA 300.0 Rev 2.1 1993 | 500861 | | |

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

(N/A) Samples ntact (N/A) C0019r ō perses Stelle // Location Custody (N/A) Received on Residual Chlorine (Y/N) 2 1.1 Page: TEMP in C ONTE 8.25 A 1177 DATE Signed: 09/74/19 Requested Analysis Filtered (Y/N) 2 Radium 226/228 2 102' Cl' E' 204 2 muilladT , muinetes フ 2623559 munabdytoM ,muinti 2 betsy.mcdaniel@pacelabs.com, Cooper, Lead 2 ACCEPTED BY / AFRICATION Boron, Calcium, Cadmium, PACE 2 mualyea . Barium. Berylbum N/A TSOT SEEVIEDA scsinvoices@southernco.com Other **1**3575 Nethanol Preservatives Nazszo3 327 (AP) HOEN Pace Project Manager: Pace Profite #: 327 (ЮH Invoice Information: Voe/ia EONH 3 Сопралу Name: $\overline{\sigma}$ Pace Quote: POSZH 9.25.19 1403 9 3 Address: Unpreserved OF CONTAINERS 3 BAMPLER NAME AND SIGNATURE ? 6/m/b PRINT Name of SAMPLER: SAMPLE TEMP AT COLLECTION SIGNATURE of SAMPLER: TIMO ğ TIME 2 <u>2</u>]<u>z</u>[<u>e</u> DATE show for white COLLECTED Pace SHED BY / AFFILLATION 1 TIME Copy To: Lauren Petty, Geosyntec SCS10382775 START Project Name: Plani Hammond Project #: GW 659\ व्याव Required Project Information: Report To: Joju Abraham S (G=GRAB C=COMP) SAMPLE TYPE Purchase Order #: (see valid codes to left) BOOD XIRTAM Project Name: Section B MATRIX
Denicing Water
Water
Waste Waster
Product
Product
Out
Wice
Out
Air Georgia Power - Coal Combustion Residuals One Character per box. (A-Z, 0-9 / , -). Sample Ids must be unique Requested Due Date: Saukard SAMPLE ID 50 Email: jabraham@southernco.com 2480 Maner Road HGWA (404)506-7239 Required Client Information: Atlanta, GA 30339 . 2 6 3. 5 .6 # MBTI Page 16 of 19

Pace Aralytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

(N/A) ntact 3 Samples SALIPLE CONTITIONS (N/A) Due Date: 10/02/19 Cooler ŏ belsed State /Location Regulatory Agency 3 (N/A) Received on MO#: 2623559 Residual Chlorine (Y/N) Page: Z O ri GMBT 3 CLIENT: GAPower-CCR - JAME 622 ここ 3 2/ Extra 25.19 DATE 2 DATE Signed: 9.24.19 Andium 226/228 3 LDS, CI, F, SO4 2 muilledT ,muineled 2 munabdyloM ,muidhi 2 betsy.mcdaniel@pacelabs.com, Chromium, Cobalt, Lead 2 Joron, Calcium, Cadmium, TEO'BY! AFFILIATION 7 rsenic , Barium, Beryllium 3772 ΝA ADBLYSes Test Attention: scsinvoices@southernco.com Company Name: Other Methanol Preservatives Na2S2O3 327 (AP) HOBN PRINT Name of SAMPLER: JENNANN Pace Quote:
Pace Project Manager:
Pace Profile #: 327 (A ЮН Invoice Information: 3 **EONH** SIGNATURE of SAMPLER: 12 U 452O4 20:10 1403 Address: Unpreserved 633 * OF CONTAINERS BANPLER NAME AND SIGNATURE <u>..</u> 9.22.19 SAMPLE TEMP AT COLLECTION Mryler 61·12·6 ij 4211 181. PT ENG OATE Jepsynter COLLECTED RELINCUISHED BY / AFRICATION TIME 4.21.19 1015 Ponce Lauren Petty, Geosyntec SCS10382775 START Plant Hammond DATE Required Project Information: Report To: Joju Abraham Project #: (20 6581 (G=GRAB C=COMP) SAMPLE TYPE J Purchase Order #: 恀 MATRIX CODE (see valid codes to left) Project Name: Copy To: Section B CODE DW WT WW WP OL OL OT SE MATRIX
Dinking Waser
Waster
Waster Waster
Product
SociSodd
Od
Wipe
Au
Cohee Georgia Power - Coal Combustion Residuals One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique ADDITIONAL COMMENTS ĮÝ. SAMPLE ID Requested Due Date: くせんこうしょう Email: jabraham@southernco.com 2480 Maner Road (404)506-7239 Required Client Information: 400 A - 6 Atlanta, GA 30339 Company: 9 2 8 9 6 8 10 # MBTI Page 17 of 19

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

(V/V) Due Date: 10/02/19 Samples (N/A) ŏ Cooler Regulatory Agency State // Location Custody 60 (N/A) MO#: 2623559 ş Received on 2 Page: Residual Chlorine (Y/N) 2 Z TEMP in C CLIENT: GAPower-CCR 80 1117 Hadried Man Annual Filtered DATE Signed: 9.24 - 19 | 4/2x/[a ONTE 7.55.19 3 3 Radium 226/228 2 PM: BM > 102, CI, F, SO4 7 Y Geographic muittedT ,muinale > 2 munabdyloM, muidh 7 2 betsy.mcdaniel@pacelabs.com 7 loton, Calcium, Cadmium, 2 7 Z թույստ, Ցեդվոսո NV. 188] SOSVIENA tlention: scsinvoices@southernco.com 1941C Methanol 120119 Preservatives N92S2O3 327 (AP) HORN Pace Project Manager: いまと Section C Invoice Information: ЮН EONH 3 ~ company Name: ace Profile #: ace Quote: HS2O4 20,50 505 0:8 PevieseiduU * OF CONTAINERS 3 SAMPLER NAME AND SYGNATURE Mayer PRINT Name of SAMPLER: 6.21 DATE SAMPLE TEMP AT COLLECTION SIGNATURE of SAMPLER: 9.22.19 1/12/11 TIME 17:30 14:32 15.21 2 14/14 DATE 1/24/19 b) 12/3 COLLECTED RELINQUISHED BY / JEEL LATION tr-kson) TIME 9/24/18 1345 5.32 Maying mio Lauren Petty, Geosyntec SCS10382775 START Plant Hammond 124/19 DATE Required Project Information: SWESBI Joju Abraham ₹ \$ J (G=GRAB C=COMP) SAMPLE TYPE Purchase Order #: 纟 MATRIX CODE (see valid codes to left) Project Name: Section B Copy To: Project #: MATRIX
Derkung Water
Water
Water
Water
Product
Product
Odd
An
An
Tassue Georgia Power - Coal Combustion Residuals Requested Due Date: Standard TPT One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique ADDITIONAL COMMENTS SAMPLE ID Email: jabraham@southernco.com 2480 Maner Road (404)506-7239 Required Client Information: 4- AW211 H6WC - 14 SI - 707.5H Manta, GA 30339 9 (ع) 6 6 # M3TI Page 18 of 19

Sample Condition Upon Receipt

| The Ameh disel | 6 | 0 200 | |
|--|-------------------|------------------------|--|
| Face Analytical Client Name | : GLA | Power | Project # |
| ! | | | 110# - 2622550 |
| Courier: Fed Ex UPS USPS Clie | ent Commercial | Pace Other | WU# · Z6Z3333 |
| I lacking #. | | | PM: BM |
| Custody Seal on Cooler/Box Present: | no Seals | intact: 🗗 yes | CLIENT: GAPower-CCR |
| Packing Material: Bubble Wrap Bubble | e Bags 🔲 None 〔 | Other | |
| Thermometer Used 93 | Type of Ice: Wel | Blue None | Samples on ice, cooling process has begun |
| Cooler Temperature 3.0 | Biological Tissue | is Frozen: Yes | No Date and Initials of berson examining contents: 9/25/19/11/ |
| Temp should be above freezing to 6°C | | Comments: | |
| Chain of Custody Present: | Yes ONO ON/A | 1. | · · |
| Chain of Custody Filled Out: | -EIYes □No □N/A | 2. | |
| Chain of Custody Relinquished: | -ElYes □No □N/A | 3 | |
| Sampler Name & Signature on COC: | €Yes □No □N/A | 4. | |
| Samples Arrived within Hold Time: | ÆYes □No □N/A | 5. | |
| Short Hold Time Analysis (<72hr): | □Yes ☑No □N/A | 6. | |
| Rush Turn Around Time Requested: | □Yes ,☑Mo □N/A | 7. | |
| Sufficient Volume: | -ÐYes □no □n/A | 8. | |
| Correct Containers Used: | ¹□Yes □No □N/A | 9. | |
| -Pace Containers Used: | -DYes ONo ON/A | | |
| Containers Intact: | TYes ONO ON/A | 10. | |
| Filtered volume received for Dissolved tests | □Yes □No -□N/Ā | 31. | |
| Sample Labels match COC: | | 12. | |
| -Includes date/time/ID/Analysis Matrix: | ω | | |
| All containers needing preservation have been checked. | 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. | 1 |
| Headspace in VOA Vials (>6mm): | □Yes □No -□N/A | T | |
| Trip Blank Present: | □Yes □No ₽N/A | | |
| Trip Blank Custody Seals Present | □Yes □No □NA | L | |
| | אואפע טווט פווט | | |
| 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)





October 29, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2623560

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 25, 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

Beton M Damil

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



(770)734-4200



CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2623560

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



SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2623560

| Lab ID | Sample ID | Matrix | Date Collected | Date Received | |
|------------|-----------|--------|----------------|----------------|--|
| 2623560001 | HGWA-5 | Water | 09/24/19 12:20 | 09/25/19 14:03 | |
| 2623560002 | HGWA-6 | Water | 09/24/19 11:27 | 09/25/19 14:03 | |
| 2623560003 | HGWA-4 | Water | 09/24/19 10:52 | 09/25/19 14:03 | |
| 2623560004 | HGWC-14 | Water | 09/24/19 12:30 | 09/25/19 14:03 | |
| 2623560005 | HGWC-15 | Water | 09/24/19 14:25 | 09/25/19 14:03 | |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2623560

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|--------------------------|----------|----------------------|------------|
| 2623560001 | HGWA-5 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | VAL | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2623560002 | HGWA-6 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | VAL | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2623560003 | HGWA-4 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | VAL | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2623560004 | HGWC-14 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | VAL | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2623560005 | HGWC-15 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | VAL | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |



Project: Plant Hammond

Pace Project No.: 2623560

| Sample: HGWA-5 PWS: | Lab ID: 26235600 Site ID: | O01 Collected: 09/24/19 12:20 Sample Type: | Received: | 09/25/19 14:03 | Matrix: Water | |
|------------------------|-------------------------------------|---|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | | 0.119 ± 0.137 (0.271) C:90% T:NA | pCi/L | 10/15/19 17:39 | 13982-63-3 | |
| Radium-228 | | 0.0823 ± 0.361 (0.822) C:75% T:82% | pCi/L | 10/18/19 14:13 | 3 15262-20-1 | |
| Total Radium | Total Radium Calculation | 0.201 ± 0.498 (1.09) | pCi/L | 10/21/19 11:42 | 2 7440-14-4 | |



Project: Plant Hammond

Pace Project No.: 2623560

| Sample: HGWA-6 PWS: | Lab ID: 26235600 Site ID: | Collected: 09/24/19 11:27 Sample Type: | Received: | 09/25/19 14:03 | Matrix: Water | |
|------------------------|-------------------------------------|---|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | EPA 9315 | 0.412 ± 0.215 (0.356) C:90% T:NA | pCi/L | 10/15/19 17:40 | 13982-63-3 | |
| Radium-228 | EPA 9320 | 0.462 ± 0.511 (1.07) C:75% T:78% | pCi/L | 10/18/19 14:13 | 3 15262-20-1 | |
| Total Radium | Total Radium Calculation | 0.874 ± 0.726 (1.43) | pCi/L | 10/21/19 11:42 | 7440-14-4 | |



Project: Plant Hammond

Pace Project No.: 2623560

| Sample: HGWA-4 PWS: | Lab ID: 26235600 Site ID: | Collected: 09/24/19 10:52 Sample Type: | Received: | 09/25/19 14:03 | Matrix: Water | |
|------------------------|-------------------------------------|---|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | | 0.422 ± 0.182 (0.243) C:90% T:NA | pCi/L | 10/15/19 17:40 | 13982-63-3 | |
| Radium-228 | | 0.0327 ± 0.386 (0.889) C:76% T:80% | pCi/L | 10/18/19 14:13 | 3 15262-20-1 | |
| Total Radium | Total Radium Calculation | 0.455 ± 0.568 (1.13) | pCi/L | 10/21/19 11:42 | 7440-14-4 | |



Project: Plant Hammond

Pace Project No.: 2623560

| Sample: HGWC-14 | Lab ID: 26235600 | | Received: | 09/25/19 14:03 | Matrix: Water | |
|-----------------|-----------------------------|--------------------------------------|-----------|----------------|---------------|------|
| PWS: | Site ID: | Sample Type: | | | | |
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | | 0.609 ± 0.200 (0.207) C:99% T:NA | pCi/L | 10/15/19 17:40 | 13982-63-3 | |
| Radium-228 | | 0.559 ± 0.428 (0.856) C:78% T:93% | pCi/L | 10/18/19 14:13 | 3 15262-20-1 | |
| Total Radium | Total Radium Calculation | 1.17 ± 0.628 (1.06) | pCi/L | 10/21/19 11:42 | 2 7440-14-4 | |



Project: Plant Hammond

Pace Project No.: 2623560

| Sample: HGWC-15 PWS: | Lab ID: 26235600 Site ID: | Collected: 09/24/19 14:25 Sample Type: | Received: | 09/25/19 14:03 | Matrix: Water | |
|-------------------------|-------------------------------------|---|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | | 0.464 ± 0.286 (0.408) C:90% T:NA | pCi/L | 10/16/19 08:20 | 13982-63-3 | |
| Radium-228 | | 0.118 ± 0.383 (0.858) C:76% T:94% | pCi/L | 10/18/19 14:13 | 3 15262-20-1 | |
| Total Radium | Total Radium Calculation | 0.582 ± 0.669 (1.27) | pCi/L | 10/21/19 11:42 | 2 7440-14-4 | |



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2623560

QC Batch: 365381 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228

Associated Lab Samples: 2623560001, 2623560002, 2623560003, 2623560004, 2623560005

METHOD BLANK: 1772186 Matrix: Water

Associated Lab Samples: 2623560001, 2623560002, 2623560003, 2623560004, 2623560005

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-228 0.0377 ± 0.401 (0.924) C:77% T:72% pCi/L 10/18/19 14:14

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.



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2623560

QC Batch: 365377 Analysis Method: EPA 9315

QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium

Associated Lab Samples: 2623560001, 2623560002, 2623560003, 2623560004, 2623560005

METHOD BLANK: 1772182 Matrix: Water

Associated Lab Samples: 2623560001, 2623560002, 2623560003, 2623560004, 2623560005

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-226 0.373 ± 0.153 (0.180) C:94% T:NA pCi/L 10/15/19 19:08

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.



QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2623560

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

Date: 10/29/2019 10:37 AM

PASI-PA Pace Analytical Services - Greensburg



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2623560

Date: 10/29/2019 10:37 AM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytica Batch |
|------------|-----------|--------------------------|----------|-------------------|--------------------|
| 2623560001 | HGWA-5 | EPA 9315 | 365377 | | |
| 2623560002 | HGWA-6 | EPA 9315 | 365377 | | |
| 2623560003 | HGWA-4 | EPA 9315 | 365377 | | |
| 2623560004 | HGWC-14 | EPA 9315 | 365377 | | |
| 2623560005 | HGWC-15 | EPA 9315 | 365377 | | |
| 2623560001 | HGWA-5 | EPA 9320 | 365381 | | |
| 2623560002 | HGWA-6 | EPA 9320 | 365381 | | |
| 2623560003 | HGWA-4 | EPA 9320 | 365381 | | |
| 2623560004 | HGWC-14 | EPA 9320 | 365381 | | |
| 2623560005 | HGWC-15 | EPA 9320 | 365381 | | |
| 2623560001 | HGWA-5 | Total Radium Calculation | 367110 | | |
| 2623560002 | HGWA-6 | Total Radium Calculation | 367110 | | |
| 2623560003 | HGWA-4 | Total Radium Calculation | 367110 | | |
| 2623560004 | HGWC-14 | Total Radium Calculation | 367110 | | |
| 2623560005 | HGWC-15 | Total Radium Calculation | 367110 | | |

(N/A) (N/A) 9 Coolar ŏ pelees Custody (N/A) Received on MO#: 2623560 Residual Chlorine (Y/N) 2 1,1 TEMP in C 1409 CHAIN-OF-CUSTODY / Analytical Request Document
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately. 1117 DATE Signed: 09/74/19 4.25.A THE PARTY OF THE P 125/ 2 6SS/8SS mulbaA 2 .D2' Cl' E' 20¢ ァ ≥ muillenT ,muinetea 2 2 etsy.mcdaniel@pacelabs.com 2 эогол, Саксили, Саатили, 9 2 muillyned ,muined , pinest/ NOTS 新数100 (00A(00)) outhernco.com 30250 ٥ Methanol Preservatives Na2S2O3 Attention: scsinvoices@ Company Name: Pace Project Manager: Pace Profile #: 327 (AP) HOBN ЮН D Section C Invoice Information: Noelia 3 EONH 0 152Ot 1403 Pace Quote: 9/m/19 20:10 Address: nubleserved 3 # OF CONTAINERS 9.25.19 な SIGNATURE of SAMPLER: PRINT Name of SAMPLER: SAMPLE TEMP AT COLLECTION 110 TIME 8 墨屋 DATE pediar Mahmylowinke COLLECTED Pace 1 TIME Lauren Petty, Geosyntec Purchase Order #: SCS10382775 START Plant Hammond क स्व DATE Required Project Information: Project #: GW6581 Report To: Joju Abraham ত SAMPLE TYPE (G-GRAB C-COMP) Project Name: MATRIX CODE (see valid codes to left) Section B Copy To: CODE DW WY WW WP OL OL OL SS MATRIX
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Chine Georgia Power - Coal Combustion Residuals 7 One Character per box. (A-Z, 0-91,..) Sample Ids must be unique Requested Due Date: Hauf arch SAMPLE ID 3 mail: jabraham@southernco.com 2480 Maner Road (404)506-7239 はるのか Required Client Information: **Atlanta, GA 30339** # MBTI Page 14 of 17

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Sample Condition Upon Receipt ace Analytical Project # Client Name: WO#:2623560 Courier: Fed Ex UPS USPS Client Commercial Pace Other Tracking #: Date: 10/23/19 Custody Seal on Cooler/Box Present: yes no Seals intact: CLIENT: GAPower-CCR Packing Material: Bubble Wrap Bubble Bags None Type of Ice: Wel Blue None Samples on ice, cooling process has begun Thermometer Used Date and Initials of person examining Biological Tissue is Frozen: Yes **Cooler Temperature** contents: Comments: Temp should be above freezing to 6°C ØYes □No □N/A 1. Chain of Custody Present: Yes ONo □N/A 2. Chain of Custody Filled Out: -ElYes □No Ιз. □N/A Chain of Custody Relinquished: ElYes □No □N/A 4. Sampler Name & Signature on COC: -EYes □No □N/A Samples Arrived within Hold Time: □Yes ☑No □N/A 6. Short Hold Time Analysis (<72hr): Rush Turn Around Time Requested: ☐Yes ☑No □N/A 7. -EYes □No □N/A 8. Sufficient Volume: LIN/A Correct Containers Used: -TYes | No □N/A -Pace Containers Used: □N/A 1 Yes □No 10. Containers Intact: ☐Yes ☐No ₽N/A Filtered volume received for Dissolved tests → Yes □NO □N/A 12. Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: All containers needing preservation have been checked. DYES □No □N/A All containers needing preservation are found to be in PYES □No □N/A compliance with EPA recommendation. Lot # of added Initial when ☐Yes ☐No preservative completed exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) □Yes □No □N/A 14. Samples checked for dechlorination: □Yes □No ÆNA Headspace in VOA Vials (>6mm): 15. □Yes □No ÆÑA 16. Trip Blank Present: □Yes □No □NA Trip Blank Custody Seals Present

Client Notification/ Resolution:

Person Contacted:

Comments/ Resolution:

Date/Time:

Date/Time:

Pace Trip Blank Lot # (if purchased):

Project Manager Review:

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)

Date:





December 13, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 26, 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,

Kevin Herring for Betsy McDaniel

Kein Slury

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





CERTIFICATIONS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Pace Analytical Services Atlanta

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 Asheville

2225 Riverside Drive, Asheville, NC 28804 Florida/NELAP Certification #: E87648 Massachusetts Certification #: M-NC030

North Carolina Drinking Water Certification #: 37712

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



SAMPLE SUMMARY

Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2623636001 | HGWC-16 | Water | 09/25/19 11:00 | 09/26/19 15:22 |
| 2623636002 | HGWC-17 | Water | 09/25/19 12:35 | 09/26/19 15:22 |
| 2623636003 | HGWC-18 | Water | 09/25/19 14:38 | 09/26/19 15:22 |
| 2623636004 | MW-21d | Water | 09/25/19 16:12 | 09/26/19 15:22 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|------------------------|----------|----------------------|------------|
| 2623636001 | HGWC-16 | EPA 6020B | CSW | 13 | PASI-GA |
| | | SM 2540C | ALW | 1 | PASI-GA |
| | | EPA 300.0 Rev 2.1 1993 | CDC | 3 | PASI-A |
| 2623636002 | HGWC-17 | EPA 6020B | CSW | 13 | PASI-GA |
| | | SM 2540C | ALW | 1 | PASI-GA |
| | | EPA 300.0 Rev 2.1 1993 | CDC | 3 | PASI-A |
| 2623636003 | HGWC-18 | EPA 6020B | CSW | 13 | PASI-GA |
| | | SM 2540C | ALW | 1 | PASI-GA |
| | | EPA 300.0 Rev 2.1 1993 | CDC | 3 | PASI-A |
| 2623636004 | MW-21d | EPA 6020B | CSW | 13 | PASI-GA |
| | | SM 2540C | ALW | 1 | PASI-GA |
| | | EPA 300.0 Rev 2.1 1993 | CDC | 3 | PASI-A |



Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Date: 12/13/2019 01:24 PM

| Sample: HGWC-16 | Lab ID: | 2623636001 | Collecte | ed: 09/25/19 | 11:00 | Received: 09/ | 26/19 15:22 Ma | atrix: Water | |
|------------------------------|------------|---------------|-------------|--------------|---------|----------------|----------------|--------------|-----|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qua |
| 6020B MET ICPMS | Analytical | Method: EPA 6 | 6020B Pre | paration Met | hod: Ef | PA 3005A | | | |
| Arsenic | ND | mg/L | 0.0050 | 0.00035 | 1 | 09/30/19 12:43 | 10/01/19 21:33 | 7440-38-2 | |
| Barium | 0.11 | mg/L | 0.010 | 0.00049 | 1 | 09/30/19 12:43 | 10/01/19 21:33 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000074 | 1 | 09/30/19 12:43 | 10/01/19 21:33 | 7440-41-7 | |
| Boron | 2.7 | mg/L | 2.0 | 0.25 | 50 | 09/30/19 12:43 | 10/01/19 21:39 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0025 | 0.00011 | 1 | 09/30/19 12:43 | 10/01/19 21:33 | 7440-43-9 | |
| Calcium | 185 | mg/L | 5.0 | 0.55 | 50 | 09/30/19 12:43 | 10/01/19 21:39 | 7440-70-2 | |
| Chromium | ND | mg/L | 0.010 | 0.00039 | 1 | 09/30/19 12:43 | 10/01/19 21:33 | 7440-47-3 | |
| Cobalt | ND | mg/L | 0.0050 | 0.00030 | 1 | 09/30/19 12:43 | 10/01/19 21:33 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.000046 | 1 | 09/30/19 12:43 | 10/01/19 21:33 | 7439-92-1 | |
| Lithium | 0.0038J | mg/L | 0.030 | 0.00078 | 1 | 09/30/19 12:43 | 10/01/19 21:33 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.00095 | 1 | 09/30/19 12:43 | 10/01/19 21:33 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0013 | 1 | 09/30/19 12:43 | 10/01/19 21:33 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.000052 | 1 | 09/30/19 12:43 | 10/01/19 21:33 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 813 | mg/L | 10.0 | 10.0 | 1 | | 10/02/19 12:05 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 Rev 2 | 2.1 1993 | | | | | |
| Chloride | 84.4 | mg/L | 1.0 | 0.60 | 1 | | 10/01/19 20:57 | 16887-00-6 | |
| Fluoride | ND | mg/L | 0.30 | 0.050 | 1 | | 10/01/19 20:57 | 16984-48-8 | |
| Sulfate | 223 | mg/L | 5.0 | 2.5 | 5 | | 10/02/19 09:55 | 14808-79-8 | |



Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Date: 12/13/2019 01:24 PM

| Sample: HGWC-17 | Lab ID: | 2623636002 | Collecte | ed: 09/25/19 | 9 12:35 | Received: 09/ | 26/19 15:22 Ma | atrix: Water | |
|------------------------------|------------|---------------|-------------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA 6 | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Arsenic | ND | mg/L | 0.0050 | 0.00035 | 1 | 09/30/19 12:43 | 10/01/19 21:44 | 7440-38-2 | |
| Barium | 0.025 | mg/L | 0.010 | 0.00049 | 1 | 09/30/19 12:43 | 10/01/19 21:44 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000074 | 1 | 09/30/19 12:43 | 10/01/19 21:44 | 7440-41-7 | |
| Boron | 8.1 | mg/L | 2.0 | 0.25 | 50 | 09/30/19 12:43 | 10/01/19 21:50 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0025 | 0.00011 | 1 | 09/30/19 12:43 | 10/01/19 21:44 | 7440-43-9 | |
| Calcium | 305 | mg/L | 5.0 | 0.55 | 50 | 09/30/19 12:43 | 10/01/19 21:50 | 7440-70-2 | |
| Chromium | ND | mg/L | 0.010 | 0.00039 | 1 | 09/30/19 12:43 | 10/01/19 21:44 | 7440-47-3 | |
| Cobalt | 0.015 | mg/L | 0.0050 | 0.00030 | 1 | 09/30/19 12:43 | 10/01/19 21:44 | 7440-48-4 | |
| Lead | 0.000089J | mg/L | 0.0050 | 0.000046 | 1 | 09/30/19 12:43 | 10/01/19 21:44 | 7439-92-1 | |
| Lithium | 0.0011J | mg/L | 0.030 | 0.00078 | 1 | 09/30/19 12:43 | 10/01/19 21:44 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.00095 | 1 | 09/30/19 12:43 | 10/01/19 21:44 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0013 | 1 | 09/30/19 12:43 | 10/01/19 21:44 | 7782-49-2 | |
| Thallium | 0.00012J | mg/L | 0.0010 | 0.000052 | 1 | 09/30/19 12:43 | 10/01/19 21:44 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 1280 | mg/L | 10.0 | 10.0 | 1 | | 10/02/19 12:05 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 Rev 2 | 2.1 1993 | | | | | |
| Chloride | 139 | mg/L | 10.0 | 6.0 | 10 | | 10/02/19 10:09 | 16887-00-6 | |
| Fluoride | 0.081J | mg/L | 0.30 | 0.050 | 1 | | 10/01/19 21:12 | 16984-48-8 | |
| Sulfate | 434 | mg/L | 10.0 | 5.0 | 10 | | 10/02/19 10:09 | 14808-79-8 | |



Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Date: 12/13/2019 01:24 PM

| Sample: HGWC-18 | Lab ID: | 2623636003 | Collecte | ed: 09/25/19 | 14:38 | Received: 09/ | 26/19 15:22 Ma | atrix: Water | |
|------------------------------|------------|---------------|-------------|--------------|---------|----------------|----------------|--------------|-----|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qua |
| 6020B MET ICPMS | Analytical | Method: EPA 6 | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Arsenic | 0.0044J | mg/L | 0.0050 | 0.00035 | 1 | 09/30/19 12:43 | 10/01/19 22:07 | 7440-38-2 | |
| Barium | 0.030 | mg/L | 0.010 | 0.00049 | 1 | 09/30/19 12:43 | 10/01/19 22:07 | 7440-39-3 | |
| Beryllium | 0.0031 | mg/L | 0.0030 | 0.000074 | 1 | 09/30/19 12:43 | 10/01/19 22:07 | 7440-41-7 | |
| Boron | 11.7 | mg/L | 2.0 | 0.25 | 50 | 09/30/19 12:43 | 10/01/19 22:13 | 7440-42-8 | |
| Cadmium | 0.0023J | mg/L | 0.0025 | 0.00011 | 1 | 09/30/19 12:43 | 10/01/19 22:07 | 7440-43-9 | |
| Calcium | 437 | mg/L | 5.0 | 0.55 | 50 | 09/30/19 12:43 | 10/01/19 22:13 | 7440-70-2 | |
| Chromium | ND | mg/L | 0.010 | 0.00039 | 1 | 09/30/19 12:43 | 10/01/19 22:07 | 7440-47-3 | |
| Cobalt | 0.18 | mg/L | 0.0050 | 0.00030 | 1 | 09/30/19 12:43 | 10/01/19 22:07 | 7440-48-4 | |
| Lead | 0.0015J | mg/L | 0.0050 | 0.000046 | 1 | 09/30/19 12:43 | 10/01/19 22:07 | 7439-92-1 | |
| Lithium | 0.015J | mg/L | 0.030 | 0.00078 | 1 | 09/30/19 12:43 | 10/01/19 22:07 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.00095 | 1 | 09/30/19 12:43 | 10/01/19 22:07 | 7439-98-7 | |
| Selenium | 0.020 | mg/L | 0.010 | 0.0013 | 1 | 09/30/19 12:43 | 10/01/19 22:07 | 7782-49-2 | |
| Thallium | 0.00019J | mg/L | 0.0010 | 0.000052 | 1 | 09/30/19 12:43 | 10/01/19 22:07 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 1960 | mg/L | 10.0 | 10.0 | 1 | | 10/02/19 12:05 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 Rev 2 | 2.1 1993 | | | | | |
| Chloride | 181 | mg/L | 15.0 | 9.0 | 15 | | 10/02/19 10:23 | 16887-00-6 | |
| Fluoride | 0.73 | mg/L | 0.30 | 0.050 | 1 | | 10/01/19 21:26 | 16984-48-8 | |
| Sulfate | 920 | mg/L | 15.0 | 7.5 | 15 | | 10/02/19 10:23 | 14808-79-8 | |



Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Date: 12/13/2019 01:24 PM

| Sample: MW-21d | Lab ID: | 2623636004 | Collecte | ed: 09/25/19 | 9 16:12 | Received: 09/ | 26/19 15:22 Ma | atrix: Water | |
|------------------------------|------------|--------------|-----------------|--------------|----------|----------------|----------------|--------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Met | thod: Ef | PA 3005A | | | |
| Arsenic | ND | mg/L | 0.0050 | 0.00035 | 1 | 09/30/19 12:43 | 10/01/19 22:19 | 7440-38-2 | |
| Barium | 0.066 | mg/L | 0.010 | 0.00049 | 1 | 09/30/19 12:43 | 10/01/19 22:19 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000074 | 1 | 09/30/19 12:43 | 10/01/19 22:19 | 7440-41-7 | |
| Boron | 6.4 | mg/L | 2.0 | 0.25 | 50 | 09/30/19 12:43 | 10/01/19 22:24 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0025 | 0.00011 | 1 | 09/30/19 12:43 | 10/01/19 22:19 | 7440-43-9 | |
| Calcium | 420 | mg/L | 5.0 | 0.55 | 50 | 09/30/19 12:43 | 10/01/19 22:24 | 7440-70-2 | |
| Chromium | ND | mg/L | 0.010 | 0.00039 | 1 | 09/30/19 12:43 | 10/01/19 22:19 | 7440-47-3 | |
| Cobalt | ND | mg/L | 0.0050 | 0.00030 | 1 | 09/30/19 12:43 | 10/01/19 22:19 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.000046 | 1 | 09/30/19 12:43 | 10/01/19 22:19 | 7439-92-1 | |
| Lithium | 0.024J | mg/L | 0.030 | 0.00078 | 1 | 09/30/19 12:43 | 10/01/19 22:19 | 7439-93-2 | |
| Molybdenum | 0.038 | mg/L | 0.010 | 0.00095 | 1 | 09/30/19 12:43 | 10/01/19 22:19 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0013 | 1 | 09/30/19 12:43 | 10/01/19 22:19 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.000052 | 1 | 09/30/19 12:43 | 10/01/19 22:19 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 1970 | mg/L | 10.0 | 10.0 | 1 | | 10/02/19 12:05 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 Rev 2 | 2.1 1993 | | | | | |
| Chloride | 245 | mg/L | 17.0 | 10.2 | 17 | | 10/02/19 10:37 | 16887-00-6 | |
| Fluoride | ND | mg/L | 0.30 | 0.050 | 1 | | 10/01/19 22:10 | 16984-48-8 | |
| Sulfate | 767 | mg/L | 17.0 | 8.5 | 17 | | 10/02/19 10:37 | 14808-79-8 | |



Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Date: 12/13/2019 01:24 PM

QC Batch: 36170 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET

Associated Lab Samples: 2623636001, 2623636002, 2623636003, 2623636004

METHOD BLANK: 163336 Matrix: Water
Associated Lab Samples: 2623636001, 2623636002, 2623636003, 2623636004

| | | Blank | Reporting | | | |
|------------|-------|--------|-----------|----------|----------------|------------|
| Parameter | Units | Result | Limit | MDL | Analyzed | Qualifiers |
| Arsenic | mg/L | ND ND | 0.0050 | 0.00035 | 10/01/19 18:14 | |
| Barium | mg/L | ND | 0.010 | 0.00049 | 10/01/19 18:14 | |
| Beryllium | mg/L | ND | 0.0030 | 0.000074 | 10/01/19 18:14 | |
| Boron | mg/L | ND | 0.040 | 0.0049 | 10/01/19 18:14 | |
| Cadmium | mg/L | ND | 0.0025 | 0.00011 | 10/01/19 18:14 | |
| Calcium | mg/L | ND | 0.10 | 0.011 | 10/01/19 18:14 | |
| Chromium | mg/L | ND | 0.010 | 0.00039 | 10/01/19 18:14 | |
| Cobalt | mg/L | ND | 0.0050 | 0.00030 | 10/01/19 18:14 | |
| Lead | mg/L | ND | 0.0050 | 0.000046 | 10/01/19 18:14 | |
| Lithium | mg/L | ND | 0.030 | 0.00078 | 10/01/19 18:14 | |
| Molybdenum | mg/L | ND | 0.010 | 0.00095 | 10/01/19 18:14 | |
| Selenium | mg/L | ND | 0.010 | 0.0013 | 10/01/19 18:14 | |
| Thallium | mg/L | ND | 0.0010 | 0.000052 | 10/01/19 18:14 | |

| | | Spike | LCS | LCS | % Rec | |
|------------|-------|-------|--------|-------|--------|------------|
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Arsenic | mg/L | 0.1 | 0.097 | 97 | 80-120 | |
| Barium | mg/L | 0.1 | 0.10 | 100 | 80-120 | |
| Beryllium | mg/L | 0.1 | 0.097 | 97 | 80-120 | |
| Boron | mg/L | 1 | 0.97 | 97 | 80-120 | |
| Cadmium | mg/L | 0.1 | 0.10 | 101 | 80-120 | |
| Calcium | mg/L | 1 | 0.98 | 98 | 80-120 | |
| Chromium | mg/L | 0.1 | 0.098 | 98 | 80-120 | |
| Cobalt | mg/L | 0.1 | 0.099 | 99 | 80-120 | |
| Lead | mg/L | 0.1 | 0.098 | 98 | 80-120 | |
| Lithium | mg/L | 0.1 | 0.099 | 99 | 80-120 | |
| Molybdenum | mg/L | 0.1 | 0.10 | 102 | 80-120 | |
| Selenium | mg/L | 0.1 | 0.10 | 102 | 80-120 | |
| Thallium | mg/L | 0.1 | 0.098 | 98 | 80-120 | |

| MATRIX SPIKE & MATRIX SP | IKE DUPL | ICATE: 1633 | 38 | | 163339 | | | | | | | |
|--------------------------|----------|-------------|-------|-------|--------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2623623007 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Arsenic | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.099 | 100 | 99 | 75-125 | 1 | 20 | |
| Barium | mg/L | 0.017 | 0.1 | 0.1 | 0.13 | 0.12 | 109 | 106 | 75-125 | 3 | 20 | |
| Beryllium | mg/L | 0.000084J | 0.1 | 0.1 | 0.10 | 0.093 | 102 | 93 | 75-125 | 9 | 20 | |

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



Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Date: 12/13/2019 01:24 PM

| MATRIX SPIKE & MATRIX | SPIKE DUPL | ICATE: 1633 | 38 | | 163339 | | | | | | | |
|-----------------------|------------|----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|------|
| Parameter | Units | 2623623007 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
| Boron | mg/L | 0.0072J | 1 | 1 | 1.0 | 0.95 | 100 | 94 | 75-125 | 6 | 20 | |
| Cadmium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 101 | 100 | 75-125 | 2 | 20 | |
| Calcium | mg/L | 1.1 | 1 | 1 | 2.1 | 2.1 | 97 | 94 | 75-125 | 1 | 20 | |
| Chromium | mg/L | 0.00076J | 0.1 | 0.1 | 0.10 | 0.10 | 101 | 101 | 75-125 | 1 | 20 | |
| Cobalt | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 104 | 100 | 75-125 | 4 | 20 | |
| Lead | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.098 | 99 | 98 | 75-125 | 2 | 20 | |
| Lithium | mg/L | 0.0029J | 0.1 | 0.1 | 0.10 | 0.097 | 102 | 94 | 75-125 | 7 | 20 | |
| Molybdenum | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.10 | 108 | 104 | 75-125 | 4 | 20 | |
| Selenium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.098 | 102 | 98 | 75-125 | 3 | 20 | |
| Thallium | mg/L | ND | 0.1 | 0.1 | 0.099 | 0.099 | 99 | 99 | 75-125 | 0 | 20 | |

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



Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

QC Batch: 36325 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 2623636001, 2623636002, 2623636003, 2623636004

LABORATORY CONTROL SAMPLE: 164004

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers **Total Dissolved Solids** mg/L 400 421 105 84-108

SAMPLE DUPLICATE: 164005

2623620005 Dup Max RPD **RPD** Parameter Units Result Result Qualifiers **Total Dissolved Solids** 159 152 5 10 mg/L

SAMPLE DUPLICATE: 164006

Date: 12/13/2019 01:24 PM

2623623005 Dup Max Result RPD RPD Qualifiers Parameter Units Result mg/L 81.0 **Total Dissolved Solids** 83.0 2 10

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



Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Date: 12/13/2019 01:24 PM

QC Batch: 500861 Analysis Method: EPA 300.0 Rev 2.1 1993

QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 2623636001, 2623636002, 2623636003, 2623636004

METHOD BLANK: 2694298 Matrix: Water
Associated Lab Samples: 2623636001, 2623636002, 2623636003, 2623636004

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|-----------------|--------------------|-------|----------------|------------|
| Chloride | mg/L | ND | 1.0 | 0.60 | 10/01/19 16:22 | |
| Fluoride | mg/L | ND | 0.10 | 0.050 | 10/01/19 16:22 | |
| Sulfate | mg/L | ND | 1.0 | 0.50 | 10/01/19 16:22 | |

| LABORATORY CONTROL SAMPLE: | 2694299 | | | | | |
|----------------------------|---------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Chloride | mg/L | 50 | 49.2 | 98 | 90-110 | |
| Fluoride | mg/L | 2.5 | 2.3 | 92 | 90-110 | |
| Sulfate | mg/L | 50 | 50.4 | 101 | 90-110 | |

| MATRIX SPIKE & MATRIX SP | PIKE DUPLI | CATE: 2694 | 300 | | 2694301 | | | | | | | |
|--------------------------|------------|------------|-------|-------|---------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2623559001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Chloride | mg/L | 1.7 | 50 | 50 | 53.7 | 53.7 | 104 | 104 | 90-110 | 0 | 10 | |
| Fluoride | mg/L | 0.058J | 2.5 | 2.5 | 2.5 | 2.5 | 98 | 99 | 90-110 | 1 | 10 | |
| Sulfate | mg/L | 20.7 | 50 | 50 | 72.4 | 72.6 | 103 | 104 | 90-110 | 0 | 10 | |

| MATRIX SPIKE & MATRIX SP | IKE DUPL | ICATE: 2694 | 302 | | 2694303 | | | | | | | |
|--------------------------|----------|-------------|-------|-------|---------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2623584001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Chloride | mg/L | 89.4 | 50 | 50 | 132 | 133 | 86 | 87 | 90-110 | 1 | 10 | M1 |
| Fluoride | mg/L | 0.42 | 2.5 | 2.5 | 4.2 | 4.3 | 152 | 153 | 90-110 | 1 | 10 | M1 |
| Sulfate | mg/L | 142 | 50 | 50 | 177 | 180 | 69 | 74 | 90-110 | 2 | 10 | M1 |

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



QUALIFIERS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

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

Date: 12/13/2019 01:24 PM

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



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Date: 12/13/2019 01:24 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|------------------------|----------|-------------------|---------------------|
| 2623636001 | HGWC-16 | EPA 3005A | 36170 | EPA 6020B | 36202 |
| 2623636002 | HGWC-17 | EPA 3005A | 36170 | EPA 6020B | 36202 |
| 2623636003 | HGWC-18 | EPA 3005A | 36170 | EPA 6020B | 36202 |
| 2623636004 | MW-21d | EPA 3005A | 36170 | EPA 6020B | 36202 |
| 2623636001 | HGWC-16 | SM 2540C | 36325 | | |
| 2623636002 | HGWC-17 | SM 2540C | 36325 | | |
| 2623636003 | HGWC-18 | SM 2540C | 36325 | | |
| 2623636004 | MW-21d | SM 2540C | 36325 | | |
| 2623636001 | HGWC-16 | EPA 300.0 Rev 2.1 1993 | 500861 | | |
| 2623636002 | HGWC-17 | EPA 300.0 Rev 2.1 1993 | 500861 | | |
| 2623636003 | HGWC-18 | EPA 300.0 Rev 2.1 1993 | 500861 | | |
| 2623636004 | MW-21d | EPA 300.0 Rev 2.1 1993 | 500861 | | |



CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| | | | | | : | | | | | | | | | | L | | | 1 | | | ſ |
|------------|--|---|----------------------|---------------------------|-------------------|-----------------------------------|----------------------------|-----------------------------|--------------|--|------------------------|----------------------------|---------------|---------------------------------|-------|-----------------------|----------------------|------------------------|------------------------|---------------|---------------|
| Section A | Section A Beautred Client Information: | Section 5 Required Project Information: | | | Invoice In | Section C Invoice Information: | ä | | | | | | | | | Page : | | _ | č | _ | |
| Company | W. Georgia Dower - Coal Combustion Besidials | Report To: Join Abraham | | | Attention: | | scsinvoices@southernco.com | outhernco | E OS | | | | | | Ţ | | | $\left \cdot \right $ | 3 | $\frac{1}{2}$ | 7 |
| Address: | | Copy To: Lauren Petty, Geosyntec | tec | | Compa | ğ | | | | | | | | | | | | | | | |
| Atlanta, (| GA 30339 | | | | Address: | 3: | | | | | | | | | | Regi | Istory | Regulatory/Agency, | | | |
| Email: | Email: jabraham@southernco.com | # | 775 | | Pace Quote: | note: | | | | | | | | | | | | | | | |
| Phone: | (404)506-7239 Fax: | Project Name: Plant Hammond | | | Pace P | au | | betsy.mcdaniel@pacelabs.com | niel@p: | scelabs. | com. | | | 1 | | #S | State //Logation | atton | | | |
| Request | Requested Due Date: Thu Land TAT | Project #: GWGS B1 | | | Pace P | Pace Profile #: | 327 (AP) | | | | | | 1 | | | | Ϋ́ | | | | |
| | | | | } | | | | | | | | 製工器 | 豆 | Requested Atalysis Ettered (VV) | 2 | | | | | | |
| | AIGLET | (thet of | COLLECTED | | | Ą. | Preservatives | Se | NA | Ŋ | 1, | W | NN | 1 | + | | | | | | |
| # W | SAMPLE ID One Character per box. Semple Ids must be unique Tassee | IPLE TYPE (G=GRAB C=CC | END | O PPLE TEMP AT COLLECTION | - CONTAINERS | POS | но | SSOS lonari | nalyses Test | nnic , Barium, Beryllium, on, Calcium, Cadmium, | Dmium, Cobalt, Lead | muilladT ,muin | 2' CI' E' 20¢ | | | ((4)X) saisold2 lanki | idual Chlorine (Y/V) | | | | |
| ITI | יות מון ליוני | S DATE | PAZ/IA | # 8 8 97.€ | o# 3 | гн | HC | θM | 410 | | 7 CPL | ies > | | | + | | Bu 2 | | | - | \top |
| 6 | HGWC-17 | 7) | 9/22/19 | 2:32 g | | 3 | | | 1 | <u>×</u> | Λ λ | > | · A | | _ | | 2 | | | + 4 | Ι4 |
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| | ADDITIONAL COMMENTS | RELINGUISHED BY/AFEILATION | | DATE | 1000 | | 1 | ACORPTED BY / AFFILIATION | BY/AF | LIATIO | - | | DATE | | TIME. | | BAM | SAMPLE CONDITIONS | NOLLIGA | 8 | W. |
| | | Jus/6004 | ુ | 61/54/6 | Shill | 12/12 | Pollio | 111/11/11 | hah | nh | Gegynle | 7 | 9/25/19 | | 1745 | | | | | | |
| | | Machaelyum | aneo | 61/52/b | | 1915 | | 3)= | 12/ | 9 | | | भ्राकात | <u>- ।</u> ध्र | 135 | 17.7 | , | | ╎ | 8 | |
| Pa | | The Parce | | \$1.55.18 | 2 | 7 | ALLA V | 3 | * | ZZZ | * | 7 | \$ 1 | 2 | al | 2 | <u> </u> | 7 | Ĵ | | 1 |
| acc 1 | 0#:2623636 | | AMPLERINAMEA | AME AND SIGNATUE | | _ | | | | | 1 | | i, | | | | 11 | $\dagger \dagger$ | | | $\frac{1}{1}$ |
| 5 01.1 | | | PRINT Name o | Name of SAMPLER: | ⁿ ()4∾ | \parallel \leq | 526175 | | | | | | | | | эча | no bavie | | bd 91 | se)d | 1 |
| 262 | 11 | | SIGNATURE of SAMPLER | I SAMPLEI | | | 1 | | | DAI | DATE Signed'q~25',7019 | ^{3d:} 6 -7 | 2.5 | 610 | | MƏT | | Ice (Y/V) | Seale 1000 (V/V) | ms2 tostni | (N/A) |
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| Sami | ple Condition | Upon Receir | | 000000 | |
|--|---------------------|------------------------|---------|------------------------------------|---------|
| | # 1 O | | MO# | : 2623636 | |
| Client Name: | GALOU | 110 | PM: BM | Due Date: | 10/03/1 |
| · · | | | CLIENT: | GAPower-CCR | |
| Courier: Fed Ex UPS USPS Client | ☐ Commercial | Pace Other | | | |
| Tracking #: | | | | Proj. Due Date: Proj. Name: | |
| Custody Seal on Cooler/Box Present: | ☐ nổ Sealsi | ntact: | no no | | |
| Packing Material: Bubble Wrap Bubble B | ags 🗌 None 📗 | Other | | | |
| Thermometer Used 214 | Type of Ice: Vet | Blue None | Sample | s on ice, cooling process ha | s begun |
| Cooler Temperature | Biological Tissue i | s Frozen: Yes No | Date | e and Initials of person execution | amining |
| Temp should be above freezing to 6°C ⁵ | | Comments: | | mens. | 204 |
| Chain of Custody Present: | ØYes □No □N/A | 1 | | | |
| Chain of Custody Filled Out: | DYES ONO ON/A | 2. | | | |
| Chain of Custody Relinquished: | □xes □no □n/a | 3. | | | |
| Sampler Name & Signature on COC: | DYES ONO ON/A | 4. | | | |
| Samples Arrived within Hold Time: | Yes ONO ON/A | 5. | | | |
| Short Hold Time Analysis (<72hr): | □Yes □No □N/A | 6. | | | |
| Rush Turn Around Time Requested: | □Yes 望No □N/A | 7. | | | |
| Sufficient Volume: | Yes ONO ON/A | 8. | | • | |
| Correct Containers Used: | Yes No N/A | 9. | | | |
| -Pace Containers Used: | ZYes ONO ON/A | | | | |
| Containers Intact: | Yes ONO ON/A | 10. | | | |
| Filtered volume received for Dissolved tests | □Yes □No ☑MA | 11. | | | |
| Sample Labels match COC: | Yes DNo DN/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 | Yes ONO ON/A | | | | |
| compliance with EPA recommendation. | Tes UNO UN/A | taitialbaa | 1,0,#,0 | f added | |
| exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) | □Yes QNo | Initial when completed | preser | | |
| Samples checked for dechlorination: | □Yes □No ☑MA | 14. | | | |
| Headspace in VOA Vials (>6mm): | □Yes □No □N/A | 15. | | | |
| Trip Blank Present: | □Yes □No 12K/A | 16. | | | |
| Trip Blank Custody Seals Present | □Yes □No □N/A | | | • | |
| Pace Trip Blank Lot # (if purchased): | _ | | | | |
| 4 | | | Eiold I | Data Required? Y | / N |
| Client Notification/ Resolution: | Data | Time: | rieid i | Sara Nequireu: | |
| Person Contacted: | Date/ | | v | - | |
| Comments/ Resolution: | | <u> </u> | | | |
| | | *4. | | | |
| N | | - | | | |

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)

Project Manager Review:

Date:





October 29, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond AP GW6581

Pace Project No.: 2623637

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 26, 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

Beton M Damil

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



(770)734-4200



CERTIFICATIONS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623637

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 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

Missouri Certification #: 235

Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282

South Dakota Certification
Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L



SAMPLE SUMMARY

Project: Plant Hammond AP GW6581

Pace Project No.: 2623637

| Lab ID | Sample ID | Matrix | Date Collected | Date Received | |
|------------|-----------|--------|----------------|----------------|--|
| 2623637001 | HGWC-16 | Water | 09/25/19 11:00 | 09/26/19 15:22 | |
| 2623637002 | HGWC-17 | Water | 09/25/19 12:35 | 09/26/19 15:22 | |
| 2623637003 | HGWC-18 | Water | 09/25/19 14:38 | 09/26/19 15:22 | |
| 2623637004 | MW-21d | Water | 09/25/19 16:12 | 09/26/19 15:22 | |



SAMPLE ANALYTE COUNT

Project: Plant Hammond AP GW6581

Pace Project No.: 2623637

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|--------------------------|----------|----------------------|------------|
| 2623637001 | HGWC-16 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | VAL | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2623637002 | HGWC-17 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | VAL | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2623637003 | HGWC-18 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | VAL | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2623637004 | MW-21d | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | VAL | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |



Project: Plant Hammond AP GW6581

Pace Project No.: 2623637

Sample: HGWC-16 Lab ID: 2623637001 Collected: 09/25/19 11:00 Received: 09/26/19 15:22 Matrix: Water PWS: Site ID: Sample Type: Method Act ± Unc (MDC) Carr Trac CAS No. **Parameters** Units Analyzed Qual EPA 9315 $0.550 \pm 0.350 \quad (0.586)$ Radium-226 pCi/L 10/16/19 08:23 13982-63-3 C:85% T:NA EPA 9320 $0.0933 \pm 0.368 \quad (0.831)$ 10/22/19 15:57 15262-20-1 Radium-228 pCi/L C:74% T:84% Total Radium Total Radium 0.643 ± 0.718 (1.42) pCi/L 10/24/19 12:46 7440-14-4 Calculation



Project: Plant Hammond AP GW6581

Pace Project No.: 2623637

Sample: HGWC-17 Lab ID: 2623637002 Collected: 09/25/19 12:35 Received: 09/26/19 15:22 Matrix: Water PWS: Site ID: Sample Type: Method Act ± Unc (MDC) Carr Trac CAS No. **Parameters** Units Analyzed Qual EPA 9315 $0.865 \pm 0.394 \quad (0.526)$ Radium-226 pCi/L 10/16/19 08:23 13982-63-3 C:89% T:NA EPA 9320 0.678 ± 0.438 (0.831) Radium-228 pCi/L 10/22/19 15:58 15262-20-1 C:69% T:84% Total Radium Total Radium 1.54 ± 0.832 (1.36) pCi/L 10/24/19 12:46 7440-14-4 Calculation



Project: Plant Hammond AP GW6581

Pace Project No.: 2623637

Sample: HGWC-18 Lab ID: 2623637003 Collected: 09/25/19 14:38 Received: 09/26/19 15:22 Matrix: Water PWS: Site ID: Sample Type: Method Act ± Unc (MDC) Carr Trac CAS No. **Parameters** Units Analyzed Qual EPA 9315 1.09 ± 0.410 (0.418) Radium-226 pCi/L 10/16/19 08:23 13982-63-3 C:93% T:NA EPA 9320 1.68 ± 0.583 (0.803) Radium-228 pCi/L 10/22/19 15:58 15262-20-1 C:75% T:72% Total Radium Total Radium 2.77 ± 0.993 (1.22) pCi/L 10/24/19 12:46 7440-14-4 Calculation



Project: Plant Hammond AP GW6581

Total Radium

Calculation

Pace Project No.: 2623637

Total Radium

Sample: MW-21d Lab ID: 2623637004 Collected: 09/25/19 16:12 Received: 09/26/19 15:22 Matrix: Water PWS: Site ID: Sample Type: Method Act ± Unc (MDC) Carr Trac CAS No. **Parameters** Units Analyzed Qual EPA 9315 0.477 ± 0.280 (0.393) Radium-226 pCi/L 10/16/19 08:23 13982-63-3 C:94% T:NA EPA 9320 $0.274 \pm 0.414 \quad (0.893)$ Radium-228 pCi/L 10/22/19 15:59 15262-20-1

pCi/L

10/24/19 12:46 7440-14-4

C:59% T:83%

0.751 ± 0.694 (1.29)



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond AP GW6581

Pace Project No.: 2623637

QC Batch: 365382 Analysis Method: EPA 9320

QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228

Associated Lab Samples: 2623637001, 2623637002, 2623637003, 2623637004

METHOD BLANK: 1772187 Matrix: Water

Associated Lab Samples: 2623637001, 2623637002, 2623637003, 2623637004

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-228 0.573 ± 0.379 (0.723) C:78% T:84% pCi/L 10/22/19 15:57

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



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond AP GW6581

Pace Project No.: 2623637

QC Batch: 365379 Analysis Method: EPA 9315

QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium

Associated Lab Samples: 2623637001, 2623637002, 2623637003, 2623637004

METHOD BLANK: 1772184 Matrix: Water

Associated Lab Samples: 2623637001, 2623637002, 2623637003, 2623637004

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-226 0.298 \pm 0.261 (0.477) C:93% T:NA pCi/L 10/16/19 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.



QUALIFIERS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623637

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

Date: 10/29/2019 10:37 AM

PASI-PA Pace Analytical Services - Greensburg



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond AP GW6581

Pace Project No.: 2623637

Date: 10/29/2019 10:37 AM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|--------------------------|----------|-------------------|---------------------|
| 2623637001 | HGWC-16 | EPA 9315 | 365379 | | |
| 2623637002 | HGWC-17 | EPA 9315 | 365379 | | |
| 2623637003 | HGWC-18 | EPA 9315 | 365379 | | |
| 2623637004 | MW-21d | EPA 9315 | 365379 | | |
| 2623637001 | HGWC-16 | EPA 9320 | 365382 | | |
| 2623637002 | HGWC-17 | EPA 9320 | 365382 | | |
| 2623637003 | HGWC-18 | EPA 9320 | 365382 | | |
| 2623637004 | MW-21d | EPA 9320 | 365382 | | |
| 2623637001 | HGWC-16 | Total Radium Calculation | 367752 | | |
| 2623637002 | HGWC-17 | Total Radium Calculation | 367752 | | |
| 2623637003 | HGWC-18 | Total Radium Calculation | 367752 | | |
| 2623637004 | MW-21d | Total Radium Calculation | 367752 | | |

| (v) Hody Hody (v) (v) (v) (v) | AP in C | | ME AND STANKY LINE: O A CARRS | PRINT Name of SAMPLER: | |
|---|-----------------|---|---|--|--|
| | 522 4.0 > | Harle goods | 275 | 12 Pace 8.46 | # 10# · 9695637 |
| | | स्य | 9/25/10 1915 No 1 | neo | |
| | 5461 | m 9/25/19 | 17:45 Mall | They Gosympic | |
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| 1 | 5 | *** | 2 4 1 3 | 21:91 Next 86:51 15:24 D & | 1 |
| 4 | 2 | アナベナナテア | | SK C 9/21/4 13:35 9/26/10 14:38 | 1 |
| 7 | 2 | <u> </u> | 7 - | 9 | 17 HGWC-17 |
| | 2 | - + | **** | 98:0 | 91-JM9H |
| | Hesidual Chlori | Other Ariatyses Arsenic, Barium Boron, Calcium, Chromium, Cobi Lithium, Molybdo Selenium, Thalli TDS, CI, F, SO Radium SSeVSS | Machanol Sample TEMP A OF CONTAINER On CONTAINER Machanol | R P P P P P P P P P P P P P P P P P P P | . ent |
| | (M/Y) or | Senyilium S Cadmium, S Ili, Lead S In Muna S In Muna S | | START END | MATRIX Dinking Water Water Water Water Product Product Product |
| | | | | | 1 1 |
| | GA | Delsy, mcdaniel W pacelabs, com, | Pace Profile #: 327 (AP | Project Name: Plant Hammond Project #: ChuC S P 1 | Phone: (404)506-7239 Fax: |
| 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | | | П | Purchase Order #: SCS10382775 | Email: jabraham@southernco.com |
| | | | те: | Copy To: Lauren Petty, Geosyntec | Maner Road |
| 04 | Page: | anithana am | Invoice Information: | = 1 | ient Information: |
| | curately. | AIN-OF-CUSTODY / Analytical Request Document Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately. ———————————————————————————————————— | AIN-OF-CUSTODY / Analyti Chain-of-Custody is a LEGAL DOCUMENT. | CHAIN-O The Chain-of- | Face Analytical |

| San | nple Condition | Upon Receir | WU# 262 | 363/ | |
|--|-------------------|---------------------------------------|---------------------------------------|----------------------|-----------|
| Face Analytical Client Name | : 6Alou | 110 | PM: BM D CLIENT: GAPower- | ue Date: 10/2 CCR | 1/19 |
| Courier: | nt Commercial | Pace Other | Proj. Due Proj. Nam | Date: | |
| Custody Seal on Cooler/Box Present: | ☐ n*ō Seals | intact: | □ no | | _ |
| Packing Material: Bubble Wrap Bubble | Bags 🗌 Non | Other | | | |
| Thermometer Used 214 | Type of Ice: Vet | Blue None | Samples on ice, coolin | | _ |
| Cooler Temperature Temp should be above freezing to 6°C | Biological Tissue | is Frozen: Yes No Comments: | Date and Initials contents: | of person examining | |
| Chain of Custody Present: | EYes ONO ON/A | 1. | | | |
| Chain of Custody Filled Out: | DYES ONO ON/A | 2. | | | |
| Chain of Custody Relinquished: | DYES DNO DN/A | 3. | | | |
| Sampler Name & Signature on COC: | DYES ONO ON/A | 4. | | | |
| Samples Arrived within Hold Time: | Pres No DMA | 5. | | | |
| Short Hold Time Analysis (<72hr): | □Yes □No □N/A | 6. | | | \square |
| Rush Turn Around Time Requested: | □Yes ☑No □N/A | 7. | | | |
| Sufficient Volume: | Yes ONO ON/A | 8. | • | | |
| Correct Containers Used: | Yes ONO ON/A | 9. | | | - |
| -Pace Containers Used: | Yes ONO ON/A | | | | Ш |
| Containers Intact: | Yes ONO ON/A | 10. | | | |
| Filtered volume received for Dissolved tests | □Yes □No ☑M/A | 11. | | | |
| Sample Labels match COC: | Yes No ON/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 望No | Initial when completed | Lot # of added preservative | | |
| Samples checked for dechlorination: | □Yes □No ☑MA | | | | \dashv |
| Headspace in VOA Vials (>6mm): | □Yes □No □NIA | / | | | \forall |
| Trip Blank Present: | □Yes □No ☑N/A | · · · · · · · · · · · · · · · · · · · | | | \top |
| Trip Blank Custody Seals Present | □Yes □No □N/A | ` | | | |
| Pace Trip Blank Lot # (if purchased): | | | | | |
| Client Notification/ Resolution: | | | | | \mp |
| | Data | /Time: | Field Data Required | ? Y/N | ļ |
| Comments/ Resolution: | Date | / Time. | · · · · · · · · · · · · · · · · · · · | | |
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| | | ٠. | | | \bot |
| 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)





December 13, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta. GA 30339

RE: Project: Plant Hammond GW6581

Pace Project No.: 2623710

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 27, 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,

Kevin Herring for Betsy McDaniel

Kein Slury

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







CERTIFICATIONS

Project: Plant Hammond GW6581

Pace Project No.: 2623710

Pace Analytical Services Atlanta

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





SAMPLE SUMMARY

Project: Plant Hammond GW6581

Pace Project No.: 2623710

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2623710001 | MW-23d | Water | 09/26/19 10:25 | 09/27/19 13:15 |
| 2623710002 | FD-02 | Water | 09/26/19 00:00 | 09/27/19 13:15 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond GW6581

Pace Project No.: 2623710

| Lab ID | Sample ID | Method | Analysts | Analytes Reported |
|------------|-----------|-----------|----------|----------------------|
| 2623710001 | MW-23d | EPA 6020B | CSW | 13 |
| | | SM 2540C | ALW | 1 |
| | | EPA 300.0 | MWB | 3 |
| 2623710002 | FD-02 | EPA 6020B | CSW | 13 |
| | | SM 2540C | ALW | 1 |
| | | EPA 300.0 | MWB | 3 |



ANALYTICAL RESULTS

Project: Plant Hammond GW6581

Pace Project No.: 2623710

Date: 12/13/2019 01:52 PM

| Sample: MW-23d | Lab ID: | 2623710001 | Collecte | ed: 09/26/19 | 9 10:25 | Received: 09/ | 27/19 13:15 Ma | atrix: Water | |
|------------------------------|------------|--------------|-----------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Met | hod: El | PA 3005A | | | |
| Arsenic | ND | mg/L | 0.0050 | 0.00035 | 1 | 09/30/19 13:30 | 10/03/19 20:36 | 7440-38-2 | |
| Barium | 0.064 | mg/L | 0.010 | 0.00049 | 1 | 09/30/19 13:30 | 10/03/19 20:36 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000074 | 1 | 09/30/19 13:30 | 10/03/19 20:36 | 7440-41-7 | |
| Boron | 3.8 | mg/L | 2.0 | 0.25 | 50 | 09/30/19 13:30 | 10/03/19 20:42 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0025 | 0.00011 | 1 | 09/30/19 13:30 | 10/03/19 20:36 | 7440-43-9 | |
| Calcium | 306 | mg/L | 25.0 | 2.7 | 250 | 09/30/19 13:30 | 10/04/19 16:07 | 7440-70-2 | |
| Chromium | ND | mg/L | 0.010 | 0.00039 | 1 | 09/30/19 13:30 | 10/03/19 20:36 | 7440-47-3 | |
| Cobalt | 0.00098J | mg/L | 0.0050 | 0.00030 | 1 | 09/30/19 13:30 | 10/03/19 20:36 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.000046 | 1 | 09/30/19 13:30 | 10/03/19 20:36 | 7439-92-1 | |
| Lithium | 0.0023J | mg/L | 0.030 | 0.00078 | 1 | 09/30/19 13:30 | 10/03/19 20:36 | 7439-93-2 | |
| Molybdenum | 0.0025J | mg/L | 0.010 | 0.00095 | 1 | 09/30/19 13:30 | 10/03/19 20:36 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0013 | 1 | 09/30/19 13:30 | 10/03/19 20:36 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.000052 | 1 | 09/30/19 13:30 | 10/03/19 20:36 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 1400 | mg/L | 10.0 | 10.0 | 1 | | 10/03/19 16:46 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Chloride | 204 | mg/L | 25.0 | 0.60 | 25 | | 10/02/19 21:25 | 16887-00-6 | |
| Fluoride | 0.16J | mg/L | 0.30 | 0.029 | 1 | | 10/02/19 11:14 | 16984-48-8 | |
| Sulfate | 556 | mg/L | 25.0 | 0.42 | 25 | | 10/02/19 21:25 | 14808-79-8 | |



ANALYTICAL RESULTS

Project: Plant Hammond GW6581

Pace Project No.: 2623710

Date: 12/13/2019 01:52 PM

| Sample: FD-02 | Lab ID: | 2623710002 | Collecte | ed: 09/26/19 | 9 00:00 | Received: 09/ | 27/19 13:15 Ma | atrix: Water | |
|------------------------------|------------|--------------|-----------|--------------|---------|----------------|----------------|--------------|-----|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qua |
| 6020B MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Met | hod: Ef | PA 3005A | | | |
| Arsenic | ND | mg/L | 0.0050 | 0.00035 | 1 | 09/30/19 13:30 | 10/03/19 20:47 | 7440-38-2 | |
| Barium | 0.067 | mg/L | 0.010 | 0.00049 | 1 | 09/30/19 13:30 | 10/03/19 20:47 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000074 | 1 | 09/30/19 13:30 | 10/03/19 20:47 | 7440-41-7 | |
| Boron | 4.0 | mg/L | 2.0 | 0.25 | 50 | 09/30/19 13:30 | 10/03/19 20:53 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0025 | 0.00011 | 1 | 09/30/19 13:30 | 10/03/19 20:47 | 7440-43-9 | |
| Calcium | 320 | mg/L | 25.0 | 2.7 | 250 | 09/30/19 13:30 | 10/04/19 16:13 | 7440-70-2 | |
| Chromium | 0.0012J | mg/L | 0.010 | 0.00039 | 1 | 09/30/19 13:30 | 10/03/19 20:47 | 7440-47-3 | |
| Cobalt | 0.0010J | mg/L | 0.0050 | 0.00030 | 1 | 09/30/19 13:30 | 10/03/19 20:47 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.000046 | 1 | 09/30/19 13:30 | 10/03/19 20:47 | 7439-92-1 | |
| Lithium | 0.0024J | mg/L | 0.030 | 0.00078 | 1 | 09/30/19 13:30 | 10/03/19 20:47 | 7439-93-2 | |
| Molybdenum | 0.0027J | mg/L | 0.010 | 0.00095 | 1 | 09/30/19 13:30 | 10/03/19 20:47 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0013 | 1 | 09/30/19 13:30 | 10/03/19 20:47 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.000052 | 1 | 09/30/19 13:30 | 10/03/19 20:47 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 1450 | mg/L | 10.0 | 10.0 | 1 | | 10/03/19 16:46 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Chloride | 201 | mg/L | 25.0 | 0.60 | 25 | | 10/02/19 21:48 | 16887-00-6 | |
| Fluoride | 0.17J | mg/L | 0.30 | 0.029 | 1 | | 10/02/19 11:36 | 16984-48-8 | |
| Sulfate | 556 | mg/L | 25.0 | 0.42 | 25 | | 10/02/19 21:48 | 14808-79-8 | |



Project: Plant Hammond GW6581

Pace Project No.: 2623710

Date: 12/13/2019 01:52 PM

QC Batch: 36173 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET

Associated Lab Samples: 2623710001, 2623710002

METHOD BLANK: 163347 Matrix: Water

Associated Lab Samples: 2623710001, 2623710002

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------|-------|-----------------|--------------------|----------|----------------|------------|
| Arsenic | mg/L | ND | 0.0050 | 0.00035 | 10/03/19 16:32 | |
| Barium | mg/L | ND | 0.010 | 0.00049 | 10/03/19 16:32 | |
| Beryllium | mg/L | ND | 0.0030 | 0.000074 | 10/03/19 16:32 | |
| Boron | mg/L | ND | 0.040 | 0.0049 | 10/03/19 16:32 | |
| Cadmium | mg/L | ND | 0.0025 | 0.00011 | 10/03/19 16:32 | |
| Calcium | mg/L | ND | 0.10 | 0.011 | 10/03/19 16:32 | |
| Chromium | mg/L | ND | 0.010 | 0.00039 | 10/03/19 16:32 | |
| Cobalt | mg/L | ND | 0.0050 | 0.00030 | 10/03/19 16:32 | |
| Lead | mg/L | ND | 0.0050 | 0.000046 | 10/03/19 16:32 | |
| Lithium | mg/L | ND | 0.030 | 0.00078 | 10/03/19 16:32 | |
| Molybdenum | mg/L | ND | 0.010 | 0.00095 | 10/03/19 16:32 | |
| Selenium | mg/L | ND | 0.010 | 0.0013 | 10/03/19 16:32 | |
| Thallium | mg/L | ND | 0.0010 | 0.000052 | 10/03/19 16:32 | |

| | | Spike | LCS | LCS | % Rec | |
|-----------|-------|-------|--------|-------|--------|------------|
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| senic | mg/L | 0.1 | 0.097 | 97 | 80-120 | |
| rium | mg/L | 0.1 | 0.10 | 100 | 80-120 | |
| ryllium | mg/L | 0.1 | 0.10 | 100 | 80-120 | |
| ron | mg/L | 1 | 1.0 | 102 | 80-120 | |
| dmium | mg/L | 0.1 | 0.098 | 98 | 80-120 | |
| lcium | mg/L | 1 | 0.99 | 99 | 80-120 | |
| romium | mg/L | 0.1 | 0.099 | 99 | 80-120 | |
| palt | mg/L | 0.1 | 0.099 | 99 | 80-120 | |
| d | mg/L | 0.1 | 0.098 | 98 | 80-120 | |
| iium | mg/L | 0.1 | 0.10 | 102 | 80-120 | |
| lybdenum | mg/L | 0.1 | 0.10 | 102 | 80-120 | |
| enium | mg/L | 0.1 | 0.10 | 102 | 80-120 | |
| allium | mg/L | 0.1 | 0.098 | 98 | 80-120 | |

| MATRIX SPIKE & MATRIX SP | IKE DUPL | ICATE: 1633 | 49 | | 163350 | | | | | | | |
|--------------------------|----------|-------------|-------|-------|--------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2623696001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Arsenic | mg/L | 0.0013J | 0.1 | 0.1 | 0.099 | 0.10 | 98 | 103 | 75-125 | 5 | 20 | |
| Barium | mg/L | 0.095 | 0.1 | 0.1 | 0.22 | 0.22 | 122 | 127 | 75-125 | 2 | 20 | M1 |
| Beryllium | mg/L | 0.000099J | 0.1 | 0.1 | 0.086 | 0.091 | 86 | 91 | 75-125 | 5 | 20 | |

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



Project: Plant Hammond GW6581

Pace Project No.: 2623710

Date: 12/13/2019 01:52 PM

| MATRIX SPIKE & MATRIX | SPIKE DUPL | ICATE: 1633 | 49 | | 163350 | | | | | | | |
|-----------------------|------------|----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|------|
| Parameter | Units | 2623696001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
| Boron | mg/L | 16.4 | 1 | 1 | 20.1 | 20.1 | 373 | 367 | 75-125 | 0 | 20 | M6 |
| Cadmium | mg/L | ND | 0.1 | 0.1 | 0.090 | 0.093 | 90 | 93 | 75-125 | 3 | 20 | |
| Calcium | mg/L | 658 | 1 | 1 | 644 | 642 | -1420 | -1570 | 75-125 | 0 | 20 | M6 |
| Chromium | mg/L | ND | 0.1 | 0.1 | 0.091 | 0.094 | 91 | 94 | 75-125 | 3 | 20 | |
| Cobalt | mg/L | 0.027 | 0.1 | 0.1 | 0.12 | 0.12 | 89 | 92 | 75-125 | 3 | 20 | |
| Lead | mg/L | 0.000054J | 0.1 | 0.1 | 0.089 | 0.094 | 89 | 94 | 75-125 | 5 | 20 | |
| Lithium | mg/L | 0.039 | 0.1 | 0.1 | 0.13 | 0.13 | 90 | 94 | 75-125 | 3 | 20 | |
| Molybdenum | mg/L | 0.045 | 0.1 | 0.1 | 0.14 | 0.15 | 96 | 102 | 75-125 | 4 | 20 | |
| Selenium | mg/L | ND | 0.1 | 0.1 | 0.098 | 0.11 | 97 | 105 | 75-125 | 8 | 20 | |
| Thallium | mg/L | 0.00088J | 0.1 | 0.1 | 0.091 | 0.097 | 90 | 96 | 75-125 | 6 | 20 | |

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



Project: Plant Hammond GW6581

Pace Project No.: 2623710

QC Batch: 36437 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 2623710001, 2623710002

LABORATORY CONTROL SAMPLE: 164569

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers **Total Dissolved Solids** mg/L 400 412 103 84-108

SAMPLE DUPLICATE: 164570

2623700006 Dup Max RPD **RPD** Parameter Units Result Result Qualifiers **Total Dissolved Solids** 225 219 3 10 mg/L

SAMPLE DUPLICATE: 164571

Date: 12/13/2019 01:52 PM

2623710002 Dup Max Result RPD RPD Qualifiers Parameter Units Result 1450 **Total Dissolved Solids** mg/L 1330 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.



Project: Plant Hammond GW6581

Pace Project No.: 2623710

Date: 12/13/2019 01:52 PM

QC Batch: 36286 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 2623710001, 2623710002

METHOD BLANK: 163856 Matrix: Water

Associated Lab Samples: 2623710001, 2623710002

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------|-------|-----------------|--------------------|-------|----------------|------------|
| Chloride | mg/L | 0.031J | 1.0 | 0.024 | 10/02/19 07:36 | |
| Fluoride | mg/L | ND | 0.30 | 0.029 | 10/02/19 07:36 | |
| Sulfate | mg/L | 0.053J | 1.0 | 0.017 | 10/02/19 07:36 | |

| LABORATORY CONTROL SAMPLE: | 163857 | | | | | |
|----------------------------|--------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Chloride | mg/L | 10 | 10.7 | 107 | 90-110 | |
| Fluoride | mg/L | 10 | 10.9 | 109 | 90-110 | |
| Sulfate | mg/L | 10 | 10.6 | 106 | 90-110 | |

| MATRIX SPIKE & MATRIX SP | IKE DUPL | ICATE: 1638 | 58 | | 163859 | | | | | | | |
|--------------------------|----------|-------------|-------|-------|--------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2623702001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Chloride | mg/L | 1.7 | 10 | 10 | 11.0 | 11.7 | 93 | 100 | 90-110 | 6 | 15 | |
| Fluoride | mg/L | 0.12J | 10 | 10 | 9.5 | 10.3 | 94 | 102 | 90-110 | 8 | 15 | |
| Sulfate | mg/L | 30.3 | 10 | 10 | 36.7 | 37.2 | 64 | 69 | 90-110 | 1 | 15 | M1 |

| MATRIX SPIKE SAMPLE: | 163860 | | | | | | |
|----------------------|--------|----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter | Units | 2623702002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
| Chloride | mg/L | 6.5 | 10 | 16.5 | 100 | 90-110 | _ |
| Fluoride | mg/L | 0.098J | 10 | 10.7 | 106 | 90-110 | |
| Sulfate | mg/L | 0.23J | 10 | 10.7 | 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.



QUALIFIERS

Project: Plant Hammond GW6581

Pace Project No.: 2623710

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

Date: 12/13/2019 01:52 PM

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

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond GW6581

Pace Project No.: 2623710

Date: 12/13/2019 01:52 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|-----------------|----------|-------------------|---------------------|
| 2623710001 | MW-23d | EPA 3005A | 36173 | EPA 6020B | 36203 |
| 2623710002 | FD-02 | EPA 3005A | 36173 | EPA 6020B | 36203 |
| 2623710001 | MW-23d | SM 2540C | 36437 | | |
| 2623710002 | FD-02 | SM 2540C | 36437 | | |
| 2623710001 | MW-23d | EPA 300.0 | 36286 | | |
| 2623710002 | FD-02 | EPA 300.0 | 36286 | | |



CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| ; | ' | 1 | | |
|------------|--|--|--|---|
| Required | Section A Required Client Information: | Section 6 Required Project Information: | Section C Involve Information: | 7 |
| Company | y: Georgia Power - Coal Combustion Residuals | Report To: Join Abraham | sings @ couthernoo com | 5 |
| Address: | | | Na. | |
| Atlanta, t | Allanta, GA 30339 | | | Regulatory, Agency. |
| Email: | Email: jabraham@southernco.com | 3r #: | | |
| Phone: | Ě | 쮩 | anager: betsy.mcdaniel@pacelabs.com, | State // Loogtlon |
| sanhau | ted Due Date: Standard 7 HT | Froject #: GW6581 | Pace Prome #: 327 (AP) | GA |
| | | | TANKA | |
| | MATRIX | to left) | Preservatives N N N N N N N N N N N N N N N N N N N | |
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| # MƏTI | One Character per box. Wee (A-Z, 0-91, .) Oner Sample Ids must be unique Tssue | 5 € P 5 MATRIX CODE (| AMPLE TEMP A # OF CONTAINER Unpreserved H2SO4 H4C1 N4C3 N42S2O3 N4TAN NATABATOI MATABA | |
| ļ | MW-23.1 | 3 52 01 6/92/6 Ob.6 1/92/6 9 5 | 7 7 7 7 7 8 1 1 2 3 | |
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| ÷ | (<u>ADDITIONAL GOMM⊞Yre</u> | RELINGUISHED BY / AFRICATION DAVE | TIME AGGRATED BY// ARMILIATION DATE TIME | SAWRLE CONDITIONS |
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| | | Nodia Munimilarosysta 9/20/19 | eors (Minoph) / Pace | , |
| F | | 2 | Chaster Howen 900/10 1815 1816 | × × × |
| Page | MO#:2623710 | | | |
| 13 0 | | PRINT Name of SAMPLER: | The state of the s | |
| f 14 | | | ii. The Cylings DATE Signed: A9.76.784 | Receive Coustody Sealed Cooler Samples Samples Intact |
| 97 | 2623710 | | | 平 5 5 5 6 6 7 7 7 |

| | Sample Condi | tion Upon Rec | ar 110# · 2 | 623710 | 1 |
|--|-------------------|-------------------------------|-----------------------------|------------------------|-------------------|
| Face Analytical Client Nar | me: /_A // | ower | PM: BM | Due Date: | |
| | | OWY | | ower-CCR | 10/04 |
| Courier: | Client 🖸 Commer | cial Pace Oth | er | oj-DuelDate | , |
| sustody Seal on Cooler/Box Present: | yes □ no s | Seals intact: > | e Pr | oj. Name: | |
| | | _ | | | |
| hermometer Used | - | ne Dother _ | | | |
| F C. | | Wet Blue None | | e, cooling process has | |
| Cooler Temperature 9,00 cooler Temperature | Biological H | ssue is Frozen: Yes Comments: | content | | Coy |
| Chain of Custody Present: | TYes □No [| | | | -+ |
| Chain of Custody Filled Out: | | | | | |
| Chain of Custody Relinquished: | | □N/A 2. | | | - |
| sampler Name & Signature on COC: | | □N/A 3. | | | \longrightarrow |
| | QYes □No [| | | | \longrightarrow |
| Samples Arrived within Hold Time: | , | □N/A 5. | | | $- \dashv$ |
| thort Hold Time Analysis (<72hr): | □Yes ☑No' [| | | | \longrightarrow |
| ush Turn Around Time Requested: | □Yes ØNo [| | | | |
| ufficient Volume: | Pres □No □ | | | | - |
| correct Containers Used: | ' _ | ⊒n/a 9. _ | | | |
| -Pace Containers Used: | | □N/A | | | |
| ontainers Intact: | □Yes □No [| | | | \longrightarrow |
| iltered volume received for Dissolved tests | ☐Yes ☐No € | ⊒ N/A 11. | | | |
| sample Labels match COC: | EYes ONo [| □N/A 12. | | | |
| -Includes date/time/ID/Analysis Matrix:_ Il containers needing preservation have been checked. | | | | | |
| . Containers fielding preservation have been checked. | . Eyes □No [| □N/A 13. | | | l |
| Il containers needing preservation are found to be in ompliance with EPA recommendation. | n 🗹 Yes □No [| □N/A | | | |
| xceptions: VOA, coliform, TOC, O&G, WI-DRO (water) | □Yes □ k o | Initial when completed | Lot # of added preservative | | |
| amples checked for dechlorination: | □Yes □No f | DN/A 14. | | | |
| leadspace in VOA Vials (>6mm): | | IN/A 15. | | | |
| rip Blank Present: | □Yes □No 【 | | | | |
| rip Blank Custody Seals Present | □Yes □No ✓ | /1 | | | |
| Pace Trip Blank Lot # (if purchased): | | | | | |
| lient Notification/ Resolution: | | | Field Data Re | quired? 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)

Pa Page 14 of 14 F-ALLC003rev.3, 11September2006





October 22, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond GW6581

Pace Project No.: 2623711

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 27, 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

Beton M Damil

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



(770)734-4200



CERTIFICATIONS

Project: Plant Hammond GW6581

Pace Project No.: 2623711

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 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

Missouri Certification #: 235

Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282

South Dakota Certification
Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3 Utah/TNI Certification #: PA014572017-9 USDA Soil Permit #: P330-17-00091 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 9526 Washington Certification #: C868 West Virginia DEP Certification #: 143 West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L





SAMPLE SUMMARY

Project: Plant Hammond GW6581

Pace Project No.: 2623711

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2623711001 | MW-23d | Water | 09/26/19 10:25 | 09/27/19 13:15 |
| 2623711002 | FD-02 | Water | 09/26/19 00:00 | 09/27/19 13:15 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond GW6581

Pace Project No.: 2623711

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|--------------------------|----------|----------------------|------------|
| 2623711001 | MW-23d | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | VAL | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2623711002 | FD-02 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | VAL | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond GW6581

Pace Project No.: 2623711

Sample: MW-23d Lab ID: 2623711001 Collected: 09/26/19 10:25 Received: 09/27/19 13:15 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 | 0.512 ± 0.198 (0.263) C:95% T:NA | pCi/L | 10/14/19 19:10 | 13982-63-3 | |
| Radium-228 | EPA 9320 | 0.741 ± 0.461 (0.881) C:77% T:85% | pCi/L | 10/16/19 11:10 | 15262-20-1 | |
| Total Radium | Total Radium Calculation | 1.25 ± 0.659 (1.14) | pCi/L | 10/18/19 11:04 | 7440-14-4 | |



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond GW6581

Calculation

Pace Project No.: 2623711

Sample: FD-02 Lab ID: 2623711002 Collected: 09/26/19 00:00 Received: 09/27/19 13:15 Matrix: Water PWS: Site ID: Sample Type: Method Act ± Unc (MDC) Carr Trac **Parameters** Units Analyzed CAS No. Qual EPA 9315 0.331 ± 0.157 (0.216) Radium-226 pCi/L 10/14/19 19:10 13982-63-3 C:87% T:NA EPA 9320 0.214 ± 0.353 (0.767) Radium-228 pCi/L 10/16/19 11:10 15262-20-1 C:76% T:93% Total Radium Total Radium $0.545 \pm 0.510 \quad (0.983)$ pCi/L 10/18/19 11:04 7440-14-4



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond GW6581

Pace Project No.: 2623711

QC Batch: 365001 Analysis Method: EPA 9315

QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium

Associated Lab Samples: 2623711001, 2623711002

METHOD BLANK: 1770530 Matrix: Water

Associated Lab Samples: 2623711001, 2623711002

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-226 0.564 ± 0.187 (0.181) C:94% T:NA pCi/L 10/14/19 19:10

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.



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond GW6581

Pace Project No.: 2623711

QC Batch: 365002 Analysis Method: EPA 9320

QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228

Associated Lab Samples: 2623711001, 2623711002

METHOD BLANK: 1770531 Matrix: Water

Associated Lab Samples: 2623711001, 2623711002

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-228 0.538 \pm 0.357 (0.676) C:80% T:85% pCi/L 10/16/19 11:11

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.



QUALIFIERS

Project: Plant Hammond GW6581

Pace Project No.: 2623711

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

Date: 10/22/2019 04:57 PM

PASI-PA Pace Analytical Services - Greensburg



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond GW6581

Pace Project No.: 2623711

Date: 10/22/2019 04:57 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|--------------------------|-----------------|---|------------------|-------------------|---------------------|
| 2623711001 2623711002 | MW-23d FD-02 | EPA 9315 EPA 9315 | 365001 365001 | _ | |
| 2623711001 2623711002 | MW-23d FD-02 | EPA 9320 EPA 9320 | 365002 365002 | | |
| 2623711001 2623711002 | MW-23d FD-02 | Total Radium Calculation Total Radium Calculation | 366903 366903 | | |



CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| Section A | . 4 | Section | Cacitos | |
|--------------|---|--|--|-------------------------------------|
| Require | Required Client Information: | Required Project Information: | Invoice Information: | ot |
| Сотрапу: | | | sinvoices@southernco.com | |
| Address: | : 2480 Maner Road | Geosyntec | Nате: | |
| Atlanta, | Allanta, GA 30339 | | Address: | y/Aggitoy |
| Email: | jabraham@southernco.com | 25 | Pace Quote: | |
| Phone: | 06-7239 Fax | mmond | Manager: betsy, mcdaniel@pacelabs.com, | ogation |
| Request | Requested Due Date: Standard TAT | | | GA |
| | | | HEATTER THE THE STATE OF THE ST | |
| | MATRIX | COLLECTED COLLECTED | Preservatives S N N N N N N N N | |
| | SAMPLE ID Soutsoid One Character per box. | See valid codes START The collection of the co | es.riest ium, Beryllium, ium, Cadmium, cobalt, Lead ybdenum solitum | |
| # MaTI | (A-Z, 0-91, -) Cample Ids must be unique | SAMPLE TYPE SAMPLE TYPE DATE TIME DATE TIME SAMPLE TEN TIME | Arsenic, Bai Boron, Calcii Chromium, Moh Selenium, TI TDS, CI, F, Radium 226 | |
| | 7.8° -MW | 3. 52 01 plats 04.8 | ν 3 3 8 4 4 4 4 4 4 4 4 4 | |
| 2 | 20-01 | 1 3/26/1 / 5//2/10 | 41 3 7 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 | |
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| | | | 1900 Maelia Whenhan Perconnale 9/26/19 1900 | |
| | | Muhroon | 2055 (Mashy) (Page, 9 / 9/37/14/14) | |
| | | 2 | Chaster Howen grape 1315 50 | ノスメ |
| Page | | | | |
| 1 | ++-0101 | SAMPLIER NAME AND SIGNATURE | | |
| of 1 | | PHIN I WHITE OF SKING OF SKING CENT | (An Cerase | wbea (N) ope rjec stoty |
| 2 9 2 | 2623711 | SIGNATURE OF SAMPLER: | There is not to the signed. | (Y) (Sea (Y) (Y) |

| Gani | ple Condition Upon Re | ^{2°} WO#: 2623711 |
|--|---------------------------------------|--|
| Face Analytical Client Name: | r-Alower | PM: BM Due Date: 10/25/19 |
| Ollent Mario. | D-1. VOWY | CLIENT: GAPouer-CCR |
| ourier: Fed Ex UPS USPS Clien | Commercial Pace O | Othe Proj. Due Date: |
| racking #: | | Proj. Name: |
| ustody Seal on Cooler/Box Present: | ☐ nở Seals intact: →☐ | yes 🗌 no |
| acking Material: Bubble Wrap Bubble | | ne Samples on ice, cooling process has begun |
| hermometer Used | Type of Ice: No Blue No | Date and Initials of person examining |
| ooler Temperature 5.6 c | Biological Tissue is Frozen: Comments | Yes No contents: 9/2//407 |
| hain of Custody Present: | ElYes □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: | ☐res ☐No ☐N/A 8. | |
| Correct Containers Used: | Yes No N/A 9. | |
| -Pace Containers Used: | ØYes □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: | <u></u> | |
| All containers needing preservation have been checked. | Dres □No □N/A 13. | |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes □No □N/A | |
| • | ☐Yes ☐¥6 Initial when completed | 1 |
| exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) | | procertains |
| 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 ÆN/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)





December 13, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond GW6581

Pace Project No.: 2623714

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 27, 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,

Kevin Herring for Betsy McDaniel

Kein Slury

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







CERTIFICATIONS

Project: Plant Hammond GW6581

Pace Project No.: 2623714

Pace Analytical Services Atlanta

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





SAMPLE SUMMARY

Project: Plant Hammond GW6581

Pace Project No.: 2623714

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2623714001 | EB-02 | Water | 09/26/19 17:50 | 09/27/19 13:15 |
| 2623714002 | FB-02 | Water | 09/26/19 18:25 | 09/27/19 13:15 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond GW6581

Pace Project No.: 2623714

| Lab ID | Sample ID | Method | Analysts | Analytes Reported |
|------------|-----------|-----------|----------|----------------------|
| 2623714001 | EB-02 | EPA 6020B | CSW | 14 |
| | | SM 2540C | ALW | 1 |
| | | EPA 300.0 | MWB | 3 |
| 2623714002 | FB-02 | EPA 6020B | CSW | 14 |
| | | SM 2540C | ALW | 1 |
| | | EPA 300.0 | MWB | 3 |



ANALYTICAL RESULTS

Project: Plant Hammond GW6581

Pace Project No.: 2623714

Date: 12/13/2019 01:35 PM

| Sample: EB-02 | Lab ID: | 2623714001 | Collecte | ed: 09/26/19 | 17:50 | Received: 09/ | 27/19 13:15 Ma | atrix: Water | |
|------------------------------|------------|--------------|-----------|--------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00027 | 1 | 10/01/19 12:00 | 10/03/19 22:45 | 7440-36-0 | |
| Arsenic | ND | mg/L | 0.0050 | 0.00035 | 1 | 10/01/19 12:00 | 10/03/19 22:45 | 7440-38-2 | |
| Barium | ND | mg/L | 0.010 | 0.00049 | 1 | 10/01/19 12:00 | 10/03/19 22:45 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000074 | 1 | 10/01/19 12:00 | 10/03/19 22:45 | 7440-41-7 | |
| Boron | ND | mg/L | 0.040 | 0.0049 | 1 | 10/01/19 12:00 | 10/03/19 22:45 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0025 | 0.00011 | 1 | 10/01/19 12:00 | 10/03/19 22:45 | 7440-43-9 | |
| Calcium | ND | mg/L | 0.10 | 0.011 | 1 | 10/01/19 12:00 | 10/03/19 22:45 | 7440-70-2 | |
| Chromium | 0.0063J | mg/L | 0.010 | 0.00039 | 1 | 10/01/19 12:00 | 10/03/19 22:45 | 7440-47-3 | |
| Cobalt | ND | mg/L | 0.0050 | 0.00030 | 1 | 10/01/19 12:00 | 10/03/19 22:45 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.000046 | 1 | 10/01/19 12:00 | 10/03/19 22:45 | 7439-92-1 | |
| Lithium | ND | mg/L | 0.030 | 0.00078 | 1 | 10/01/19 12:00 | 10/03/19 22:45 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.00095 | 1 | 10/01/19 12:00 | 10/03/19 22:45 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0013 | 1 | 10/01/19 12:00 | 10/03/19 22:45 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.000052 | 1 | 10/01/19 12:00 | 10/03/19 22:45 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 13.0 | mg/L | 10.0 | 10.0 | 1 | | 10/03/19 16:48 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Chloride | 0.035J | mg/L | 1.0 | 0.024 | 1 | | 10/04/19 14:51 | 16887-00-6 | В |
| Fluoride | ND | mg/L | 0.30 | 0.029 | 1 | | 10/04/19 14:51 | 16984-48-8 | |
| Sulfate | ND | mg/L | 1.0 | 0.017 | 1 | | 10/04/19 14:51 | 14808-79-8 | |



ANALYTICAL RESULTS

Project: Plant Hammond GW6581

Pace Project No.: 2623714

Date: 12/13/2019 01:35 PM

| Sample: FB-02 | Lab ID: | 2623714002 | Collecte | ed: 09/26/19 | 9 18:25 | Received: 09/ | 27/19 13:15 Ma | atrix: Water | |
|------------------------------|------------|---------------|-----------|--------------|---------|----------------|----------------|--------------|------|
| | | | | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 6020B MET ICPMS | Analytical | Method: EPA 6 | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Antimony | ND | mg/L | 0.0030 | 0.00027 | 1 | 10/01/19 12:00 | 10/03/19 22:50 | 7440-36-0 | |
| Arsenic | ND | mg/L | 0.0050 | 0.00035 | 1 | 10/01/19 12:00 | 10/03/19 22:50 | 7440-38-2 | |
| Barium | ND | mg/L | 0.010 | 0.00049 | 1 | 10/01/19 12:00 | 10/03/19 22:50 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000074 | 1 | 10/01/19 12:00 | 10/03/19 22:50 | 7440-41-7 | |
| Boron | ND | mg/L | 0.040 | 0.0049 | 1 | 10/01/19 12:00 | 10/03/19 22:50 | 7440-42-8 | |
| Cadmium | ND | mg/L | 0.0025 | 0.00011 | 1 | 10/01/19 12:00 | 10/03/19 22:50 | 7440-43-9 | |
| Calcium | ND | mg/L | 0.10 | 0.011 | 1 | 10/01/19 12:00 | 10/03/19 22:50 | 7440-70-2 | |
| Chromium | ND | mg/L | 0.010 | 0.00039 | 1 | 10/01/19 12:00 | 10/03/19 22:50 | 7440-47-3 | |
| Cobalt | ND | mg/L | 0.0050 | 0.00030 | 1 | 10/01/19 12:00 | 10/03/19 22:50 | 7440-48-4 | |
| Lead | ND | mg/L | 0.0050 | 0.000046 | 1 | 10/01/19 12:00 | 10/03/19 22:50 | 7439-92-1 | |
| Lithium | ND | mg/L | 0.030 | 0.00078 | 1 | 10/01/19 12:00 | 10/03/19 22:50 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.00095 | 1 | 10/01/19 12:00 | 10/03/19 22:50 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0013 | 1 | 10/01/19 12:00 | 10/03/19 22:50 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.000052 | 1 | 10/01/19 12:00 | 10/03/19 22:50 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 13.0 | mg/L | 10.0 | 10.0 | 1 | | 10/03/19 20:28 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA | 300.0 | | | | | | |
| Chloride | 0.028J | mg/L | 1.0 | 0.024 | 1 | | 10/04/19 15:55 | 16887-00-6 | В |
| Fluoride | ND | mg/L | 0.30 | 0.029 | 1 | | 10/04/19 15:55 | 16984-48-8 | |
| Sulfate | ND | mg/L | 1.0 | 0.017 | 1 | | 10/04/19 15:55 | 14808-79-8 | |



Project: Plant Hammond GW6581

Pace Project No.: 2623714

Date: 12/13/2019 01:35 PM

QC Batch: 36236 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET

Associated Lab Samples: 2623714001, 2623714002

METHOD BLANK: 163651 Matrix: Water

Associated Lab Samples: 2623714001, 2623714002

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|------------|-------|-----------------|--------------------|----------|----------------|------------|
| | | · | | | | |
| Antimony | mg/L | ND | 0.0030 | 0.00027 | 10/03/19 19:06 | |
| Arsenic | mg/L | ND | 0.0050 | 0.00035 | 10/03/19 19:06 | |
| Barium | mg/L | ND | 0.010 | 0.00049 | 10/03/19 19:06 | |
| Beryllium | mg/L | ND | 0.0030 | 0.000074 | 10/03/19 19:06 | |
| Boron | mg/L | ND | 0.040 | 0.0049 | 10/03/19 19:06 | |
| Cadmium | mg/L | ND | 0.0025 | 0.00011 | 10/03/19 19:06 | |
| Calcium | mg/L | ND | 0.10 | 0.011 | 10/03/19 19:06 | |
| Chromium | mg/L | ND | 0.010 | 0.00039 | 10/03/19 19:06 | |
| Cobalt | mg/L | ND | 0.0050 | 0.00030 | 10/03/19 19:06 | |
| Lead | mg/L | ND | 0.0050 | 0.000046 | 10/03/19 19:06 | |
| Lithium | mg/L | ND | 0.030 | 0.00078 | 10/03/19 19:06 | |
| Molybdenum | mg/L | ND | 0.010 | 0.00095 | 10/03/19 19:06 | |
| Selenium | mg/L | ND | 0.010 | 0.0013 | 10/03/19 19:06 | |
| Thallium | mg/L | ND | 0.0010 | 0.000052 | 10/03/19 19:06 | |

| Parameter | Units | Spike Conc. | LC Res | | LCS % Rec | % Rec Limits | Qualifiers | |
|---------------------------------|---------------|----------------|-----------|--------|--------------|-----------------|------------|----|
| Antimony | mg/L | 0. | 1 | 0.11 | 107 | 80-120 | | |
| Arsenic | mg/L | 0. | | 0.10 | 103 | 80-120 | | |
| Barium | mg/L | 0. | | 0.11 | 107 | 80-120 | | |
| Beryllium | mg/L | 0. | 1 | 0.10 | 101 | 80-120 | | |
| Boron | mg/L | | 1 | 1.0 | 102 | 80-120 | | |
| Cadmium | mg/L | 0. | 1 | 0.11 | 105 | 80-120 | | |
| Calcium | mg/L | | 1 | 1.0 | 102 | 80-120 | | |
| Chromium | mg/L | 0. | 1 | 0.10 | 102 | 80-120 | | |
| Cobalt | mg/L | 0. | 1 | 0.10 | 104 | 80-120 | | |
| Lead | mg/L | 0. | 1 | 0.10 | 104 | 80-120 | | |
| Lithium | mg/L | 0. | 1 | 0.10 | 103 | 80-120 | | |
| Molybdenum | mg/L | 0. | 1 | 0.11 | 106 | 80-120 | | |
| Selenium | mg/L | 0. | 1 | 0.10 | 104 | 80-120 | | |
| Thallium | mg/L | 0. | 1 | 0.10 | 104 | 80-120 | | |
| | | | | | | | | |
| MATRIX SPIKE & MATRIX SPIKE DUI | PLICATE: 1636 | 53 MS | MSD | 163654 | | | | |
| | 2623702001 | Spike | Spike | MS | MSD | MS MSD | % Rec | Ma |

| MATRIX SPIKE & MATRIX SF | PIKE DUPLI | ICATE: 1636 | 53 | | 163654 | | | | | | | |
|--------------------------|------------|-------------|-------|-------|--------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2623702001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Antimony | mg/L | 0.00029J | 0.1 | 0.1 | 0.11 | 0.11 | 105 | 106 | 75-125 | | 20 | |

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



Project: Plant Hammond GW6581

Pace Project No.: 2623714

Date: 12/13/2019 01:35 PM

| MATRIX SPIKE & MATRIX | | 163654 | | | | | | | | | | |
|-----------------------|----------|----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|------|
| Parameter | Units | 2623702001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
| Arsenic | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 103 | 105 | 75-125 | 2 | 20 | |
| Barium | mg/L | 0.018 | 0.1 | 0.1 | 0.13 | 0.13 | 107 | 108 | 75-125 | 1 | 20 | |
| Beryllium | mg/L | 0.000077J | 0.1 | 0.1 | 0.11 | 0.10 | 108 | 102 | 75-125 | 6 | 20 | |
| Boron | mg/L | 0.58 | 1 | 1 | 1.6 | 1.6 | 106 | 100 | 75-125 | 4 | 20 | |
| Cadmium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.11 | 104 | 107 | 75-125 | 3 | 20 | |
| Calcium | mg/L | 3.7 | 1 | 1 | 4.9 | 5.0 | 118 | 130 | 75-125 | 2 | 20 | M1 |
| Chromium | mg/L | 0.00073J | 0.1 | 0.1 | 0.10 | 0.11 | 103 | 107 | 75-125 | 4 | 20 | |
| Cobalt | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.11 | 104 | 107 | 75-125 | 3 | 20 | |
| Lead | mg/L | 0.00013J | 0.1 | 0.1 | 0.10 | 0.10 | 103 | 103 | 75-125 | 0 | 20 | |
| Lithium | mg/L | 0.0017J | 0.1 | 0.1 | 0.11 | 0.10 | 108 | 103 | 75-125 | 4 | 20 | |
| Molybdenum | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.11 | 107 | 109 | 75-125 | 2 | 20 | |
| Selenium | mg/L | 0.018 | 0.1 | 0.1 | 0.12 | 0.12 | 100 | 103 | 75-125 | 3 | 20 | |
| Thallium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 104 | 104 | 75-125 | 0 | 20 | |

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



Project: Plant Hammond GW6581

Pace Project No.: 2623714

QC Batch: 36437 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 2623714001

LABORATORY CONTROL SAMPLE: 164569

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers **Total Dissolved Solids** mg/L 400 412 103 84-108

SAMPLE DUPLICATE: 164570

2623700006 Dup Max RPD RPD Parameter Units Result Result Qualifiers **Total Dissolved Solids** 225 219 3 10 mg/L

SAMPLE DUPLICATE: 164571

Date: 12/13/2019 01:35 PM

2623710002 Dup Max Result RPD RPD Qualifiers Parameter Units Result 1450 **Total Dissolved Solids** mg/L 1330 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.



Project: Plant Hammond GW6581

Pace Project No.: 2623714

QC Batch: 36464 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 2623714002

LABORATORY CONTROL SAMPLE: 164734

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers **Total Dissolved Solids** mg/L 400 408 102 84-108

SAMPLE DUPLICATE: 164735

Parameter Units 2623714002 Dup Max Result RPD Qualifiers
Total Dissolved Solids mg/L 13.0 ND 10

SAMPLE DUPLICATE: 164763

Date: 12/13/2019 01:35 PM

2623696005 Dup Max Result RPD RPD Qualifiers Parameter Units Result 275 **Total Dissolved Solids** mg/L 262 5 10

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



Project: Plant Hammond GW6581

Pace Project No.: 2623714

Date: 12/13/2019 01:35 PM

QC Batch: 36494 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 2623714001, 2623714002

METHOD BLANK: 164898 Matrix: Water

Associated Lab Samples: 2623714001, 2623714002

| | | Blank | Reporting | | | |
|-----------|-------|--------|-----------|-------|----------------|------------|
| Parameter | Units | Result | Limit | MDL | Analyzed | Qualifiers |
| Chloride | mg/L | 0.026J | 1.0 | 0.024 | 10/04/19 14:09 | |
| Fluoride | mg/L | ND | 0.30 | 0.029 | 10/04/19 14:09 | |
| Sulfate | mg/L | ND | 1.0 | 0.017 | 10/04/19 14:09 | |

| LABORATORY CONTROL SAMPLE: | 164899 | | | | | |
|----------------------------|--------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Chloride | mg/L | 10 | 10.2 | 102 | 90-110 | |
| Fluoride | mg/L | 10 | 10.3 | 103 | 90-110 | |
| Sulfate | mg/L | 10 | 9.9 | 99 | 90-110 | |

| MATRIX SPIKE & MATRIX SI | PIKE DUPL | ICATE: 1649 | 00 | | 164901 | | | | | | | |
|--------------------------|-----------|-------------|-------|-------|--------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2623714001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Chloride | mg/L | 0.035J | 10 | 10 | 10.1 | 10 | 101 | 100 | 90-110 | 1 | 15 | |
| Fluoride | mg/L | ND | 10 | 10 | 10.2 | 10.1 | 102 | 100 | 90-110 | 1 | 15 | |
| Sulfate | mg/L | ND | 10 | 10 | 9.8 | 9.8 | 98 | 98 | 90-110 | 1 | 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.



QUALIFIERS

Project: Plant Hammond GW6581

Pace Project No.: 2623714

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

Date: 12/13/2019 01:35 PM

- 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.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond GW6581

Pace Project No.: 2623714

Date: 12/13/2019 01:35 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|-----------------|----------|-------------------|---------------------|
| 2623714001 | EB-02 | EPA 3005A | 36236 | EPA 6020B | 36255 |
| 2623714002 | FB-02 | EPA 3005A | 36236 | EPA 6020B | 36255 |
| 2623714001 | EB-02 | SM 2540C | 36437 | | |
| 2623714002 | FB-02 | SM 2540C | 36464 | | |
| 2623714001 | EB-02 | EPA 300.0 | 36494 | | |
| 2623714002 | FB-02 | EPA 300.0 | 36494 | | |



CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| Section A | 4 | Section B | Section C | |
|-------------|--|---------------------------------|--|---|
| Requirec | | Required Project Information: | Invoice Information: | Page: Of |
| Company | | Report To: Joju Abraham | Attention: scsinvoices@southernco.com | |
| Address: | 2480 Maner Road | | Company Name: | |
| Atlanta, C | Atlanta, GA 30339 | | Address: | Begulatory Agency |
| Email: | southernco.com | Purchase Order #: SCS10382775 | Pace Quote: | |
| Luoue: | 36-7239 Fax: | Project Name: Plant Hammond | Pace Project Manager: betsy.mcdaniel@pacelabs.com, | State//Location |
| Hedneste | Hequested Due Date: Standard TRI | Project #: GW658 i | Pace Profile #: 327 (AP) | GA |
| | | | Requestad Analysis Etherod (Y7N) | (AUX) |
| | MATRIX | COLLECTED COLLECTED | Preservatives K NN N N N N N N N N N N N N N N N N N | |
| | SAMPLEID Soveod | See valid codes | Test C. Barlum Calcium inm, Cobalt inm, Cobalt | (N/Y) e |
| # M3TI | One Character per box. Wee (A-Z, 0-9 /) Arr Cher Sample Ids must be unique | 중 은 2 값 MATRIX CODE (| 4 OF CONTAINER Unpreserved H2SO4 H4C3 H4C1 Machanol Methanol Other Cadmium, Boron, Cadmium, Chrom Cadmium, Chrom Methanol Cadmium, Roron, Methanol | Pesidual Chlorin |
| F | EB-02 | 25 OTF1 1935 9/2/19 170 25 | · / / / / / / / / / / / / / / / / / / / | 3 |
| R | FB-02 | 8 | × × × × × × × × × × × × × × × × × × × | ξ |
| , 19 | | | | |
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| 7 | | \(\frac{1}{4}\) | | |
| 8 | | | | |
| 6 | | | | |
| 9 | | | | |
| Ħ | | | | |
| 12 | | | | |
| | ADDITIONAL COMMENTS | RELIGOUERED BY (AFRICATION DATE | TIME ACCESSION SATELLATION GATE | ітійі: (слирив сомотіон) |
| | | Mollie Muster bearing of 26 19 | 2055 (Mulles) Pace, 9/27/19 | ٠ |
| | | , , , , | Charle Howle Spille | 1315 507 7 8 |
| Fag | W0#:2623714 | | | |
| 1 1 | | SAMBLER NAME AND SIGNATURE | 38 | |
| | | PHINT Name of SAMPLER: | Noelia Muskus | MP in IN Stocky (N) Stocky olet (N) (N) (N) |
| 707 | 2623714 | | Jollia Mudary Dalesigned: 4/20 | Real (Y/) (See See See See See See See See See Se |

| Sam | ple Condition Up | on Rece MO | 1. 202311 1 | | -+ |
|--|---|--------------------------|---|---------------|--|
| Face Analytical Client Name: | C-Alowe | PM: BM | - AP | 04/1 | 9 |
| Courier: Fed Ex UPS USPS Clien | | , | Optional Proj. Due Date: Proj. Name: | | |
| custody Seal on Cooler/Box Present: | _ | ct: yes no | | | |
| Packing Material: Bubble Wrap Bubble | · · | | | SCUID | |
| Thermometer Used 2/7 | .,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | amples on ice, cooling process has be Date and Initials of person examin | ning | ٦ |
| Cooler Temperature Femp should be above freezing to 6°C | Biological Tissue is F | rozen: Yes No mments: | contents: 9/2//90 | 4 | _ |
| Chain of Custody Present: | Yes □No □N/A 1. | | | -+ | \dashv |
| Chain of Custody Filled Out: | ✓Yes □No □N/A 2. | | | -+- | ┨ |
| Chain of Custody Relinquished: | DYES DNO DN/A 3. | | | | 1 |
| Sampler Name & Signature on COC: | ☐ Tes ☐ No ☐ N/A 4. | | · | | \dashv |
| Samples Arrived within Hold Time: | Yes No N/A 5. | | | | † |
| Short Hold Time Analysis (<72hr): | □Yes ᢓNo □N/A 6. | | | | $^{\!$ |
| Rush Turn Around Time Requested: | □Yes ☑No □N/A 7. | | | | \mathcal{H} |
| Sufficient Volume: | ☐Yes □No □N/A 8. | | • | | $^{\rm H}$ |
| Correct Containers Used: | Yes ONO ON/A 9. | | | | \prod |
| -Pace Containers Used: | ØYes □No □N/A | | | | $\mathcal H$ |
| Containers Intact: | □Yes □No □N/A 10 |). | | | ${f H}$ |
| Filtered volume received for Dissolved tests | □Yes □No □N/A 1 | 1 | | | ┦ |
| Sample Labels match COC: | BYes, □No □N/A 1 | 2. | | | |
| -Includes date/time/ID/Analysis Matrix: | | | | | H |
| All containers needing preservation have been checked. | Dres □No □N/A 1 | 3. | • | | |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes □No □N/A | nitial when | Lot # of added | | |
| exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) | | 11100 | preservative | | L |
| Samples checked for dechlorination: | □Yes □No □N/A 1 | 4. | | | |
| Headspace in VOA Vials (>6mm): | □Yes □No □N/A 1 | 5. | | | |
| Trip Blank Present: | □Yes □No □N/A, 1 | | | | |
| Trip Blank Custody Seals Present | □Yes □No □N/A | | | | |
| Pace Trip Blank Lot # (if purchased): | | | | | |
| Client Notification/ Resolution: | | | Field Data Required? Y / | 4 | |
| Person Contacted: | Date/Ti | me: | | | |
| Comments/ Resolution: | | | | $\perp \perp$ | |
| | <u> </u> | | | $\perp \perp$ | |
| | | •• | | - | |
| | | | | 4-4 | |
| | | | | + | |
| | | | | + | |
| 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)





October 25, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond GW6581

Pace Project No.: 2623715

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 27, 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

Beton M Damil

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



(770)734-4200



CERTIFICATIONS

Project: Plant Hammond GW6581

Pace Project No.: 2623715

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 Montana Certification #: Cert0082 Nebraska Certification #: NE-OS-29-14 Nevada Certification #: PA014572018-1 New Hampshire/TNI Certification #: 297617

Missouri Certification #: 235

New Jersey/TNI Certification #: PA051 New Mexico Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282

South Dakota Certification
Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L





SAMPLE SUMMARY

Project: Plant Hammond GW6581

Pace Project No.: 2623715

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2623715001 | EB-02 | Water | 09/26/19 17:50 | 09/27/19 13:15 |
| 2623715002 | FB-02 | Water | 09/26/19 18:25 | 09/27/19 13:15 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond GW6581

Pace Project No.: 2623715

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|--------------------------|----------|----------------------|------------|
| 2623715001 | EB-02 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | VAL | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2623715002 | FB-02 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | VAL | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond GW6581

Pace Project No.: 2623715

Sample: EB-02 Lab ID: 2623715001 Collected: 09/26/19 17:50 Received: 09/27/19 13:15 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 | 0.364 ± 0.165 (0.229) C:87% T:NA | pCi/L | 10/14/19 19:10 | 13982-63-3 | |
| Radium-228 | EPA 9320 | 0.788 ± 0.417 (0.747) C:82% T:82% | pCi/L | 10/16/19 11:09 | 15262-20-1 | |
| Total Radium | Total Radium Calculation | 1.15 ± 0.582 (0.976) | pCi/L | 10/18/19 11:04 | 7440-14-4 | |



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond GW6581

Pace Project No.: 2623715

Sample: FB-02 Lab ID: 2623715002 Collected: 09/26/19 18:25 Received: 09/27/19 13:15 Matrix: Water

| PWS: | Site ID: | Sample Type: | | | | |
|--------------|-----------------------------|--------------------------------------|-------|----------------|------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | EPA 9315 | 0.248 ± 0.139 (0.219) C:96% T:NA | pCi/L | 10/14/19 19:10 | 13982-63-3 | |
| Radium-228 | EPA 9320 | 0.681 ± 0.393 (0.720) C:77% T:88% | pCi/L | 10/16/19 11:10 | 15262-20-1 | |
| Total Radium | Total Radium Calculation | $0.929 \pm 0.532 (0.939)$ | pCi/L | 10/18/19 11:04 | 7440-14-4 | |



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond GW6581

Pace Project No.: 2623715

QC Batch: 365001 Analysis Method: EPA 9315

QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium

Associated Lab Samples: 2623715001, 2623715002

METHOD BLANK: 1770530 Matrix: Water

Associated Lab Samples: 2623715001, 2623715002

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-226 0.564 ± 0.187 (0.181) C:94% T:NA pCi/L 10/14/19 19:10

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.



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond GW6581

Pace Project No.: 2623715

QC Batch: 365002 Analysis Method: EPA 9320

QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228

Associated Lab Samples: 2623715001, 2623715002

METHOD BLANK: 1770531 Matrix: Water

Associated Lab Samples: 2623715001, 2623715002

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-228 0.538 \pm 0.357 (0.676) C:80% T:85% pCi/L 10/16/19 11:11

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.



QUALIFIERS

Project: Plant Hammond GW6581

Pace Project No.: 2623715

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

Date: 10/25/2019 09:19 AM

PASI-PA Pace Analytical Services - Greensburg



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond GW6581

Pace Project No.: 2623715

Date: 10/25/2019 09:19 AM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|--------------------------|----------|-------------------|---------------------|
| 2623715001 | EB-02 | EPA 9315 | 365001 | | |
| 2623715002 | FB-02 | EPA 9315 | 365001 | | |
| 2623715001 | EB-02 | EPA 9320 | 365002 | | |
| 2623715002 | FB-02 | EPA 9320 | 365002 | | |
| 2623715001 | EB-02 | Total Radium Calculation | 366904 | | |
| 2623715002 | FB-02 | Total Radium Calculation | 366904 | | |



CHAIN-OF-CUSTODY / Analytical Request Document

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

ntact (Y/V) eigme2 State / Location ... st Cooler ŏ pelses (N/A) υop Receiv Residual Chlorine (Y/N) 2 Page: ၁ i 9M3T <u>ج</u> 21/21/9/12/12 0 9/20 9/11/19 <u>マ</u> 49Qinu SSR/SSR IDS, CI, F, SO4 > 5 DATE Signed: 2 2 > dmium, Chromium, Cobalt betsy.mcdaniel@pacelabs.com 2 2 NA * ieel sesylenA scsinvoices@southernco.com Josha Muskus Methanol Preservatives NaSSSO3 327 (AP) NaOH Pace Project Manager: IOH Invoice Information: 3 EONH 3 Company Name: ace Profile #: Pace Quote: 452O4 8 Attention: Box SIGNATURE OF SAMPLERS Address: TUBE Jubreserved 9 SHENIATINOD 40 1 7 SAMPLER NAME AND SIGNATURE 22 K SAMPLE TEMP AT COLLECTION Mollin Mushen/brough 9/26/19 3130 1300 1825 TIME S 12/19 1335 9/16/19 DATE COLLECTED <u>8</u> TIME Lauren Petty, Geosyntec Purchase Order #: SCS10382775 START Plant Hammond 26/19 12/12 Required Project Information: Report To: Joju Abraham GWGSBI G S (G=GRAB C=COMP) 34YT 3JRMAS 5 艺 MATRIX CODE (see valid codes to left) Project Name: Section B Sopy To: Project #: CODE DW WY WW P St OL WP AR OI MATRIX
Drinking Water
Water
Waste Wiere
Product
SoutSold
Oil
Wipe
An
An
Tissue WO#:2623715 Georgia Power - Coal Combustion Residuals F One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique SAMPLE ID Sandard mail: jabraham@southernco.com 2480 Maner Road EB-02 20-67 (404)506-7239 Required Client Information: Requested Due Date: Atlanta, GA 30339 Address: *L* . e .0 Page # MaTI 11 of 12

| | Sam | ole Condition Upo | ukec MOH | 2623/13 |) | ot |
|---|---------------------------|-------------------------|------------------------|---------------------------------------|--------------|----------|
| Pace Analytical | Client Name: | C-Alower | PM: BM | Due Date: : GRPower-CCR | 10/25/ | 19 |
| urier: | PS USPS Client | | , | Proj. Due Date: Proj. Name: | | |
| ustody Seal on Cooler/Bo | | ☐ nỡ Seals intact | : objes Li | 10 | | |
| acking Material: 🔲 Bub | | Bags | ther | Samples on ice, cooling proce | ess has begu | 1 |
| hermometer Used | 217 | Biological Tissue is Fr | | Date and Initials of pers | on examining | 19 A |
| Cooler Temperature Temp should be above freezing | 9.0°C | Con | nments: | contents. | 7 | |
| Chain of Custody Present: | | Yes □No □N/A 1. | | | | Γ |
| Chain of Custody Filled Ou | t: | ☑Yes ☐No ☐N/A 2. | | | | |
| Chain of Custody Relinquis | | DYES NO N/A 3. | | | | Τ |
| Sampler Name & Signature | | ordes □No □N/A 4. | | | | |
| Samples Arrived within Ho | | GYes □No □N/A 5. | | | | |
| Short Hold Time Analysi | | □Yes ☑No □N/A 6. | | | | 1 |
| Rush Turn Around Time | | □Yes ☑No □N/A 7. | | | | 一 |
| Sufficient Volume: | | ☐res □No □N/A 8. | | • | | \vdash |
| Correct Containers Used: | | ØYes □No □N/A 9. | | | | |
| -Pace Containers Use | d: | ØYes □No □N/A | | | | ╁╌ |
| Containers Intact: | | □res □no □n/A 10 | · | | | ├- |
| Filtered volume received | for Dissolved tests | □Yes □No ĐN/A 11 | · | | | ├ |
| Sample Labels match CC | OC: | EYes, ONO ON/A 12 | | | | |
| -Includes date/time/ID | /Analysis Matrix: | $\mathcal{W}_{}$ | | | | ├- |
| All containers needing preserv | vation have been checked. | Dres □No □N/A 13 | · 3. | | | |
| All containers needing prese compliance with EPA recom | | ☐Yes □No □N/A | | | | |
| exceptions: VOA, coliform, TO | C O&G WI-DRO (water) | | itial when Impleted | Lot # of added preservative | | |
| Samples checked for dec | | □Yes □No □N/A 1 | | | | |
| Headspace in VOA Vials | | □Yes □No □N/A 1 | | · · · · · · · · · · · · · · · · · · · | | |
| Trip Blank Present: | (> Offility. | □Yes □No □N/A, 1 | | | | |
| Trip Blank Custody Seals | Propert | □Yes □No □N/A | J. | | | |
| | | | • | | | |
| Pace Trip Blank Lot # (if | | | | | | |
| Client Notification/ Res Person Contacted | olutión: : | Date/Tir | ne: | Field Data Required? | Υ / | N |
| Comments/ Resolution | : | | | | | |
| | | | | | | |
| | | | •• | | | |
| • | | | | | | |
| | | | | | | |
| | | | | | | |
| Project Manager Rev | /iew: | | | 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.é out of hold, incorrect preservative, out of temp, incorrect containers)





December 13, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2623746

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 30, 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,

Kevin Herring for Betsy McDaniel

Kein Lung

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







CERTIFICATIONS

Project: Plant Hammond Pace Project No.: 2623746

Pace Analytical Services Atlanta

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





SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2623746

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2623746001 | MW-22 | Water | 09/27/19 10:55 | 09/30/19 12:39 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2623746

| Lab ID | Sample ID | Method | Analysts | Analytes Reported |
|------------|-----------|-----------|----------|----------------------|
| 2623746001 | MW-22 | EPA 6020B | CSW | 13 |
| | | SM 2540C | ALW | 1 |
| | | EPA 300.0 | MWB | 3 |



Date: 12/13/2019 01:36 PM

ANALYTICAL RESULTS

Project: Plant Hammond Pace Project No.: 2623746

| Sample: MW-22 | Lab ID: | 2623746001 | Collecte | ed: 09/27/19 | 10:55 | Received: 09/ | 30/19 12:39 Ma | atrix: Water | |
|------------------------------|--------------|--------------|-----------|--------------|---------|----------------|----------------|--------------|-----|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qua |
| 6020B MET ICPMS | Analytical l | Method: EPA | 6020B Pre | paration Met | hod: EF | PA 3005A | | | |
| Arsenic | 0.00045J | mg/L | 0.0050 | 0.00035 | 1 | 10/03/19 17:28 | 10/05/19 15:19 | 7440-38-2 | |
| Barium | 0.028 | mg/L | 0.010 | 0.00049 | 1 | 10/03/19 17:28 | 10/05/19 15:19 | 7440-39-3 | |
| Beryllium | ND | mg/L | 0.0030 | 0.000074 | 1 | 10/03/19 17:28 | 10/05/19 15:19 | 7440-41-7 | |
| Boron | 2.9 | mg/L | 2.0 | 0.25 | 50 | 10/03/19 17:28 | 10/05/19 15:25 | 7440-42-8 | |
| Cadmium | 0.0014J | mg/L | 0.0025 | 0.00011 | 1 | 10/03/19 17:28 | 10/05/19 15:19 | 7440-43-9 | |
| Calcium | 202 | mg/L | 5.0 | 0.55 | 50 | 10/03/19 17:28 | 10/05/19 15:25 | 7440-70-2 | |
| Chromium | 0.00040J | mg/L | 0.010 | 0.00039 | 1 | 10/03/19 17:28 | 10/05/19 15:19 | 7440-47-3 | |
| Cobalt | 0.035 | mg/L | 0.0050 | 0.00030 | 1 | 10/03/19 17:28 | 10/05/19 15:19 | 7440-48-4 | |
| Lead | 0.00010J | mg/L | 0.0050 | 0.000046 | 1 | 10/03/19 17:28 | 10/05/19 15:19 | 7439-92-1 | |
| _ithium | 0.0013J | mg/L | 0.030 | 0.00078 | 1 | 10/03/19 17:28 | 10/05/19 15:19 | 7439-93-2 | |
| Molybdenum | ND | mg/L | 0.010 | 0.00095 | 1 | 10/03/19 17:28 | 10/05/19 15:19 | 7439-98-7 | |
| Selenium | ND | mg/L | 0.010 | 0.0013 | 1 | 10/03/19 17:28 | 10/05/19 15:19 | 7782-49-2 | |
| Thallium | ND | mg/L | 0.0010 | 0.000052 | 1 | 10/03/19 17:28 | 10/05/19 15:19 | 7440-28-0 | |
| 2540C Total Dissolved Solids | Analytical l | Method: SM 2 | 540C | | | | | | |
| Total Dissolved Solids | 1110 | mg/L | 10.0 | 10.0 | 1 | | 10/03/19 20:31 | | |
| 300.0 IC Anions 28 Days | Analytical l | Method: EPA | 300.0 | | | | | | |
| Chloride | 176 | mg/L | 25.0 | 0.60 | 25 | | 10/07/19 19:58 | 16887-00-6 | |
| Fluoride | 0.28J | mg/L | 0.30 | 0.029 | 1 | | 10/07/19 15:22 | 16984-48-8 | |
| Sulfate | 520 | mg/L | 25.0 | 0.42 | 25 | | 10/07/19 19:58 | | |



Project: Plant Hammond

Pace Project No.: 2623746

Date: 12/13/2019 01:36 PM

QC Batch: 36434 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET

Associated Lab Samples: 2623746001

METHOD BLANK: 164547 Matrix: Water

Associated Lab Samples: 2623746001

| _ | | Blank | Reporting | | | |
|------------|-------|--------|-----------|----------|----------------|------------|
| Parameter | Units | Result | Limit | MDL | Analyzed | Qualifiers |
| Arsenic | mg/L | ND | 0.0050 | 0.00035 | 10/05/19 14:53 | |
| Barium | mg/L | ND | 0.010 | 0.00049 | 10/05/19 14:53 | |
| Beryllium | mg/L | ND | 0.0030 | 0.000074 | 10/05/19 14:53 | |
| Boron | mg/L | ND | 0.040 | 0.0049 | 10/05/19 14:53 | |
| Cadmium | mg/L | ND | 0.0025 | 0.00011 | 10/05/19 14:53 | |
| Calcium | mg/L | ND | 0.10 | 0.011 | 10/05/19 14:53 | |
| Chromium | mg/L | ND | 0.010 | 0.00039 | 10/05/19 14:53 | |
| Cobalt | mg/L | ND | 0.0050 | 0.00030 | 10/05/19 14:53 | |
| Lead | mg/L | ND | 0.0050 | 0.000046 | 10/05/19 14:53 | |
| Lithium | mg/L | ND | 0.030 | 0.00078 | 10/05/19 14:53 | |
| Molybdenum | mg/L | ND | 0.010 | 0.00095 | 10/05/19 14:53 | |
| Selenium | mg/L | ND | 0.010 | 0.0013 | 10/05/19 14:53 | |
| Thallium | mg/L | ND | 0.0010 | 0.000052 | 10/05/19 14:53 | |

| | | Spike | LCS | LCS | % Rec | |
|------------|-------|-------|--------|-------|--------|------------|
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Arsenic | mg/L | 0.1 | 0.10 | 100 | 80-120 | |
| 3arium | mg/L | 0.1 | 0.098 | 98 | 80-120 | |
| Beryllium | mg/L | 0.1 | 0.10 | 101 | 80-120 | |
| Boron | mg/L | 1 | 1.0 | 104 | 80-120 | |
| Cadmium | mg/L | 0.1 | 0.10 | 101 | 80-120 | |
| Calcium | mg/L | 1 | 0.99 | 99 | 80-120 | |
| Chromium | mg/L | 0.1 | 0.10 | 101 | 80-120 | |
| Cobalt | mg/L | 0.1 | 0.099 | 99 | 80-120 | |
| ∟ead | mg/L | 0.1 | 0.10 | 100 | 80-120 | |
| _ithium | mg/L | 0.1 | 0.10 | 102 | 80-120 | |
| Molybdenum | mg/L | 0.1 | 0.10 | 101 | 80-120 | |
| Selenium | mg/L | 0.1 | 0.099 | 99 | 80-120 | |
| Гhallium | mg/L | 0.1 | 0.10 | 100 | 80-120 | |

| MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 164549 164550 | | | | | | | | | | | | |
|--|-------|----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|------|
| Parameter | Units | 2623793002 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
| Arsenic | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.098 | 102 | 98 | 75-125 | 4 | 20 | |
| Barium | mg/L | 0.042 | 0.1 | 0.1 | 0.14 | 0.14 | 103 | 99 | 75-125 | 3 | 20 | |
| Beryllium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.099 | 103 | 99 | 75-125 | 4 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2623746

Date: 12/13/2019 01:36 PM

| MATRIX SPIKE & MATRIX | SPIKE DUPL | ICATE: 1645 | | | 164550 | | | | | | | |
|-----------------------|------------|----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|-----------------|-----|------------|-----|
| Parameter | Units | 2623793002 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qua |
| Boron | mg/L | 0.025J | 1 | 1 | 1.1 | 1.0 | 103 | 100 | 75-125 | 4 | 20 | |
| Cadmium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 104 | 101 | 75-125 | 3 | 20 | |
| Calcium | mg/L | 17.6 | 1 | 1 | 19.5 | 20.2 | 188 | 260 | 75-125 | 4 | 20 | M6 |
| Chromium | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.10 | 106 | 101 | 75-125 | 5 | 20 | |
| Cobalt | mg/L | 0.00042J | 0.1 | 0.1 | 0.10 | 0.097 | 102 | 96 | 75-125 | 6 | 20 | |
| Lead | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 104 | 100 | 75-125 | 4 | 20 | |
| Lithium | mg/L | 0.011 | 0.1 | 0.1 | 0.12 | 0.11 | 108 | 102 | 75-125 | 5 | 20 | |
| Molybdenum | mg/L | ND | 0.1 | 0.1 | 0.11 | 0.10 | 106 | 103 | 75-125 | 3 | 20 | |
| Selenium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.098 | 101 | 98 | 75-125 | 4 | 20 | |
| Thallium | mg/L | ND | 0.1 | 0.1 | 0.10 | 0.10 | 104 | 100 | 75-125 | 4 | 20 | |

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



Project: Plant Hammond

Pace Project No.: 2623746

QC Batch: 36464 Analysis Method: SM 2540C

QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 2623746001

LABORATORY CONTROL SAMPLE: 164734

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers **Total Dissolved Solids** mg/L 400 408 102 84-108

SAMPLE DUPLICATE: 164735

Parameter Units Result RPD Max Result RPD Qualifiers

Total Dissolved Solids mg/L 13.0 ND 10

SAMPLE DUPLICATE: 164763

Date: 12/13/2019 01:36 PM

2623696005 Dup Max Result RPD RPD Qualifiers Parameter Units Result 275 **Total Dissolved Solids** mg/L 262 5 10

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



Project: Plant Hammond

Pace Project No.: 2623746

QC Batch: 36548
QC Batch Method: EPA 300.0

Analysis Description:

Units

mg/L

mg/L

mg/L

EPA 300.0

300.0 IC Anions

Associated Lab Samples: 2623746001

Parameter

METHOD BLANK: 165133

Matrix: Water

Analysis Method:

Associated Lab Samples:

Date: 12/13/2019 01:36 PM

Chloride

Fluoride

Sulfate

2623746001

| Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|-----------------|--------------------|-------|----------------|------------|
| 0.033J | 1.0 | 0.024 | 10/07/19 12:57 | |
| ND | 0.30 | 0.029 | 10/07/19 12:57 | |
| ND | 1.0 | 0.017 | 10/07/19 12:57 | |

| LABORATORY CONTROL SAMPLE: | 165134 | | | | | |
|----------------------------|--------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Chloride | mg/L | | 10.6 | 106 | 90-110 | |
| Fluoride | mg/L | 10 | 10.5 | 105 | 90-110 | |
| Sulfate | mg/L | 10 | 10.3 | 103 | 90-110 | |

| MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 165135 165136 | | | | | | | | | | | | |
|--|-------|------------|-------|-------|--------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | | 2623738001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Chloride | mg/L | 138 | 200 | 200 | 338 | 335 | 100 | 98 | 90-110 | 1 | 15 | |
| Fluoride | mg/L | 2.0 | 200 | 200 | 207 | 205 | 102 | 101 | 90-110 | 1 | 15 | |
| Sulfate | mg/L | ND | 200 | 200 | 250 | 248 | 102 | 101 | 90-110 | 1 | 15 | |

| MATRIX SPIKE SAMPLE: | 165137 | | | | | | |
|----------------------|--------|----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter | Units | 2623745001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
| | | | | | | | |
| Chloride | mg/L | 110 | 200 | 316 | 103 | 90-110 | |
| Fluoride | mg/L | 2.0J | 200 | 211 | 104 | 90-110 | |
| Sulfate | mg/L | 557 | 200 | 717 | 80 | 90-110 N | //6 |

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



QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2623746

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

Date: 12/13/2019 01:36 PM

M6

Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2623746

Date: 12/13/2019 01:36 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|-----------------|----------|-------------------|---------------------|
| 2623746001 | MW-22 | EPA 3005A | 36434 | EPA 6020B | 36455 |
| 2623746001 | MW-22 | SM 2540C | 36464 | | |
| 2623746001 | MW-22 | EPA 300.0 | 36548 | | |

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| Section A | | Section B | Section C | |
|-------------------|--|----------------------------------|--|------------------------|
| Required | lient Information: | roject Information: | Invoice information: | Page: \ Of |
| Company: | Georgia Power - Coal Combustion Residuals | Joju Abraham | Attention: scsinvaices@southernco.com | |
| Address: | O Maner Road | Copy To: Lauren Petty, Geosyntec | Company Name: | |
| Atlanta, GA 30339 | | | Address: | Behildony/Agency |
| Email: | | ir #: SCS10382775 | Pace Quote: | |
| Phone: | | me: Plant Hammond | Pace Project Manager: betsy.modaniel@pacelabs.com, | Saile / Location |
| Redneste | Ter | Project #: CWGS91 | Pace Profile #: 327 (AP) | |
| | | | MALIPHANIA DIMENSIONI DESCRIPTIONI DE LA COMPANIA DEL COMPANIA DE LA COMPANIA DE LA COMPANIA DEL COMPANIA DE LA | |
| | | (He) o | Preservatives N N N N N N | |
| | SAMPLE ID | S S START END | muillyne9 ,muimbe; ,Lead | (N/A) |
| # WƏTI | One Cheracter per box. Wee-Arr (A-Z, 0-9 /, -) Che-Sample Ids must be unique 1550e | きょうち 3 3000 XIRTAM | # OF CONTAINER Thyseserved H2SO4 H4C3 H4C1 Methanol Methanol Methanol Other Chromium, Cobal Boron, Calcium, Boron, Calcium, Chromium, Cobal Boron, Calcium, Boron, Calcium, Chromium, Cobal Boron, Calcium, Chromium, Cobal Boron, Calcium, Chromium, Cobal Boron, Calcium, Chromium, Cobal Boron, Calcium, Boron, | Pesidual Chlorine |
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| 6) | | | 2623746 | |
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| | | Mallia Adulton Beamer 9/20/19 | 130 A.R.R. 2019 1 - 10315 | |
| | | 9.20.0 | 1239 Mas Iman 9/30/19 | 200 |
| | | | | |
| Pag | | | | 2.9 4 4 4 |
| e 12 | | SALPLEN VANTE AND SIGNATURE | 10 m | - |
| 2 of 1 | | PRINT Name of SAMPLER: | Noelia Mushus | d te sek |
| 3 | | SIGNATURE OF SAMPLER | 10,6 Mush | IM9T |

Sample Condition Upon Receipt Client Name: 67 A Power Project # WO#: 2623746 Courier: Fed Ex UPS USPS Client Commercial Pace Other Due Date: 10/07/19 Tracking #: Custody Seal on Cooler/Box Present: yes ☐ no CLIENT: GAPouer-CCR Seals intact: yes Bubble Bags None Dther Packing Material: Bubble Wrap Type of Ice: Wet Blue None Thermometer Used ☐ Samples on ice, cooling process has begun Date and initials of person examining Biological Tissue is Frozen: Yes Cooler Temperature contents:_9 Temp should be above freezing to 6°C Comments: Chain of Custody Present: ☑Yes □No □N/A 1. √ Yes □No Chain of Custody Filled Out: □N/A 2. -- ☐Yes □No Chain of Custody Relinquished: □N/A 3. - ☐Yes ☐No Sampler Name & Signature on COC: □N/A 4. Samples Arrived within Hold Time: ØYes □No □N/A 5. Short Hold Time Analysis (<72hr): ☐Yes ☐No □N/A | 6. Rush Turn Around Time Requested: ☐Yes ZNo □N/A | 7. Sufficient Volume: JEYes □No □N/A 8. -EYes □No □N/A 9. Correct Containers Used: -- TYes □No □N/A -Pace Containers Used: Containers Intact: →EYes □No □N/A 10. □Yes □No -ÐNA 11. Filtered volume received for Dissolved tests ⊒Yes □No □N/A 12. Sample Labels match COC: -Includes date/time/ID/Analysis All containers needing preservation have been checked. -- TYes □No □N/A 13. All containers needing preservation are found to be in Yes □No □N/A compliance with EPA recommendation. Initial when Lot # of added ☐Yes ☐NO preservative exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) completed □Yes □No □□N/A 14. Samples checked for dechlorination:

15.

16.

□Yes □No ÆN/A

□Yes □No ĐN/A

☐Yes ☐No ÆN/A

Headspace in VOA Vials (>6mm):

Trip Blank Custody Seals Present

Project Manager Review:

Trip Blank Present:

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)

Date:





October 29, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond

Pace Project No.: 2623747

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 30, 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

Beton M Damil

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



(770)734-4200



CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2623747

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 Montana Certification #: Cert0082 Nebraska Certification #: NE-OS-29-14 Nevada Certification #: PA014572018-1 New Hampshire/TNI Certification #: 297617 New Jersey/TNI Certification #: PA051

New Jersey/TNI Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Ohio EPA Rad Approval: #41249

Missouri Certification #: 235

Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282

South Dakota Certification
Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3 Utah/TNI Certification #: PA014572017-9 USDA Soil Permit #: P330-17-00091 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 9526 Washington Certification #: C868 West Virginia DEP Certification #: 143 West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L





SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2623747

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 2623747001 | MW-22 | Water | 09/27/19 10:55 | 09/30/19 12:39 |



SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2623747

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|--------------------------|----------|----------------------|------------|
| 2623747001 | MW-22 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | VAL | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |



Project: Plant Hammond

Pace Project No.: 2623747

| Sample: MW-22 PWS: | Lab ID: 26237470 Site ID: | O1 Collected: 09/27/19 10:55 Sample Type: | Received: | 09/30/19 12:39 | Matrix: Water | |
|-----------------------|-------------------------------------|--|-----------|----------------|---------------|------|
| Parameters | Method | Act ± Unc (MDC) Carr Trac | Units | Analyzed | CAS No. | Qual |
| Radium-226 | | 0.493 ± 0.278 (0.328) C:96% T:NA | pCi/L | 10/16/19 08:26 | 13982-63-3 | |
| Radium-228 | | 0.942 ± 0.648 (1.26) C:70% T:83% | pCi/L | 10/22/19 14:24 | 4 15262-20-1 | |
| Total Radium | Total Radium Calculation | 1.44 ± 0.926 (1.59) | pCi/L | 10/23/19 10:22 | 2 7440-14-4 | |



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2623747

QC Batch: 365558

5558

QC Batch Method: EPA 9315

Analysis Description:

EPA 9315

9315 Total Radium

Associated Lab Samples: 2623747001

METHOD BLANK: 1773085

Matrix: Water

Analysis Method:

Associated Lab Samples: 2623747001

Parameter

Act ± Unc (MDC) Carr Trac

Units pCi/L Analyzed

Qualifiers

Radium-226

0.522 ± 0.298 (0.379) C:86% T:NA

10/16/19 07:53

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



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2623747

QC Batch: 365559 Analysis Method: EPA 9320

QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228

Associated Lab Samples: 2623747001

METHOD BLANK: 1773086 Matrix: Water

Associated Lab Samples: 2623747001

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-228 0.0794 ± 0.355 (0.809) C:69% T:86% pCi/L 10/22/19 14:24

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



QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2623747

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

Date: 10/29/2019 10:36 AM

PASI-PA Pace Analytical Services - Greensburg



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2623747

Date: 10/29/2019 10:36 AM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|--------------------------|----------|-------------------|---------------------|
| 2623747001 | MW-22 | EPA 9315 | 365558 | | |
| 2623747001 | MW-22 | EPA 9320 | 365559 | | |
| 2623747001 | MW-22 | Total Radium Calculation | 367488 | | |

(N/A) urscr Regrander/Approxy (N/Y) Cooler ð D8(889 ÁDOISπ≘ (N/A) по ремерен å MO#: 2623747 0 Residual Chlorine (Y/V) TEMP in C Page: CHAIN-OF-CUSTODY / Analytical Request Document
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately. 1034 (Region Hed Aretres (Strengt 1979) DATE Signad: U9/23 /19 120/19 9.5.19 OME Radium 226/228 IDS, CI, F. SO4 0 3 Selenium, Thallium Z munabdytcM , muirtii 3 oetsy.mcdaniel@pacelabs.com. COETIED BY ACTUATION nnan 2 Soron, Calcium, Cadmium, Parce muilyneB .muinsB . pinesı/ N/A outhernco.com **そころ** Methanol NESSSOB **Preservatives** SIGNATURE OF SAMPLER OF A MEMBER scsinvoices@ 327 (AP) HOBN Pace Quote: Pace Project Manager: Ò Noelia ЮН Invoice Information: 3 EONH Attention: scsi Company Name: Pace Profile #: 0212. +SSO4 (239 Section C Address: pevieseign ağlıyanın daylarıyılı kazının a 3 * OF CONTAINERS 9 के ती PRINT Name of SAMPLER: ৪ Mayber Beerman 9/29/19 SAMPLE TEMP AT COLLECTION 255 TIME 8 12 P DATE COLLECTED 7,0 TIME Pac 0 Copy To: Lauren Petty, Geosyntec Purchase Order #: SCS10382775 START Project Name: Plant Hammond Project #: &WGS9| a to m DATE Required Project Information: Report To: Joju Abraham 3 SAMPLE TYPE (GaGRAB CacoMP) action MATRIX CODE (see valid codes to left) Section B CODE DWW WW WY SP PWW TO PWW T MAI FUX
Deriching Water
Waste Water
Waste Water
Froduct
SockSold
ON
Wipe
An Georgia Power - Coal Combustion Residuals 2480 Maner Road TAT Sample Ids must be unique One Character per box. (A-Z, 0-9 / , -) SAMPLE ID Requested Due Date: 3 Handard jabraham@southernco.com MM-22 (404)506-7239 Required Client Information: **Ulanta**, GA 30339 company: # M311 Page 10 of 11

Sample Condition Upon Receipt Project # Client Name: (or A Powere WO#: 2623747 Courier: Fed Ex UPS USPS Client Commercial Pace Other Due Date: 10/28/19 Custody Seal on Cooler/Box Present: yes no CLIENT: GAPower-CCR Seals intact: yes ☐ Bubble Bags ☐ None ☐ Other Packing Material: 🔲 Bubble Wrap Samples on ice, cooling process has begun Type of Ice: Wet Blue None Thermometer Used Date and Initials of person examining contents: 9 9019 M Biological Tissue is Frozen: Yes No **Cooler Temperature** Comments: Temp should be above freezing to 6°C ØYes □No □N/A 1. Chain of Custody Present: Yes □No □N/A 2. Chain of Custody Filled Out: -- ☐Yes ☐No □N/A 3. Chain of Custody Relinquished: _____Yes □No Sampler Name & Signature on COC: ØYes □No □N/A Samples Arrived within Hold Time: □n/A ☐Yes ☐Mô 16. Short Hold Time Analysis (<72hr): □Yes ☑No □n/A Rush Turn Around Time Requested: _EYes □No □N/A Sufficient Volume: -EYes ∐No □N/A Correct Containers Used: -ETYes □No □N/A -Pace Containers Used: EYes □No □N/A 10. Containers Intact: □Yes □No ÆNA 11. Filtered volume received for Dissolved tests DYES □NO □N/A 12. Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: All containers needing preservation have been checked. TOYES DNO DNA 13. All containers needing preservation are found to be in Yes □No □N/A compliance with EPA recommendation. Lot # of added Initial when ☐Yes ☐NO preservative completed exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) □Yes □No □MA Samples checked for dechlorination: 14. ☐Yes ☐No ÆÑA Headspace in VOA Vials (>6mm): □Yes □No ₽N/A 16. Trip Blank Present: ☐Yes ☐No ☐N/A Trip Blank Custody Seals Present Pace Trip Blank Lot # (if purchased): Y / N Field Data Required? Client Notification/ Resolution: Date/Time: Person Contacted: 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)

Project Manager Review:

Date:





October 31, 2019

Joju Abraham Georgia Power - Coal Combustion Residuals 2480 Maner Road Atlanta, GA 30339

RE: Project: Plant Hammond AP GW6581

Pace Project No.: 2623794

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on October 01, 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

Beton M Damil

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



(770)734-4200



CERTIFICATIONS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623794

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



SAMPLE SUMMARY

Project: Plant Hammond AP GW6581

Pace Project No.: 2623794

| Lab ID | Sample ID | Matrix | Date Collected | Date Received | |
|------------|-----------|--------|----------------|----------------|--|
| 2623794001 | HGWA-1 | Water | 09/30/19 09:52 | 10/01/19 12:05 | |
| 2623794002 | HGWA-2 | Water | 09/30/19 11:17 | 10/01/19 12:05 | |
| 2623794003 | HGWA-3 | Water | 09/30/19 11:35 | 10/01/19 12:05 | |



SAMPLE ANALYTE COUNT

Project: Plant Hammond AP GW6581

Pace Project No.: 2623794

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|-----------|--------------------------|----------|----------------------|------------|
| 2623794001 | HGWA-1 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | VAL | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2623794002 | HGWA-2 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | VAL | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |
| 2623794003 | HGWA-3 | EPA 9315 | LAL | 1 | PASI-PA |
| | | EPA 9320 | VAL | 1 | PASI-PA |
| | | Total Radium Calculation | CMC | 1 | PASI-PA |



Project: Plant Hammond AP GW6581

Calculation

Pace Project No.: 2623794

Sample: HGWA-1 Lab ID: 2623794001 Collected: 09/30/19 09:52 Received: 10/01/19 12:05 Matrix: Water PWS: Site ID: Sample Type: Method Act ± Unc (MDC) Carr Trac **Parameters** Units Analyzed CAS No. Qual EPA 9315 0.306 ± 0.242 (0.390) Radium-226 pCi/L 10/25/19 08:33 13982-63-3 C:88% T:NA EPA 9320 -0.0906 ± 0.261 (0.644) 10/29/19 12:24 15262-20-1 Radium-228 pCi/L C:71% T:85% Total Radium Total Radium 0.306 ± 0.503 (1.03) pCi/L 10/30/19 10:55 7440-14-4



Project: Plant Hammond AP GW6581

Pace Project No.: 2623794

Sample: HGWA-2 Lab ID: 2623794002 Collected: 09/30/19 11:17 Received: 10/01/19 12:05 Matrix: Water PWS: Site ID: Sample Type: Method Act ± Unc (MDC) Carr Trac **Parameters** Units Analyzed CAS No. Qual EPA 9315 $0.585 \pm 0.304 \quad (0.356)$ Radium-226 pCi/L 10/25/19 08:33 13982-63-3 C:91% T:NA EPA 9320 $0.454 \pm 0.438 \quad (0.899)$ Radium-228 pCi/L 10/29/19 15:27 15262-20-1

C:76% T:76%

 1.04 ± 0.742 (1.26)

Total Radium Total Radium Calculation

10/30/19 10:55 7440-14-4

pCi/L



Project: Plant Hammond AP GW6581

Calculation

Pace Project No.: 2623794

Sample: HGWA-3 Lab ID: 2623794003 Collected: 09/30/19 11:35 Received: 10/01/19 12:05 Matrix: Water PWS: Site ID: Sample Type: Method Act ± Unc (MDC) Carr Trac Units CAS No. **Parameters** Analyzed Qual EPA 9315 $0.384 \pm 0.276 \quad (0.453)$ Radium-226 pCi/L 10/25/19 08:39 13982-63-3 C:87% T:NA EPA 9320 -0.00390 ± 0.427 (0.986) Radium-228 pCi/L 10/29/19 15:28 15262-20-1 C:74% T:82% Total Radium Total Radium $0.384 \pm 0.703 \quad (1.44)$ pCi/L 10/30/19 10:55 7440-14-4



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond AP GW6581

Pace Project No.: 2623794

QC Batch: 366498 Analysis Method: EPA 9315

QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium

Associated Lab Samples: 2623794001, 2623794002, 2623794003

METHOD BLANK: 1777737 Matrix: Water

Associated Lab Samples: 2623794001, 2623794002, 2623794003

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-226 $0.599 \pm 0.309 \quad (0.395) \text{ C:98\% T:NA}$ pCi/L $10/25/19 \quad 09:42$

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



QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond AP GW6581

Pace Project No.: 2623794

QC Batch: 366499 Analysis Method: EPA 9320

QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228

Associated Lab Samples: 2623794001, 2623794002, 2623794003

METHOD BLANK: 1777739 Matrix: Water

Associated Lab Samples: 2623794001, 2623794002, 2623794003

Parameter Act ± Unc (MDC) Carr Trac Units Analyzed Qualifiers

Radium-228 0.720 ± 0.387 (0.688) C:72% T:87% pCi/L 10/29/19 12:24

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



QUALIFIERS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623794

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

Date: 10/31/2019 01:59 PM

PASI-PA Pace Analytical Services - Greensburg



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond AP GW6581

Pace Project No.: 2623794

Date: 10/31/2019 01:59 PM

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytica Batch |
|------------|-----------|--------------------------|----------|-------------------|--------------------|
| 2623794001 | HGWA-1 | EPA 9315 | 366498 | | |
| 2623794002 | HGWA-2 | EPA 9315 | 366498 | | |
| 2623794003 | HGWA-3 | EPA 9315 | 366498 | | |
| 2623794001 | HGWA-1 | EPA 9320 | 366499 | | |
| 2623794002 | HGWA-2 | EPA 9320 | 366499 | | |
| 2623794003 | HGWA-3 | EPA 9320 | 366499 | | |
| 2623794001 | HGWA-1 | Total Radium Calculation | 368512 | | |
| 2623794002 | HGWA-2 | Total Radium Calculation | 368512 | | |
| 2623794003 | HGWA-3 | Total Radium Calculation | 368512 | | |



CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| : | | | | ; | | | | | | | | | | | | | , | | | | i | |
|-------------------------|--|---|--|------------------------------|----------------------------|-------------------------------------|--|-----------------------------------|-----------------------------|------------------------------|----------|-------------------------------------|------------------------------------|--------------------------------------|----------------|------|--------------|------------------|--------------------------|-----------------|---------------|-----|
| Section A Required (| Section A Required Client Information: | Section B Required Project Information: | ct Informat | :: | | | Section C | Section C Invoice Information: | ë | | | | | | | | Č | • | _ | | 6 | |
| Company | Georgia Bount Confusion Desiduals | Benort To: | Join Abrohom | | | | Attention | | | | | | | | Γ | | rage Lage | | $\cdot $ | 5 | | |
| Address: | 1 | | Joju Auraniam Lauren Petty, Geosyntec | Geosyntec | | | Compa | Š | scsinvoices & soumernco.com | oninemic | EOO. | | | | 1 | | | | | | | |
| Allanta, GA 30339 | A 30339 | 1 | | | | | Address | | | | | | | | | | Re | outston | Reculation/America | | | _ |
| Email: ja | jabraham@southernco.com | Purchase Order #: | | SCS10382775 | | | Pace Quote: | note: | | | | | İ | | _ | | | | | | | |
| Phone: | (404)506-7239 Fax: | Project Name: | జై | puomui | | | Pace P | Pace Project Manager: | | betsv.mcdaniel@pacelabs.com. | aniel@ps | celabs.c | Ę | | | | 8 | State / Location | catton | 100 | | |
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CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT, All relevant fields must be completed accurately.

| Section A | _ • | a coitean | S contraction | |
|-----------|--|--|--|--|
| Require | Required Client Information: | Required Project Information: | Invoice Information: | Page: 6 of 2 |
| Company: | y: Georgia Power - Coal Combustion Residuals | | Attention: scsinvoices@southernco.com | |
| Address: | 2480 Maner Road | | Сотрапу Мате: | |
| I | Atlanta, GA 30339 | | Address: | Regutátory Agericy |
| | m03.0 | Purchase Order #: SCS10382775 | | |
| Phone: | Phone: (404)506-7239 Fax: | Project Name: Plant Hammond | Pace Project Manager: betsy.mcdaniel@pacelabs.com, | Stats/Location |
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Sample Condition Upon Receipt Client Name: 6 Due Date: 10/29/19 CLIENT: GRPower-CCR Courier: Fed Ex UPS USPS Client Commercial Pace Other Proj. Due Date Tracking #: Proj. Name: **Custody Seal on Cooler/Box Present:** ☐ no yes ☐ yes Seals intact: ☐ no Packing Material: Grabble Wrap □ Bubble Bags □ None □ Other **Thermometer Used** Type of Ice: Wet Blue Samples on ice, cooling process has begun Date and Initials of person examining Biological Tissue is Frozen: Yes No **Cooler Temperature** contents: Temp should be above freezing to 6°C Comments: ☐Yes □No Chain of Custody Present: □N/A 1. Chain of Custody Filled Out: ₽Yes □No □N/A 2. □Yes ,□No Chain of Custody Relinquished: □N/A 3. Sampler Name & Signature on COC: . \square No □N/A Samples Arrived within Hold Time: □N/A Short Hold Time Analysis (<72hr): ☐Yes ☐No ¹□N/A Rush Turn Around Time Requested: ☐Yes ☐Md __N/A Sufficient Volume: □N/A Correct Containers Used: ØYes □No □N/A -Pace Containers Used: □¥es □No □N/A Containers Intact: □Xes □No □N/A Filtered volume received for Dissolved tests ☐Yes ☐No Sample Labels match COC: TYes DNo □N/A -Includes date/time/ID/Analysis Matrix: All containers needing preservation have been checked. □Yes □No □N/A All containers needing preservation are found to be in □Yes □No □N/A compliance with EPA recommendation. Initial when Lot # of added □Yes ÆNo exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) completed preservative Samples checked for dechlorination: □Yes □No □NA 14. Headspace in VOA Vials (>6mm): ☐Yes ☐No ₫N/A □Yes □No ☑N/A Trip Blank Present: Trip Blank Custody Seals Present □Yes □No □N/A Pace Trip Blank Lot # (if purchased): Client Notification/ Resolution: Field Data Required? Y / Person Contacted: 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)

Project Manager Review:

Date:

Data Validation Reports (Pending 2019 2nd semester)



Final Review: JK Caprio 6/11/19



Memorandum

Date: June 5, 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 2616036, 2616037, 2616039, 2616040, 2616042, 2616043, 2616120, 2616121, 2616161, 2616162, 2616168, 2616170, 2616228, 2616229, 2616230 and

2616231

SITE: Plant Hammond AP

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of thirty-two aqueous samples, two field duplicate samples, one equipment blank and two field blanks, collected 12-15 March 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 Environmental Protection Agency (EPA) Methods 3005A/6020B
- Mercury by EPA Method 7470A
- Anions by EPA Method 300.0

The samples were analyzed at Pace Analytical Services, LLC, Greensburg, Pennsylvania, for the following analytical tests:

- Radium-226 by EPA Method 9315
- Radium-228 by EPA Method 9320
- Total Radium by Calculation

EXECUTIVE SUMMARY

Based on the Stage 2A data validation covering the quality control (QC) parameters listed below and 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);
- American National Standard, Verification and Validation of Radiological Data for use in Waste Management and Environmental Remediation, February 15, 2012 (ANSI/ANS-41.5-2012); and,
- 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 |
|---------------|-----------|
| 2616036001 | HGWA-1 |
| 2616036002 | HGWA-2 |
| 2616036003 | HGWA-3 |
| 2616036004 | FB-01 |
| 2616036005 | EB-01 |
| 2616037001 | HGWA-1 |
| 2616037002 | HGWA-2 |
| 2616037003 | HGWA-3 |
| 2616037004 | FB-01 |
| 2616037005 | EB-01 |
| 2616039001 | HGWA-4 |
| 2616039002 | HGWA-5 |
| 2616039003 | HGWA-6 |
| 2616040001 | HGWA-4 |
| 2616040002 | HGWA-5 |
| 2616040003 | HGWA-6 |
| 2616042001 | MW-28D |
| 2616042002 | HGWC-8 |
| 2616042003 | MW-29 |
| 2616043001 | MW-28D |
| 2616043002 | HGWC-8 |
| 2616043003 | MW-29 |
| 2616120001 | MW-7 |

| Laboratory ID | Client ID |
|---------------|-----------|
| 2616120002 | MW-26D |
| 2616120003 | HGWC-9 |
| 2616120004 | MW-27D |
| 2616120005 | MW-6 |
| 2616120006 | HGWC-10 |
| 2616120007 | MW-24D |
| 2616120008 | HGWC-13 |
| 2616120009 | FD-1 |
| 2616120010 | MW-20 |
| 2616120011 | MW-5 |
| 2616120012 | HGWC-7 |
| 2616120013 | HGWC-11 |
| 2616121001 | MW-7 |
| 2616121002 | MW-26D |
| 2616121003 | HGWC-9 |
| 2616121004 | MW-27D |
| 2616121005 | MW-6 |
| 2616121006 | HGWC-10 |
| 2616121007 | MW-24D |
| 2616121008 | HGWC-13 |
| 2616121009 | FD-1 |
| 2616121010 | MW-20 |
| 2616121011 | MW-5 |

| Page | 3 |
|------|---|
| | _ |

| Laboratory ID | Client ID |
|---------------|-----------|
| 2616121012 | HGWC-7 |
| 2616121013 | HGWC-11 |
| 2616161001 | HGWC-12 |
| 2616161002 | MW-25D |
| 2616161003 | MW-19 |
| 2616162001 | HGWC-15 |
| 2616162002 | FD-2 |
| 2616162003 | HGWC-18 |
| 2616162004 | MW-23D |
| 2616162005 | HGWC-14 |
| 2616168001 | HGWC-12 |
| 2616168002 | MW-25D |
| 2616168003 | MW-19 |
| 2616170001 | HGWC-15 |
| 2616170002 | FD-2 |

| Laboratory ID | Client ID |
|---------------|-----------|
| 2616170003 | HGWC-18 |
| 2616170004 | MW-23D |
| 2616170005 | HGWC-14 |
| 2616228001 | MW-22 |
| 2616228002 | HGWC-16 |
| 2616228003 | MW-21D |
| 2616228004 | HGWC-17 |
| 2616229001 | MW-22 |
| 2616229002 | HGWC-16 |
| 2616229003 | MW-21D |
| 2616229004 | HGWC-17 |
| 2616230001 | FB-02 |
| 2616231001 | FB-02 |

The samples were received within 0-6 degrees Celsius (°C). No sample preservation issues were noted by the laboratory.

The following issues were noted with the chain of custody (COC) forms:

- The relinquishing signature, date and time were missing for the final sample transfer on the COCs.
- 2616120, 2616121, 2616162 and 2616170: There were no times of collection listed on the COCs for the field duplicates, FD-01 and FD-02. The laboratory assigned collection times of 00:00.
- 2616042, 2616043, 2616120, 26166121, 2616162 and 2616170: The years were missing from the start and end collection times.
- 2616228: The collection start and end times were not listed on the COC for sample HGWC-17. The sample was logged in per the information on the sample container.
- 2616036, 2616037, 2616039, 2616040, 2616042 and 2616043: There were time discrepancies between the relinquished by times and received by times. The relinquished by times were documented as March 13, 2019 0943 and the received by times were documented as March 13, 2019 0944.

1.0 **METALS**

The samples were analyzed by EPA methods 3005A/6020B (Mercury evaluated separately in Section 2.0, below).

Plant Hammond AP Site Data Validation 5 June 2019 Page 4

The areas of data review are listed below. A leading check mark (\checkmark) indicates an area of review in which the data were acceptable. A preceding crossed circle (\otimes) 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). Six method blanks were reported (batches 24312, 24384, 24489, 24594, 24597 and 24707). Metals were not detected in the method blanks above the method detection limits (MDLs), with the following exceptions.

2616036, 2616039 and 2616042: Arsenic was detected at an estimated concentration greater than the MDL and less than the reporting limit (RL) in the method blank in batch 24384. Therefore, the arsenic concentrations in the associated samples less than five times the method blank concentration were U* qualified as not detected at the reported concentrations.

2616120: Antimony was detected at an estimated concentration greater than the MDL and less than the RL in the method blank in batch 24489. Therefore, the antimony 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** |
|--------|----------|--------------------------------|--------------------|--------------------------------|--------------------------|------------------|
| MW-7 | Antimony | 0.00086 | J | 0.00086 | U* | BL |
| FD-1 | Antimony | 0.00088 | J | 0.00088 | U* | BL |
| HGWA-2 | Arsenic | 0.00069 | J | 0.00069 | U* | BL |
| HGWA-3 | Arsenic | 0.00063 | J | 0.00063 | U* | BL |

mg/L- milligram per liter

1.4 <u>Matrix Spike/Matrix Spike Duplicate (MS/MSD)</u>

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 HGWA-6 and HGWC-13. The recovery and relative percent difference (RPD) results were within the laboratory and SOP specified acceptance criteria.

Four batch MS/MSD pairs were also 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). Six 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

Two field blanks were collected with the sample sets, FB-01 and FB-02. Metals were not detected in the field blanks above the MDLs, with the following exception.

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

Plant Hammond AP Site Data Validation 5 June 2019 Page 6

Boron was detected at an estimated concentration greater than the MDL and less than the RL in FB-02. Since boron was not reported for the associated samples, no qualifications were applied to the data.

1.8 Field Duplicate

Two field duplicate samples were collected with the sample sets, FD-01 and FD-02. Acceptable precision (RPD \leq 20% or the difference between the concentrations < RL) was demonstrated between the field duplicates and the original samples HGWC-13 and HGWC-15, respectively.

1.9 **Sensitivity**

The samples were reported to the MDLs. Elevated nondetect 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 D3, M6 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 or analytes were included in the EDDs that were not requested or reported in the 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 for mercury by EPA method 7470A.

The areas of data review are listed below. A leading check mark (\checkmark) indicates an area of review in which the data were acceptable. A preceding crossed circle (\otimes) 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

Plant Hammond AP Site Data Validation 5 June 2019 Page 7

⊗ 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 <u>Holding Time</u>

The holding time for 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). Five method blanks were reported (batches 24380, 24399, 24464, 24639 and 24983). Mercury was not detected in the method blanks 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). Three sample set specific MS/MSD pairs were reported using samples MW-28D, MW-7 and MW-22. The recovery and RPD results were within the laboratory and SOP specified acceptance criteria.

Two batch MS/MSD pairs were also 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 <u>Laboratory Control Sample</u>

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.

Equipment Blank

One equipment blank was collected with the sample sets, 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 sets, FB-01 and FB-02. Mercury was not detected in the field blanks above the MDL.

2.8 Field Duplicate

Two field duplicate samples were collected with the sample sets, FD-01 and FD-02. Acceptable precision (RPD \leq 20% or the difference between the concentrations < RL) was demonstrated between the field duplicates and the original samples HGWC-13 and HGWC-15, respectively.

2.9 Sensitivity

The samples were reported to the MDL. No elevated nondetect results were reported.

2.10 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. 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 ANIONS

The samples were analyzed for fluoride by EPA method 300.0.

The areas of data review are listed below. A leading check mark (\checkmark) indicates an area of review in which the data were acceptable. A preceding crossed circle (\otimes) 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
- ✓ Equipment Blank
- ✓ Field Blank
- ✓ Field Duplicate
- ✓ Sensitivity
- ⊗ Electronic Data Deliverables Review

3.1 Overall Assessment

The fluoride 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 analysis of a water sample is 28 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). Four method blanks were reported (batches 24402, 24522, 24743 and 24985). Fluoride was not detected in the method blanks above the MDL.

3.4 <u>Matrix Spike/Matrix Spike Duplicate</u>

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 HGWA-6 and HGWA-4 and two sample set specific MSs were reported using samples HGWA-5 and MW-22. The recovery and RPD results were within the laboratory and SOP specified acceptance criteria.

Two batch MSs and three batch MS/MSD pairs were also 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.

3.5 <u>Laboratory Control Sample</u>

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Four LCSs were reported. The recovery results were within the laboratory and SOP specified acceptance criteria.

3.6 **Equipment Blank**

One equipment blank was collected with the sample sets, EB-01. Fluoride was not detected in the equipment blank above the MDL.

3.7 Field Blank

Two field blanks were collected with the sample sets, FB-01 and FB-02. Fluoride was not detected in the field blanks above the MDL.

3.8 Field Duplicate

Two field duplicate samples were collected with the sample sets, FD-01 and FD-02. Acceptable precision (RPD \leq 20% or the difference between the concentrations < RL) was demonstrated between the field duplicates and the original samples HGWC-13 and HGWC-15, respectively.

3.9 <u>Sensitivity</u>

The samples were reported to the MDL. No elevated nondetect results were reported.

3.10 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 flags D6, M1 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 or analytes were included in the EDDs that were not requested or reported in the 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.

4.0 RADIOCHEMISTRY

The samples were analyzed for radium-226 by EPA method 9315, radium-228 by EPA method 9320 and total radium by calculation.

The areas of data review are listed below. A leading check mark (\checkmark) indicates an area of review in which the data were acceptable. A preceding crossed circle (\otimes) 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
- ✓ Tracers and Carriers

Plant Hammond AP Site Data Validation 5 June 2019 Page 11

- ✓ Equipment Blank
- ✓ Field Blank
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

4.1 Overall Assessment

The radium-226 and radium-228 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%.

4.2 **Holding Times**

The holding times for the radium-226 and radium-228 analyses of a water sample are 180 days from sample collection to analysis. The holding times were met for the sample analyses.

4.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Four method blanks were reported for the radium-228 data (batches 334688, 334703, 334699 and 334690). Three method blanks were reported for the radium-226 data (batches 334698, 334701 and 334689). Radium-226 and radium-228 were not detected in the method blanks above the minimum detectable concentrations (MDCs), with the following exceptions.

2616037: Radium-226 was detected above the MDC in the method blank in batch 334698. Therefore, the radium-226 concentration in the associated sample less than the method blank concentration was U* qualified as not detected at the reported concentration.

2616037 and 2616043: Radium-228 was detected above the MDC in the method blank in batch 334688. Therefore, the radium-228 concentration in the associated sample greater than the method blank concentration with a normalized absolute difference (NAD) < 2.58 was U* qualified as not detected at the reported concentration.

2616040, 2616170, 2616229 and 2616231: Radium-226 was detected above the MDC in the method blank in batch 334701. Therefore, the radium-226 concentration in the associated sample less than the method blank concentration and the radium-226 concentrations in the associated samples greater than the method blank concentration with a NAD < 2.58 were U* qualified as not detected at the reported concentrations.

2616168 and 2616170: Radium-228 was detected above the MDC in the method blank in batch 334690. Since radium-228 was not detected above the MDC in the associated samples, no qualifications were applied to the data.

In addition, the combined radium-226 + 228 concentrations were qualified as following:

- Combined radium-226 + 228 concentrations with either radium-226 or radium-228 less than the MDC and the second component with a concentration that was U* qualified as not detected at the reported concentration were also U* qualified as not detected at the reported concentration.
- Combined radium-226 + 228 concentration with a radium-226 concentration that was U* qualified as not detected at the reported concentration and a radium-228 concentration greater than the MDC was J qualified as estimated.

| Sample | Analyte | Laboratory Result (pCi/L) | Laboratory Flag | Validation Result (pCi/L) | Validation Qualifier | Reason Code |
|---------|---------------------------|---------------------------------|--------------------|---------------------------------|-------------------------|----------------|
| MW-29 | Radium-228 | 1.18 | NA | 1.18 | U* | BL |
| MW-29 | Combined Radium 226 + 228 | 1.37 | NA | 1.37 | U* | BL |
| HGWA-4 | Radium-226 | 0.244 | NA | 0.244 | U* | BL |
| HGWA-3 | Radium-226 | 0.387 | NA | 0.387 | U* | BL |
| MW-22 | Radium-226 | 0.335 | NA | 0.335 | U* | BL |
| MW-22 | Combined Radium 226 + 228 | 0.977 | NA | 0.977 | U* | BL |
| MW-23D | Radium-226 | 0.328 | NA | 0.328 | U* | BL |
| HGWC-14 | Radium-226 | 0.759 | NA | 0.759 | U* | BL |
| HGWC-14 | Combined Radium 226 + 228 | 1.50 | NA | 1.50 | J | BL |

pCi/L- picocuries per liter NA-not applicable

4.4 <u>Matrix Spike/Matrix Spike Duplicate</u>

MS/MSD pairs were not reported with the data.

4.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two LCSs and one LCS/LCS duplicate (LCSD) pair were reported for radium-226. Four LCS/LCSD pairs were reported for radium-228. The recovery and replicate error ratio (RER) [2 sigma (2 σ)] results were within the laboratory and SOP specified acceptance criteria.

4.6 <u>Laboratory Duplicate</u>

Three sample set specific laboratory duplicates were reported for radium-226 using samples MW-29, HGWC-17 and MW-21D. The RER (2σ) results were within the laboratory and SOP specified acceptance criteria.

One batch laboratory duplicate was also reported for radium-226. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

4.7 Tracers and Carriers

Carriers were reported for the radium-226 and radium-228 analyses and a tracer was reported for the radium-228 analyses. The recovery results were within the laboratory and SOP specified acceptance criteria.

4.8 **Equipment Blank**

One equipment blank was collected with the sample sets, EB-01. Radium-226 and Radium-228 were not detected in the equipment blank above the MDCs.

4.9 Field Blank

Two field blanks were collected with the sample sets, FB-01 and FB-02. Radium-226 and Radium-228 were not detected in the field blanks above the MDCs.

4.10 Field Duplicate

Two field duplicate samples were collected with the sample sets, FD-01 and FD-02. Acceptable precision (RER (2σ) < 3) was demonstrated between the field duplicates and the original samples HGWC-13 and HGWC-15, respectively.

4.11 Sensitivity

The samples were reported to the MDCs. No elevated nondetect results were reported.

4.12 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. No discrepancies were identified between the level II reports and the EDDs.

Plant Hammond AP Site Data Validation 5 June 2019 Page 14

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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 |
|-------------|---|
| 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. |
| M- | MS and/or MSD recoveries outside of acceptance limits. The result |
| | may be biased low. |



Final Review: JK Caprio 6/12/19



Memorandum

Date: June 6, 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 2616885, 2616886, 2616925, 2616926, 2616927, 2616928, 2616933, 2616935, 2616997, 2616998, 2617067, 2617068, 2617069, 2617072, 2617073, 2617146, 2617147, 2617148, 2617149, 2617150, 2617152, 2617205, 2617206,

2617207 and 2617208

SITE: Plant Hammond AP

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of thirty-five aqueous samples, one field duplicate sample, 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 Environmental Protection Agency (EPA) Methods 3005A/6020B
- Mercury by EPA Method 7470A
- Anions (Fluoride, Chloride, and Sulfate) by EPA Method 300.0
- Total Dissolved Solid (TDS) by Standard Method 2540C

The samples were analyzed at Pace Analytical Services, LLC, Greensburg, Pennsylvania, for the following analytical tests:

- Radium-226 by EPA Method 9315
- Radium-228 by EPA Method 9320
- Total Radium by Calculation

EXECUTIVE SUMMARY

Based on the Stage 2A data validation covering the quality control (QC) parameters listed below and 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);
- American National Standard, Verification and Validation of Radiological Data for use in Waste Management and Environmental Remediation, February 15, 2012 (ANSI/ANS-41.5-2012); and,
- 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 |
|---------------|-----------|
| 2616885001 | HGWA-3 |
| 2616886001 | HGWA-3 |
| 2616925001 | HGWA-1 |
| 2616925002 | HGWA-2 |
| 2616926001 | HGWA-1 |
| 2616926002 | HGWA-2 |
| 2616927001 | HGWA-4 |
| 2616927002 | HGWA-5 |
| 2616927003 | HGWA-6 |
| 2616928001 | HGWA-4 |
| 2616928002 | HGWA-5 |
| 2616928003 | HGWA-6 |
| 2616933001 | MW-29 |
| 2616933002 | MW-20 |
| 2616933003 | MW-28D |
| 2616933004 | HGWC-7 |
| 2616935001 | MW-29 |
| 2616935002 | MW-20 |
| 2616935003 | MW-28D |
| 2616935004 | HGWC-7 |
| 2616997001 | HGWC-9 |
| 2616997002 | MW-26D |
| 2616997003 | MW-19 |

| Laboratory ID | Client ID |
|---------------|-----------|
| 2616997004 | MW-5 |
| 2616997005 | HGWC-8 |
| 2616997006 | HGWC-10 |
| 2616997007 | MW-6 |
| 2616997008 | MW-7 |
| 2616997009 | HGWC-11 |
| 2616997010 | HGWC-12 |
| 2616997011 | MW-25D |
| 2616998001 | HGWC-9 |
| 2616998002 | MW-26D |
| 2616998003 | MW-19 |
| 2616998004 | MW-5 |
| 2616998005 | HGWC-8 |
| 2616998006 | HGWC-10 |
| 2616998007 | MW-6 |
| 2616998008 | MW-7 |
| 2616998009 | HGWC-11 |
| 2616998010 | HGWC-12 |
| 2616998011 | MW-25D |
| 2617067001 | MW-27D |
| 2617068001 | MW-27D |
| 2617069001 | HGWC-103 |
| 2617069002 | FD-01 |

| Laboratory ID | Client ID |
|---------------|-----------|
| 2617069003 | HGWC-105 |
| 2617069004 | HGWC-101 |
| 2617072001 | HGWC-15 |
| 2617072002 | HGWC-16 |
| 2617072003 | MW-21D |
| 2617073001 | HGWC-15 |
| 2617073002 | HGWC-16 |
| 2617073003 | MW-21D |
| 2617146001 | HGWC-13 |
| 2617147001 | HGWC-13 |
| 2617148001 | FB-01 |
| 2617149001 | FB-01 |
| 2617150001 | MW-22 |
| 2617150002 | MW-23D |
| 2617150003 | HGWC-14 |

| Laboratory ID | Client ID |
|---------------|-----------|
| 2617150004 | HGWC-17 |
| 2617150005 | HGWC-18 |
| 2617152001 | MW-22 |
| 2617152002 | MW-23D |
| 2617152003 | HGWC-14 |
| 2617152004 | HGWC-17 |
| 2617152005 | HGWC-18 |
| 2617205001 | MW-24D |
| 2617206001 | MW-24D |
| 2617207001 | FB-02 |
| 2617207002 | EB-01 |
| 2617208001 | FB-02 |
| 2617208002 | EB-01 |

The samples were received within 0-6 degrees Celsius (°C). No sample preservation issues were noted by the laboratory.

The following issues were noted with the chain of custody (COC) forms:

- The relinquishing signature, date and time were missing for the final sample transfer on the COCs.
- 2617069: There was no time of collection listed on the COC for the field duplicate, FD-01. The laboratory assigned collection time of 00:00.
- 2616933, 2616935, 2616997, 2616998, 2617072, 2617073, 2617150 and 2617152: The
 years were missing from the start and end collection times from one or more pages of the
 COCs.
- 2616997 and 2616998: The *relinquished by* times were missing for the third sample transfer on pages one and three of the COC and the second sample transfer on page two of the COC.

Laboratory report 2617067 was revised on April 12, 2019 to correct the units and analyte list for the metals data.

Laboratory report 2617069 was revised on April 13, 2019 to correct the units and analyte list for the metals data.

Laboratory reports 2617146 and 2617150 were revised on April 15, 2019 to correct the units for the metals data.

Laboratory reports 2617148, 2617205 and 2617207 were revised on April 16, 2019 to correct the units for the metals data.

1.0 METALS

The samples were analyzed by EPA methods 3005A/6020B (Mercury evaluated separately in Section 2.0, below).

The areas of data review are listed below. A leading check mark (\checkmark) indicates an area of review in which the data were acceptable. A preceding crossed circle (\otimes) 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). Seven method blanks were reported (batches 25905, 25906, 25997, 468126, 468622, 469500 and 468616). Metals were not detected in the method blanks above the method detection limits (MDLs).

1.4 <u>Matrix Spike/Matrix Spike Duplicate (MS/MSD)</u>

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Four sample set specific MS/MSD pairs were reported using samples HGWC-7, MW-6, HGWC-15 and FB-01. The recovery and relative percent difference (RPD) results were within the laboratory and SOP specified acceptance criteria, with the following exceptions.

The recoveries of calcium were high and outside the laboratory and SOP specified acceptance criteria in the MS/MSD pair using sample HGWC-7. Since the calcium concentration in sample HGWC-7 was greater than four times the spiked concentration, no qualifications were applied to the data, based on professional and technical judgment.

The recoveries of calcium were low and outside the laboratory and SOP specified acceptance criteria in the MS/MSD pair using sample MW-6. Since the calcium concentration in sample MW-6 was greater than four times the spiked concentration, no qualifications were applied to the data, based on professional and technical judgment.

The recoveries of boron and calcium were high and outside the laboratory and SOP specified acceptance criteria in the MS/MSD pair using sample HGWC-15. Since the boron and calcium concentrations in sample HGWC-15 were greater than four times the spiked concentrations, no qualifications were applied to the data, based on professional and technical judgment.

Batch MS/MSD pairs were also 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 <u>Laboratory Control Sample (LCS)</u>

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Seven 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.

Aluminum, barium, calcium, copper, manganese and potassium were detected at estimated concentrations greater than the MDLs and less than the reporting limits (RLs) and zinc (0.017 mg/L) was detected at a concentration greater than the RL in FB-01. Since aluminum, copper, manganese, potassium and zinc were not reported for the associated samples and barium and calcium were detected in the associated samples at concentrations greater than five times the field blank concentrations, no qualifications were applied to the data.

1.8 Field Duplicate

One field duplicate sample was collected with the sample sets, FD-01. Acceptable precision (RPD \leq 20% or the difference between the concentrations < 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 D3, BC, C0 and M6 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 or analytes were included in the EDDs that were not requested or reported in the 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 for mercury by EPA method 7470A.

The areas of data review are listed below. A leading check mark (\checkmark) indicates an area of review in which the data were acceptable. A preceding crossed circle (\otimes) 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 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 <u>Matrix Spike/Matrix Spike Duplicate</u>

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 <u>Laboratory Control Sample</u>

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 results were within the laboratory and SOP specified acceptance criteria.

2.6 Equipment Blank

One equipment blank was collected with the sample sets, 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 sets, FB-01 and FB-02. Mercury was not detected in the field blanks above the MDL.

2.8 Field Duplicate

One field duplicate was collected with the sample set but was not analyzed for mercury.

2.9 Sensitivity

The samples were reported to the MDL. No elevated non-detect results were reported.

2.10 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. 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 (\checkmark) indicates an area of review in which the data were acceptable. A preceding crossed circle (\otimes) 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 anions (fluoride, chloride and sulfate) analysis of a water sample is 28 days from sample collection to analysis. The holding time for the 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). Seven method blanks were reported for the anions (batches 25881, 25882, 25883, 25956, 26061, 26064 and 26135). The anions were not detected in the method blanks above the MDLs, with the following exceptions.

2616885 and 2616925: Chloride and sulfate 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 in the associated samples at concentrations greater than five times the method blank concentrations, no qualifications were applied to the data.

2616927 and 2616933: Chloride 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 in the associated samples at concentration greater than five times the method blank concentrations, no qualifications were applied to the data.

2616997: Chloride and sulfate were detected at estimated concentrations greater than the MDLs and less than the RLs in the method blank in batch 25883. Since chloride and sulfate were detected in the associated samples at concentrations greater than five times the method blank concentrations, no qualifications were applied to the data.

2617067: Chloride and sulfate were detected at estimated concentrations greater than the MDLs and less than the RLs in the method blank in batch 25956. Since chloride and sulfate were detected in the associated sample at concentrations greater than five times the method blank concentrations, no qualifications were applied to the data.

2617069 and 2617072: Chloride was detected at a concentration greater than the RL in the method blank in batch 26061. Since chloride was detected in the associated samples at concentrations greater than five times the method blank concentration, no qualifications were applied to the data.

2617148, 2617150, 2617205 and 2617207: Chloride was detected at a concentration greater 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- milligram per liter

3.4 <u>Matrix Spike/Matrix Spike Duplicate</u>

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Four sample set specific MS/MSD pairs were reported, using samples HGWA-3, HGWA-4, HGWC-9 and HGWC-103 and four sample set specific MSs were reported using samples HGWA-5, MW-26D, FD-01 and MW-22. The recovery and RPD results were within the laboratory and SOP specified acceptance criteria, with the following exceptions.

The recoveries of chloride and sulfate were low and outside the laboratory and SOP specified acceptance criteria in the MS using sample HGWA-3. Since the sulfate concentration in sample HGWA-3 was greater than four times the spiked concentration, no qualifications were applied to the sulfate data, based on professional and technical judgment. However, the chloride concentration in the associated sample was J qualified as estimated.

The recovery of sulfate was low and outside the laboratory and SOP specified acceptance criteria in the MS using sample HGWA-5. Therefore, the sulfate concentrations in the associated samples were J qualified as estimated.

The recoveries of chloride and sulfate were low and outside the laboratory and SOP specified acceptance criteria in the MS/MSD pair using sample HGWC-9. Since the chloride and sulfate

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

concentrations in sample HGWC-9 were greater than four times the spiked concentrations, no qualifications were applied to the data, based on professional and technical judgment.

The recoveries of chloride and sulfate were low and outside the laboratory and SOP specified acceptance criteria in the MS using sample MW-26D. Since the chloride and sulfate concentrations in sample MW-26D were greater than four times the spiked concentrations, no qualifications were applied to the data, based on professional and technical judgment.

The recoveries of sulfate were low and outside the laboratory and SOP specified acceptance criteria in the MS/MSD pair using sample HGWC-103. Since the sulfate concentration in sample HGWC-103 was greater than four times the spiked concentrations, no qualifications were applied to the data, based on professional and technical judgment.

The recovery of sulfate was low and outside the laboratory and SOP specified acceptance criteria in the MS using sample FD-01. Since the sulfate concentration in sample FD-01 was greater than four times the spiked concentrations, no qualifications were applied to the data, based on professional and technical judgment.

The recoveries of chloride and sulfate were low and outside the laboratory and SOP specified acceptance criteria in the MS using sample MW-22. Since the chloride and sulfate concentrations in sample MW-22 were greater than four times the spiked concentrations, no qualifications were applied to the data, based on professional and technical judgment.

Batch MSs and MS/MSD pairs were also 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.

| Sample | Analyte | Laboratory Result (mg/L) | Laboratory Flag | Validation Result (mg/L) | Validation Qualifier | Reason Code |
|--------|----------|--------------------------------|--------------------|--------------------------------|-------------------------|----------------|
| HGWA-3 | Chloride | 6.5 | NA | 6.5 | J | M- |
| HGWA-4 | Sulfate | 4.9 | NA | 4.9 | J | M- |
| HGWA-5 | Sulfate | 23.8 | NA | 23.8 | J | M- |
| HGWA-6 | Sulfate | 35.5 | NA | 35.5 | J | M- |

mg/L- milligram per liter NA-not applicable

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 batch and analysis. The recovery results were within the laboratory and SOP specified acceptance criteria.

3.6 <u>Laboratory Duplicate</u>

Two sample set specific laboratory duplicates were reported for TDS, using samples HGWC-105 and HGWC-14. The RPD results were within the laboratory and SOP specified acceptance criteria.

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.

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.

Chloride, sulfate and TDS 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 as not detected due to method blank contamination and sulfate was detected in the associated samples at concentrations greater than five times the equipment 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 equipment blank concentration was U* qualified as not detected at the reported concentration.

| Sai | mple | Analyte | Laboratory Result (mg/L) | Laboratory Flag | Validation Result (mg/L) | Validation Qualifier | Reason Code |
|-----|-------|---------|--------------------------------|--------------------|--------------------------------|-------------------------|----------------|
| MV | W-25D | TDS | 15 | J | 15 | U* | BE |

mg/L- milligram per liter

3.8 Field Blank

Two field blanks were collected with the sample sets, FB-01 and FB-02. The wet chemistry parameters were not detected in the field blanks above the MDLs, with the following exceptions.

Chloride and sulfate 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 as not detected due to method blank contamination and sulfate was detected in the associated samples at concentrations greater than five times the field blank concentration, no additional qualifications were applied to the data, based on professional and technical judgment.

Chloride, sulfate and TDS 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 as not detected due to method blank contamination and sulfate was detected in the associated samples

J- estimated concentration greater than the MDL and less than the RL

at concentrations 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 equipment 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 |
|--------|---------|--------------------------------|--------------------|--------------------------------|-------------------------|----------------|
| MW-25D | TDS | 15 | J | 15 | U* | BF |

mg/L- milligram per liter

3.9 Field Duplicate

One field duplicate sample was collected with the sample sets, FD-01. Acceptable precision (RPD \leq 20% or the difference between the concentrations < 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 flags M1 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 or analytes were included in the EDDs that were not requested or reported in the 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.

4.0 RADIOCHEMISTRY

The samples were analyzed for radium-226 by EPA method 9315, radium-228 by EPA method 9320 and total radium by calculation.

The areas of data review are listed below. A leading check mark (\checkmark) indicates an area of review in which the data were acceptable. A preceding crossed circle (\otimes) 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.

J- estimated concentration greater than the MDL and less than the RL

- ✓ Overall Assessment
- ✓ Holding Times
- ⊗ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- **⊗** Laboratory Control Sample
- ✓ Laboratory Duplicate
- ✓ Tracers and Carriers
- ✓ Equipment Blank
- ✓ Field Blank
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

4.1 Overall Assessment

The radium-226 and radium-228 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%.

4.2 <u>Holding Times</u>

The holding times for the radium-226 and radium-228 analyses of a water sample are 180 days from sample collection to analysis. The holding times were met for the sample analyses.

4.3 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 radium-228 data (batches 337341, 337342, 338745, 337911 and 337915). Six method blanks were reported for the radium-226 data (batches 337391, 337392, 337393, 337917, 337923 and 338631). Radium-226 and radium-228 were not detected in the method blanks above the minimum detectable concentrations (MDCs), with the following exceptions.

2617147 and 2617149: Radium-228 was detected at a concentration greater than the MDC in the method blank in batch 337915. Since radium-228 was not detected above the MDC in the associated samples, no qualifications were applied to the data.

2617206 and 2617208: Radium-226 was detected at a concentration greater than the MDC in the method blank in batch 338631. Therefore, the radium-226 concentration in the associated sample

that was greater than the method blank concentration and with a normalized absolute difference (NAD) less than 2.58 was U* qualified as not detected at the reported concentration.

| Sample | Analyte | Laboratory Result (pCi/L) | Laboratory Flag | Validation Result (pCi/L) | Validation Qualifier | Reason Code |
|--------|------------|---------------------------------|--------------------|---------------------------------|-------------------------|----------------|
| FB-02 | Radium-226 | 0.170 | NA | 0.170 | U* | BL |

pCi/L- picocuries per liter NA-not applicable

4.4 <u>Matrix Spike/Matrix Spike Duplicate</u>

MS/MSD pairs were not reported with the data.

4.5 <u>Laboratory Control Sample</u>

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two LCSs and four LCS/LCS duplicate (LCSD) pairs were reported for radium-226. Five LCS/LCSD pairs were reported for radium-228. The recovery and replicate error ratio (RER) [2 sigma (2σ)] results were within the laboratory and SOP specified acceptance criteria, with the following exception.

2616998: The recovery of radium-226 was high and outside the laboratory and SOP specified acceptance criteria in the LCS in batch 337393. Therefore, the radium-226 concentrations greater than the MDC in the associated samples were J qualified as estimated.

| Sample | Analyte | Laboratory Result (pCi/L) | Laboratory Flag | Validation Result (pCi/L) | Validation Qualifier | Reason Code |
|---------|------------|---------------------------------|--------------------|---------------------------------|-------------------------|----------------|
| MW-5 | Radium-226 | 0.607 | NA | 0.607 | J | L+ |
| HGWC-10 | Radium-226 | 1.80 | NA | 1.8 | J | L+ |
| MW-6 | Radium-226 | 0.789 | NA | 0.789 | J | L+ |

pCi/L- picocuries per liter

U-not detected at or above the MDC

NA-not applicable

4.6 <u>Laboratory Duplicate</u>

Three sample set specific laboratory duplicates were reported for radium-226 using samples HGWC-7, MW-5 and HGWC-11. The RER (2σ) results were within the laboratory and SOP specified acceptance criteria.

Three batch laboratory duplicates were also reported for radium-226. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

4.7 Tracers and Carriers

Carriers were reported for the radium-226 and radium-228 analyses and a tracer was reported for the radium-228 analyses. The recovery results were within the laboratory and SOP specified acceptance criteria.

4.8 **Equipment Blank**

One equipment blank was collected with the sample sets, EB-01. Radium-226 and Radium-228 were not detected in the equipment blank above the MDCs.

4.9 Field Blank

Two field blanks were collected with the sample sets, FB-01 and FB-02. Radium-226 and Radium-228 were not detected in the field blanks above the MDCs, with the following exception.

Radium-226 was detected at a concentration greater than the MDC in FB-02. Since the radium-226 concentration in FB-02 was U* qualified due to method blank contamination, no additional qualifications were applied to the data, based on professional and technical judgment.

4.10 Field Duplicate

One field duplicate was collected but was not reported for the radiochemistry parameters.

4.11 **Sensitivity**

The samples were reported to the MDCs. No elevated non-detect results were reported.

4.12 <u>Electronic Data Deliverables Review</u>

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. No discrepancies were identified between the level II reports and the EDDs.

* * * * *

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. |
| M- | MS and/or MSD recoveries outside of acceptance limits. The result |
| | may be biased low. |



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Final Review: JK Caprio 1/29/2020

Memorandum

Date: 17 January 2020

To: Whitney Law

From: Kristoffer Henderson

CC: J. Caprio

Subject: Stage 2A Data Validations - Level II Data Deliverables - Pace

Analytical Services, LLC Project Numbers 2623500, 2623553, 2623555, 2623559, 2623560, 2623567, 2623571, 2623636, 2623637, 2623639, 2623640, 2623693, 2623694, 2623710, 2623711, 2623712, 2623713, 2623714, 2623715, 2623746, 2623747, 2623748, 2623749 and

2623794

SITE: Plant Hammond AP1/AP2

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of thirty-seven aqueous samples, two field duplicate samples, two equipment blanks and two field blanks, collected 23-30 September 2019, as part of the Plant Hammond AP1/AP2 on-site sampling event.

The samples were analyzed at Pace Analytical Services, LLC, Peachtree Corners, Georgia, for the following analytical tests:

- Total and Dissolved Metals by United States (US) Environmental Protection Agency (EPA) Methods 3005A/6020B
- Total Dissolved Solids (TDS) by Standard Method 2540C
- Total and Dissolved Chloride, Fluoride and Sulfate by USEPA Method 300.0

The samples were analyzed at Pace Analytical Services, LLC, Greensburg, Pennsylvania, for the following analytical tests:

- Radium-226 by USEPA Method 9315
- Radium-228 by USEPA Method 9320
- Total Radium by Calculation

EXECUTIVE SUMMARY

Based on the Stage 2A data validation covering the quality control (QC) parameters listed below and the information provided, the data as qualified are usable for meeting project objectives. 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); and,
- American National Standard, Verification and Validation of Radiological Data for use in Waste Management and Environmental Remediation, February 15, 2012 (ANSI/ANS-41.5-2012).

The following samples were analyzed and reported in the laboratory reports:

| Laboratory ID | Client ID |
|---------------|-----------|
| 2623500001 | HGWA-1 |
| 2623500002 | HGWA-2 |
| 2623500003 | HGWA-3 |
| 2623553001 | FB-01 |
| 2623553002 | EB-01 |
| 2623555001 | FB-01 |
| 2623555002 | EB-01 |
| 2623559001 | HGWA-5 |
| 2623559002 | HGWA-6 |
| 2623559003 | HGWA-4 |
| 2623559004 | HGWC-14 |
| 2623559005 | HGWC-15 |
| 2623560001 | HGWA-5 |
| 2623560002 | HGWA-6 |
| 2623560003 | HGWA-4 |
| 2623560004 | HGWC-14 |
| 2623560005 | HGWC-15 |
| 2623567001 | HGWC-8 |
| 2623567002 | MW-30d |
| 2623567003 | MW-29 |
| 2623571001 | HGWC-8 |
| 2623571002 | MW-30d |
| 2623571003 | MW-29 |
| 2623636001 | HGWC-16 |
| 2623636002 | HGWC-17 |
| 2623636003 | HGWC-18 |
| 2623636004 | MW-21d |
| 2623637001 | HGWC-16 |
| 2623637002 | HGWC-17 |
| 2623637003 | HGWC-18 |
| 2623637004 | MW-21d |
| 2623639001 | HGWC-7 |

| Laboratory ID | Client ID |
|---------------|-------------------|
| 2623639002 | MW-20 |
| 2623639003 | MW-5 |
| 2623640001 | HGWC-7 |
| 2623640002 | MW-20 |
| 2623640003 | MW-5 |
| 2623693001 | FD-01 |
| 2623694001 | FD-01 |
| 2623710001 | MW-23d |
| 2623710002 | FD-02 |
| 2623711001 | MW-23d |
| 2623711002 | FD-02 |
| 2623712001 | HGWC-13 |
| 2623712002 | MW-24D |
| 2623712003 | MW-27D |
| 2623712004 | MW-6 |
| 2623712005 | MW-7 |
| 2623712006 | MW-28D |
| 2623712007 | MW-28D (Filtered) |
| 2623712008 | MW-26D |
| 2623713001 | HGWC-13 |
| 2623713002 | MW-24D |
| 2623713003 | MW-27D |
| 2623713004 | MW-6 |
| 2623713005 | MW-7 |
| 2623713006 | MW-28D |
| 2623713007 | MW-28D (Filtered) |
| 2623713008 | MW-26D |
| 2623714001 | EB-02 |
| 2623714002 | FB-02 |
| 2623715001 | EB-02 |
| 2623715002 | FB-02 |
| 2623746001 | MW-22 |

| Laboratory ID | Client ID |
|---------------|-----------|
| 2623747001 | MW-22 |
| 2623748001 | HGWC-9 |
| 2623748002 | HGWC-10 |
| 2623748003 | MW-19 |
| 2623748004 | MW-25d |
| 2623748005 | HGWC-12 |
| 2623748006 | HGWC-11 |
| 2623749001 | HGWC-9 |

| Laboratory ID | Client ID |
|---------------|-----------|
| 2623749002 | HGWC-10 |
| 2623749003 | MW-19 |
| 2623749004 | MW-25d |
| 2623749005 | HGWC-12 |
| 2623749006 | HGWC-11 |
| 2623794001 | HGWA-1 |
| 2623794002 | HGWA-2 |
| 2623794003 | HGWA-3 |

Final Review: JK Caprio 1/29/2020

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:

- 2623693, 2623694, 2623710 and 2623711: There were no times of collection listed for the field duplicates, FD-01 and FD-02. The laboratory assigned collection times of 00:00.
- 2623693, 2623694, 2623710, 2623711, 2623712, 2623713, 2623714, 2623715 and 2623794: The relinquished by date and time were not documented for the final sample transfer.
- 2623553 and 2623555: There was a time discrepancy for the sample transfer. For the first sample transfer on page 1 of the COC and the second sample transfer on pages 2 and 3 of the COC, the relinquished by times were documented as 9/23/19 2010 and the received by times were documented as 9/23/19 1117.
- 2623567 and 2623571: The laboratory noted that sample MW-29 was labeled HGWC-7. The client was notified, and the laboratory was instructed to log the sample in as MW-29.

Laboratory report 2623500 was revised on October 1, 2019 to remove compounds not requested on the COC.

1.0 METALS

The samples were analyzed for metals by USEPA methods 3005A/6020B.

The areas of data review are listed below. A leading check mark (\checkmark) indicates an area of review in which the data were acceptable. A preceding crossed circle (\otimes) 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
- Assessment of Total Metals vs. Dissolved Metals
- \checkmark 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 the 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). Seven method blanks were reported (batches 36079, 36136, 36170, 36173, 36236, 36449 and 36434). Metals were not detected in the method blanks above the method detection limits (MDLs), with the following exception.

2623500 and 2623553: Arsenic was detected at an estimated concentration greater than the MDL and less than the reporting limit (RL) in the method blank in batch 36079. Therefore, the arsenic concentrations in the associated samples less than five times the method blank concentrations were U* qualified as not detected at the reported concentrations.

| Sample | Analyte | • | Laboratory Flag | | | Reason Code** |
|--------|---------|---------|--------------------|---------|----|------------------|
| HGWA-1 | Arsenic | 0.00046 | ЈВ | 0.00046 | U* | BL |
| HGWA-2 | Arsenic | 0.00067 | JВ | 0.00067 | U* | BL |
| HGWA-3 | Arsenic | 0.0011 | JВ | 0.0011 | U* | BL |
| FB-01 | Arsenic | 0.0006 | JВ | 0.0006 | U* | BL |
| EB-01 | Arsenic | 0.00046 | JВ | 0.00046 | U* | BL |
| HGWA-1 | Arsenic | 0.00046 | ЈВ | 0.00046 | U* | BL |
| HGWA-5 | Arsenic | 0.00055 | ЈВ | 0.00055 | U* | BL |

Page 5

| Sample | · | | 8 | | Validation Qualifier* | |
|---------|---------|---------|----|---------|--------------------------|----|
| HGWC-14 | Arsenic | 0.0039 | JВ | 0.0039 | U* | BL |
| HGWC-15 | Arsenic | 0.00037 | JВ | 0.00037 | U* | BL |

mg/L- milligram per liter

1.4 <u>Matrix Spike/Matrix Spike Duplicate (MS/MSD)</u>

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 were reported using samples HGWA-1, HGWC-8 and MW-28D (Filtered). The recovery and relative percent difference (RPD) results were within the laboratory specified acceptance criteria, with the following exceptions.

The MS recovery was low, and the MSD recovery was high for calcium, both outside the laboratory specified acceptance criteria in the MS/MSD pair using sample HGWA-1. Since the calcium concentration in sample HGWA-1 was greater than four times the spiked concentration, no qualifications were applied to the data.

The recovery of calcium in the MS using sample HGWC-8 was low and outside the laboratory specified acceptance criteria. Since the calcium concentration in sample HGWC-8 was greater than four times the spiked concentration, no qualifications were applied to the data.

The MS recovery was high, and the MSD recovery was low for dissolved calcium, both outside the laboratory specified acceptance criteria in the MS/MSD pair using sample MW-28D (Filtered). Since the dissolved calcium concentration in sample MW-28D (Filtered) was greater than four times the spiked concentration, no qualifications were applied to the data.

Four batch MS/MSD pairs were also 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 <u>Laboratory Control Sample (LCS)</u>

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Seven LCSs were reported. The recovery results were within the laboratory specified acceptance criteria.

J- estimated concentration greater than the MDL and less than the RL

B-laboratory flag indicating analyte was detected in the associated method blank

^{*} 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

1.6 **Equipment Blank**

Two equipment blanks were collected with the sample sets, EB-01 and EB-02. Metals were not detected in the equipment blanks above the MDLs, with the following exceptions.

Arsenic (0.00046 mg/L) and calcium (0.064 mg/L) were detected at estimated concentrations greater than the MDLs and less than the RLs in EB-01. Since the arsenic concentration in EB-01 was U* qualified due to method blank contamination and the calcium concentration in the associated samples were greater than five times the equipment blank concentration, no additional qualifications were applied to the arsenic data.

Chromium (0.0063 mg/L) was detected at an estimated concentration greater than the MDL and less than the RL in EB-02. Therefore, the chromium concentrations less than five times the equipment blank concentration were U* qualified as not detected at the reported concentrations.

| Sample | Analyte | Laboratory Result | Laboratory Flag | Validation Result | Validation Qualifier | Reason Code |
|------------|---------------------|----------------------|--------------------|----------------------|-------------------------|----------------|
| | | (mg/L) | | (mg/L) | | |
| HGWC-15 | Chromium | 0.00041 | J | 0.00041 | U* | BE |
| MW-30d | Chromium | 0.00041 | J | 0.00041 | U* | BE |
| MW-5 | Chromium | 0.0052 | J | 0.0052 | U* | BE |
| FD-01 | Chromium | 0.0027 | J | 0.0027 | U* | BE |
| FD-02 | Chromium | 0.0012 | J | 0.0012 | U* | BE |
| MW-24D | Chromium | 0.00042 | J | 0.00042 | U* | BE |
| MW-7 | Chromium | 0.0013 | J | 0.0013 | U* | BE |
| MW-28D | Chromium | 0.00081 | J | 0.00081 | U* | BE |
| MW-28D | Chromium, Dissolved | 0.00048 | J | 0.00048 | U* | BE |
| (Filtered) | | | | | | |
| MW-26D | Chromium | 0.00076 | J | 0.00076 | U* | BE |
| MW-22 | Chromium | 0.0004 | J | 0.0004 | U* | BE |

mg/L- milligram per liter

J-estimated concentration greater than the MDL and less than the RL

1.7 Field Blank

Two field blanks were collected with the sample sets, FB-01 and FB-02. Metals were not detected in the field blanks above the MDLs.

Arsenic (0.00060 mg/L) and calcium (0.028 mg/L) were detected at estimated concentrations greater than the MDLs and less than the RLs in FB-01. Since the arsenic concentration in FB-01 was U* qualified due to method blank contamination and the calcium concentration in the associated samples were greater than five times the field blank concentration, no additional qualifications were applied to the data.

1.8 Field Duplicate

Two field duplicate samples were collected with the sample sets, FD-1 and FD-2. Acceptable precision (RPD \leq 20% or the difference between the concentrations < RL) was demonstrated between the field duplicates and the original samples HGWC-8 and MW-23D, respectively.

1.9 Assessment of Total Metals vs. Dissolved Metals

Sample MW-28D was collected as both a filtered (dissolved) and an unfiltered sample (total) due to high turbidity in the sample. The concentrations of the unfiltered sample were greater than or equal to the concentrations of the filtered sample.

1.10 **Sensitivity**

The samples were reported to the MDLs. Elevated nondetect results were not reported.

1.11 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 B, M1 and M6 used in the level II reports were not included in the EDDs. No other discrepancies were identified between the level II reports and the EDDs.

2.0 WET CHEMISTRY

The samples were analyzed for TDS by Standard Method 2540C and chloride, fluoride and sulfate by USEPA method 300.0.

The areas of data review are listed below. A leading check mark (\checkmark) indicates an area of review in which the data were acceptable. A preceding crossed circle (\otimes) 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
- ✓ Assessment of Total vs. Dissolved

- ✓ 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 this analysis, for the dataset is 100%.

2.2 **Holding Times**

The holding times for the analysis of a water sample for the wet chemistry parameters are listed below. The holding times were met for the sample analyses.

| Analyte | Holding Time |
|--------------------------------|-------------------------------------|
| TDS | 7 days from collection to analysis |
| Chloride, Fluoride and Sulfate | 28 days from collection to analysis |

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). Seven method blanks were reported for the anions (batches 500244, 500861, 36185, 500864, 36286, 36494 and 36548). The anions were not detected in the method blanks above the MDLs, with the following exceptions.

2623567 and 2623693: Chloride (0.033 mg/L) was detected at an estimated concentration greater than the MDL and less than the RL in the method blank in batch 36185. Since the chloride concentrations in the associated samples were greater than five times the method blank concentration, no qualifications were applied to the data.

2623710 and 2623712: Chloride (0.031 mg/L) and sulfate (0.053 mg/L) were detected at estimated concentrations greater than the MDLs and less than the RLs in the method blank in batch 36185. Since the chloride and sulfate concentrations in the associated samples were greater than five times the method blank concentrations, no qualifications were applied to the data.

2623714: Chloride (0.026 mg/L) was detected at an estimated concentration greater than the MDL and less than the RL in the method blank in batch 36494. Since the chloride concentrations in the associated samples were greater than five times the method blank concentration, no qualifications were applied to the data.

2623746 and 2623748: Chloride (0.033 mg/L) was detected at an estimated concentration greater than the MDL and less than the RL in the method blank in batch 36548. Since the chloride concentrations in the associated samples were greater than five times the method blank concentration, no qualifications were applied to the data.

| Sample | Analyte | Laboratory Result (mg/L) | Laboratory Flag | Validation Result (mg/L) | Validation Qualifier* | Reason Code** |
|--------|----------|--------------------------------|--------------------|--------------------------------|--------------------------|------------------|
| EB-02 | Chloride | 0.035 | JВ | 0.035 | U* | BL |
| FB-02 | Chloride | 0.028 | JВ | 0.028 | U* | BL |

mg/L- milligram per liter

J- estimated concentration greater than the MDL and less than the RL

B-laboratory flag indicating analyte was detected in the associated method blank

2.4 Matrix Spike/Matrix Spike Duplicate

One sample set specific MS/MSD pair was reported using sample HGWA-5 and two sample set specific MSs were reported using samples MW-29 and EB-02 for the anions. The RPD and recovery results were within the laboratory specified acceptance criteria, with the following exceptions.

The recovery of sulfate in the MS using sample MW-29 was low and outside the laboratory specified acceptance criteria. Since the sulfate concentration in sample MW-29 was greater than four times the spiked concentration, no qualifications were applied to the data.

Batch MSs and 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.

2.5 <u>Laboratory Control Sample</u>

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 specified acceptance criteria.

2.6 <u>Laboratory Duplicate</u>

Six sample set specific laboratory duplicates were reported for TDS using samples FB-01, HGWA-5, HGWC-7, FD-02, FB-02 and MW-19. The RPD results were within the laboratory specified acceptance criteria.

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.

2.7 Equipment Blank

Two equipment blanks were collected with the sample sets, EB-01 and EB-02. The wet chemistry parameters were not detected in the equipment blanks above the MDLs, with the following exceptions.

TDS (13.0 mg/L) was detected at a concentration greater than the RL and chloride (0.035 mg/L) was detected at an estimated concentration greater than the MDL and less than the RL in EB-02. Since the chloride concentration in EB-02 was U* qualified due to method blank contamination and TDS was detected at concentrations greater than five times the equipment blank concentration, no qualifications were applied to the data.

2.8 Field Blank

Two field blanks were collected with the sample sets, FB-01 and FB-02. The wet chemistry parameters were not detected in the field blanks above the MDLs, with the following exceptions.

TDS (13.0 mg/L) was detected at a concentration greater than the RL and chloride (0.028 mg/L) was detected at an estimated concentration greater than the MDL and less than the RL in FB-02. Since the chloride concentration in FB-02 was U* qualified due to method blank contamination

and TDS was detected at concentrations greater than five times the field blank concentration, no qualifications were applied to the data.

2.9 Field Duplicate

Two field duplicate samples were collected with the sample sets, FD-1 and FD-2. Acceptable precision (RPD \leq 20% or the difference between the concentrations < RL) was demonstrated between the field duplicates and the original samples HGWC-8 and MW-23D, respectively.

2.10 Assessment of Total vs. Dissolved

Sample MW-28D was collected as both a filtered (dissolved) and an unfiltered sample (total) due to high turbidity in the sample. The concentrations of the unfiltered sample were greater than or equal to the concentrations of the filtered sample.

2.11 Sensitivity

The samples were reported to the MDLs. No elevated nondetect results were reported.

2.12 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 flags M6 and B used in the level II reports were not included in the EDDs. No other discrepancies were identified between the level II reports and the EDDs.

3.0 RADIOCHEMISTRY

The samples were analyzed for radium-226 by EPA method 9315, radium-228 by EPA method 9320 and total radium by calculation.

The areas of data review are listed below. A leading check mark (\checkmark) indicates an area of review in which the data were acceptable. A preceding crossed circle (\otimes) 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
- ✓ Tracers and Carriers

- ⊗ Equipment Blank
- ✓ Field Blank
- ✓ Field Duplicate
- ✓ Assessment of Total vs. Dissolved
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

3.1 Overall Assessment

The radium-226 and radium-228 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%.

3.2 **Holding Times**

The holding times for the radium-226 and radium-228 analyses of a water sample are 180 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). Six method blanks were reported for the radium-228 data (batches 365380, 365381, 365002, 365382, 365559, 365771 and 366499). Seven method blanks were reported for the radium-226 data (batches 365376, 365377, 365001, 365379, 365558, 365770 and 366498). Radium-226 and radium-228 were not detected in the method blanks above the minimum detectable concentrations (MDCs), with the following exceptions.

2623555, 2623560, 2623571, 2623711, 2623713, 2623747, 2623749 and 2623794: Radium-226 was detected at concentrations greater than the MDCs in the method blanks in batches 365376, 365377, 365001, 365558, 365770 and 366498. Therefore, the radium-226 concentrations in the associated samples less than five times the method blank concentrations were U* qualified as not detected at the reported concentrations. In addition, the total radium concentrations with both a U* qualified result for radium-226 and radium-228 concentrations with both a U* qualified result for radium-226 and radium-228 concentrations with both a U* qualified as estimated.

2623794: Radium-228 was detected at a concentration greater than the MDC in the method blank in batch 366499. Since radium-228 was not detected in the associated samples at concentrations greater than the MDCs, no qualifications were applied to the data.

| Sample | Analyte | Laboratory Result (pCi/L) | Laboratory Flag | Validation Result (pCi/L) | Validation Qualifier | Reason Code |
|---------|---------------------------|---------------------------------|--------------------|---------------------------------|-------------------------|----------------|
| HGWA-6 | Radium-226 | 0.412 | NA | 0.412 | U* | BL |
| HGWA-6 | Combined Radium 226 + 228 | 0.874 | U | 0.874 | U* | BL |
| HGWA-4 | Radium-226 | 0.422 | NA | 0.422 | U* | BL |
| HGWA-4 | Combined Radium 226 + 228 | 0.455 | U | 0.455 | U* | BL |
| HGWC-14 | Radium-226 | 0.609 | NA | 0.609 | U* | BL |
| HGWC-14 | Combined Radium 226 + 228 | 1.17 | NA | 1.17 | U* | BL |
| HGWC-15 | Radium-226 | 0.464 | NA | 0.464 | U* | BL |
| HGWC-15 | Combined Radium 226 + 228 | 0.582 | U | 0.582 | U* | BL |
| HGWC-8 | Radium-226 | 0.652 | NA | 0.652 | U* | BL |
| HGWC-8 | Combined Radium 226 + 228 | 1.30 | NA | 1.30 | U* | BL |
| MW-30d | Radium-226 | 0.416 | NA | 0.416 | U* | BL |
| MW-30d | Combined Radium 226 + 228 | 1.16 | NA | 1.16 | U* | BL |
| MW-29 | Radium-226 | 0.451 | NA | 0.451 | U* | BL |

| Sample | Analyte | Laboratory Result (pCi/L) | Laboratory Flag | Validation Result (pCi/L) | Validation Qualifier | Reason Code |
|----------------------|---------------------------|---------------------------------|--------------------|---------------------------------|-------------------------|----------------|
| MW-29 | Combined Radium 226 + 228 | 0.675 | U | 0.675 | U* | BL |
| MW-23d | Radium-226 | 0.512 | NA | 0.512 | U* | BL |
| MW-23d | Combined Radium 226 + 228 | 1.25 | NA | 1.25 | U* | BL |
| FD-02 | Radium-226 | 0.331 | NA | 0.331 | U* | BL |
| FD-02 | Combined Radium 226 + 228 | 0.545 | U | 0.545 | U* | BL |
| HGWC-13 | Radium-226 | 0.939 | NA | 0.939 | U* | BL |
| HGWC-13 | Combined Radium 226 + 228 | 0.939 | U | 0.939 | U* | BL |
| MW-24D | Radium-226 | 0.531 | NA | 0.531 | U* | BL |
| MW-24D | Combined Radium 226 + 228 | 0.878 | U | 0.878 | U* | BL |
| MW-27D | Radium-226 | 0.759 | NA | 0.759 | U* | BL |
| MW-7 | Radium-226 | 0.485 | NA | 0.485 | U* | BL |
| MW-7 | Combined Radium 226 + 228 | 0.947 | U | 0.947 | U* | BL |
| MW-28D | Radium-226 | 0.474 | NA | 0.474 | U* | BL |
| MW-28D | Combined Radium 226 + 228 | 0.997 | U | 0.997 | U* | BL |
| MW-28D (Filtered) | Radium-226 | 0.374 | NA | 0.374 | U* | BL |
| MW-28D (Filtered) | Combined Radium 226 + 228 | 0.727 | U | 0.727 | U* | BL |
| MW-22 | Radium-226 | 0.493 | NA | 0.493 | U* | BL |
| MW-22 | Combined Radium 226 + 228 | 1.44 | U | 1.44 | U* | BL |
| MW-19 | Radium-226 | 0.534 | NA | 0.534 | U* | BL |
| MW-19 | Combined Radium 226 + 228 | 0.534 | U | 0.534 | U* | BL |
| MW-25d | Radium-226 | 0.676 | NA | 0.676 | U* | BL |
| MW-25d | Combined Radium 226 + 228 | 0.945 | U | 0.945 | U* | BL |
| HGWC-12 | Radium-226 | 0.806 | NA | 0.806 | U* | BL |
| HGWC-12 | Combined Radium 226 + 228 | 0.958 | U | 0.958 | U* | BL |
| HGWC-11 | Radium-226 | 0.444 | NA | 0.444 | U* | BL |
| HGWC-11 | Combined Radium 226 + 228 | 1.78 | NA | 1.78 | J | BL |
| HGWA-2 | Radium-226 | 0.585 | NA | 0.585 | U* | BL |
| HGWA-2 | Combined Radium 226 + 228 | 1.04 | U | 1.04 | U* | BL |

pCi/L-picocuries per liter NA-not applicable

3.4 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were not reported with 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). One LCS and five LCS/LCS duplicate (LCSD) pairs were reported for radium-226. One LCS and four LCS/LCSD pairs were reported for radium-228. The recovery and replicate error ratio (RER) [2 sigma (2σ)] results were within the laboratory specified acceptance criteria, with the following exception.

2623555: The recovery of radium-228 was high in the LCS in batch 365380. Since radium-228 was not detected in the associated samples above the MDCs, no qualifications were applied to the data.

3.6 Laboratory Duplicate

One sample set specific laboratory duplicate was reported for radium-226 using samples. The RER (2σ) result was within the laboratory specified acceptance criteria.

Six batch laboratory duplicates were also reported for radium-226 and two batch laboratory duplicates were reported for radium-228. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

3.7 Tracers and Carriers

Carriers were reported for the radium-226 and radium-228 analyses and a tracer was reported for the radium-228 analyses. The recovery results were within the laboratory specified acceptance criteria.

3.8 Equipment Blank

Two equipment blanks were collected with the sample sets, EB-01 and EB-02. Radium-226 and radium-228 were not detected in the equipment blanks above the MDCs, with the following exceptions.

Radium-226 and radium-228 were detected at concentrations greater than the MDC in EB-02. Since the radium-226 concentration in EB-02 was U* qualified due to method blank contamination, no additional qualifications were applied to the radium-226 data, based on

professional and technical judgment. However, the radium-228 concentrations in the associated samples less than five times the method blank concentrations were U* qualified as not detected at the reported concentrations. In addition, the total radium concentration with both a U* qualified result for radium-228 and radium-226 concentration greater than the MDC was J qualified as estimated.

| Sample | Analyte | Laboratory Result (pCi/L) | Laboratory Flag | Validation Result (pCi/L) | Validation Qualifier | Reason Code |
|---------|---------------------------|---------------------------------|--------------------|---------------------------------|-------------------------|----------------|
| HGWC-11 | Radium-228 | 1.34 | NA | 1.34 | U* | BE |
| HGWC-18 | Radium-228 | 1.68 | NA | 1.68 | U* | BE |
| HGWC-18 | Combined Radium 226 + 228 | 2.77 | NA | 2.77 | J | BE |

pCi/L-picocuries per liter NA-not applicable

3.9 Field Blank

Two field blanks were collected with the sample sets, FB-01 and FB-02. Radium-226 and radium-228 were not detected in the field blanks above the MDCs, with the following exceptions.

Radium-226 was detected at a concentration greater than the MDC in FB-02. Since the radium-226 concentration in FB-02 was U* qualified due to method blank contamination, no additional qualifications were applied to the data, based on professional and technical judgment.

3.10 Field Duplicate

Two field duplicate samples were collected with the sample sets, FD-1 and FD-2. Acceptable precision (RER (2σ) < 3) was demonstrated between the field duplicates and the original samples HGWC-8 and MW-23D, respectively.

3.11 Assessment of Total vs. Dissolved

Sample MW-28D was collected as both a filtered (dissolved) and an unfiltered sample (total) due to high turbidity in the sample. The concentrations of the unfiltered sample were greater than or equal to the concentrations of the filtered sample.

Plant Hammond AP1/AP2 Data Validation 17 January 2020 Page 17

3.12 **Sensitivity**

The samples were reported to the MDCs. No elevated nondetect results were reported.

3.13 <u>Electronic Data Deliverables Review</u>

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. No discrepancies were identified between the level II reports and the EDDs.

* * * * *

Plant Hammond AP1/AP2 Data Validation 17 January 2020 Page 18

ATTACHMENT 1 DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY Assigned by Geosyntec's Data Validation Team

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.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2 DATA VALIDATION REASON CODES Assigned by Geosyntec's Data Validation Team

| Reason Code | Explanation |
|-------------|---|
| 13 | Other |
| 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." |
| Н | Holding time exceedance. |
| 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. |
| M- | MS and/or MSD recoveries outside of acceptance limits. The result may be biased low. |

APPENDIX E2

Field Sampling Forms

Date: 2019-03-12 14:41:33

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

Project Information:

Operator Name Noelia Muskus

Company Name **Geosyntec Consultants** Project Name **GP-Plant Hammond**

Site Name Plant Hammond

Latitude 0° 0' 0" 0° 0' 0" Longitude Sonde SN 440279

Turbidity Make/Model LaMotte 2020we

Pump placement from TOC

Well Information:

Well ID HGWA-1 Well diameter 2 in Well Total Depth ft Screen Length 10 ft Depth to Water 6.86 ft

Pumping Information:

Final Pumping Rate 200 mL/min Total System Volume 0.485 L Calculated Sample Rate 300 sec Stabilization Drawdown 3.6 in **Total Volume Pumped** 7 L

QED MP50

0.17 in

ft

ft

polyethylene

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond μS | cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|-----------|-------------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 13:44:55 | 599.95 | 16.93 | 6.98 | 968.33 | 3.90 | 7.35 | 1.65 | 74.36 |
| Last 5 | 13:49:55 | 899.94 | 16.69 | 7.00 | 969.59 | 3.41 | 7.35 | 1.41 | 72.66 |
| Last 5 | 13:54:55 | 1199.93 | 16.83 | 7.02 | 952.90 | 2.32 | 7.35 | 1.24 | 71.66 |
| Last 5 | 13:59:55 | 1499.92 | 16.88 | 7.03 | 939.07 | 2.25 | 7.35 | 1.10 | 71.20 |
| Last 5 | 14:04:55 | 1799.92 | 16.83 | 7.03 | 922.59 | 2.04 | 7.35 | 0.99 | 70.88 |
| Variance 0 | | | 0.14 | 0.01 | -16.69 | | | -0.17 | -1.01 |
| Variance 1 | | | 0.05 | 0.01 | -13.83 | | | -0.15 | -0.45 |
| Variance 2 | | | -0.05 | 0.01 | -16.49 | | | -0.11 | -0.33 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/ 7470A); and one 120-mL plastic bottle for fluoride (EPA 300.0). Total depth = 32.33 ft.

Grab Samples HGWA-1 Grab

Date: 2019-03-12 10:27:42

Project Information:

Operator Name Grant Walter

Company Name Geosyntec Consultants
Project Name GP-Plant Hammond

Site Name Plant Hammond

Latitude 0° 0' 0" Longitude 0° 0' 0" Sonde SN 597519

Turbidity Make/Model LaMotte 2020we

Pump Information:
Pump Model/Type

Pump Model/Type QED MP50 Tubing Type polyethylene

Tubing Diameter 0.17 in Tubing Length ft

Pump placement from TOC ft

Well Information:

Well ID HGWA-2
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 3.46 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.485 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 22.5 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond μS | cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|-----------|-------------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 10:02:18 | 2099.97 | 16.46 | 5.41 | 212.00 | 8.78 | 4.71 | 0.18 | 81.80 |
| Last 5 | 10:07:18 | 2399.96 | 16.47 | 5.41 | 210.94 | 7.56 | 4.71 | 0.22 | 83.70 |
| Last 5 | 10:12:18 | 2699.95 | 16.51 | 5.45 | 213.69 | 6.86 | 4.71 | 0.21 | 86.19 |
| Last 5 | 10:17:18 | 2999.95 | 16.60 | 5.40 | 209.59 | 5.43 | 4.71 | 0.15 | 89.30 |
| Last 5 | 10:22:18 | 3299.94 | 16.59 | 5.42 | 210.33 | 4.87 | 4.71 | 0.14 | 92.50 |
| Variance 0 | | | 0.04 | 0.03 | 2.75 | | | -0.01 | 2.49 |
| Variance 1 | | | 0.08 | -0.05 | -4.11 | | | -0.06 | 3.11 |
| Variance 2 | | | -0.01 | 0.02 | 0.75 | | | -0.01 | 3.20 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A); and one 120-mL plastic bottle for fluoride (EPA 300.0). Total depth = 28.42 ft.

Grab Samples

HGWA-2 Grab

Date: 2019-03-12 10:27:50

Project Information:

Operator Name
Company Name
Project Name
Site Name
Benjamin Mejia-Tickner
Geosyntec Consultants
GP-Plant Hammond
Plant Hammond

 Latitude
 0° 0' 0"

 Longitude
 0° 0' 0"

 Sonde SN
 613179

Turbidity Make/Model LaMotte 2020we

Well Information:

Well ID HGWA-3
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 4.15 ft

Pump Information:

Pump Model/Type QED MP50
Tubing Type polyethylene
Tubing Diameter 0.17 in

ft

Tubing Diameter 0.17
Tubing Length ft

Pump placement from TOC

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.485 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 28.1 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond μS/cmTurb NTU | | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|----------------------|--------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 09:32:56 | 309.11 | 16.38 | 7.24 | 465.78 | 1.08 | 4.16 | 0.15 | 26.29 |
| Last 5 | 09:37:56 | 609.01 | 16.38 | 7.25 | 464.67 | 1.24 | 4.16 | 0.14 | 28.17 |
| Last 5 | 09:42:56 | 909.01 | 16.47 | 7.27 | 463.57 | 1.09 | 4.16 | 0.15 | 15.14 |
| Last 5 | 09:47:56 | 1209.00 | 16.55 | 7.28 | 462.80 | 0.68 | 4.16 | 0.14 | 11.62 |
| Last 5 | 09:52:56 | 1509.00 | 16.47 | 7.29 | 463.79 | 0.78 | 4.16 | 0.15 | 7.59 |
| Variance 0 | | | 0.09 | 0.02 | -1.10 | | | 0.00 | -13.03 |
| Variance 1 | | | 0.08 | 0.01 | -0.77 | | | -0.01 | -3.53 |
| Variance 2 | | | -0.07 | 0.01 | 0.99 | | | 0.00 | -4.03 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A); and one 120-mL plastic bottle for fluoride (EPA 300.0). Total depth = 45.25 ft.

Grab Samples HGWA-3

Date: 2019-03-11 18:03:46

Project Information:

Operator Name
Company Name
Project Name
Site Name
Benjamin Mejia-Tickner
Geosyntec Consultants
GP-Plant Hammond
Plant Hammond

Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 613179

Turbidity Make/Model LaMotte 2020we

Well Information:

Well ID HGWA-4
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 3.97 ft

Pump Information:

Pump Model/Type QED MP50
Tubing Type polyethylene
Tubing Diameter 0.17 in

ft

Tubing Diameter 0.1 Tubing Length ft

Pump placement from TOC

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.485 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 16.5 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond µS/cmTurb NTU | | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|----------------------|--------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 17:23:08 | 1199.94 | 16.10 | 6.17 | 192.07 | 4.72 | 4.36 | 0.49 | 99.57 |
| Last 5 | 17:28:08 | 1499.93 | 16.07 | 6.21 | 202.65 | 3.95 | 4.36 | 0.45 | 101.56 |
| Last 5 | 17:33:08 | 1799.93 | 16.02 | 6.20 | 206.74 | 2.89 | 4.36 | 0.46 | 104.70 |
| Last 5 | 17:38:08 | 2099.92 | 16.03 | 6.24 | 216.53 | 3.00 | 4.36 | 0.45 | 106.47 |
| Last 5 | 17:43:08 | 2399.92 | 16.07 | 6.27 | 221.69 | 2.53 | 4.36 | 0.46 | 108.61 |
| Variance 0 | | | -0.05 | -0.00 | 4.09 | | | 0.01 | 3.14 |
| Variance 1 | | | 0.00 | 0.04 | 9.80 | | | -0.00 | 1.77 |
| Variance 2 | | | 0.04 | 0.03 | 5.15 | | | 0.01 | 2.15 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A); and one 120-mL plastic bottle for fluoride (EPA 300.0). Total depth = 24.81 ft.

Grab Samples HGWA-4

Date: 2019-03-12 12:50:45

Project Information:

Operator Name Grant Walter

Company Name Geosyntec Consultants
Project Name GP-Plant Hammond

Site Name Plant Hammond

Latitude 0° 0' 0" Longitude 0° 0' 0" Sonde SN 597519

Turbidity Make/Model LaMotte 2020we

Pump Information:

Pump Model/Type QED MP50 Tubing Type polyethylene

ft

Tubing Diameter 0.17 in Tubing Length ft

Pump placement from TOC

Well Information:

Well ID HGWA-5
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 3.15 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.485 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 12.5 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond μS | /cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|-----------|--------------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 12:27:16 | 600.02 | 17.41 | 6.31 | 202.13 | 9.18 | 4.00 | 0.38 | 46.57 |
| Last 5 | 12:32:16 | 900.00 | 17.45 | 6.34 | 196.20 | 4.39 | 4.10 | 0.39 | 42.32 |
| Last 5 | 12:37:16 | 1200.00 | 17.56 | 6.38 | 215.81 | 3.83 | 4.19 | 0.37 | 37.34 |
| Last 5 | 12:42:16 | 1499.99 | 17.67 | 6.40 | 220.07 | 3.00 | 4.21 | 0.22 | 35.56 |
| Last 5 | 12:47:16 | 1799.98 | 17.77 | 6.42 | 225.13 | 2.94 | 4.25 | 0.19 | 34.79 |
| Variance 0 | | | 0.11 | 0.04 | 19.61 | | | -0.02 | -4.98 |
| Variance 1 | | | 0.11 | 0.02 | 4.26 | | | -0.16 | -1.78 |
| Variance 2 | | | 0.10 | 0.02 | 5.06 | | | -0.02 | -0.76 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A); and one 120-mL plastic bottle for fluoride (EPA 300.0). Total depth = 27.54 ft.

Grab Samples HGWA-5

Date: 2019-03-12 13:33:33

Project Information:

Operator Name
Company Name
Project Name
Site Name
Benjamin Mejia-Tickner
Geosyntec Consultants
GP-Plant Hammond
Plant Hammond

Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 613179

Turbidity Make/Model LaMotte 2020we

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Well Information:

Well ID HGWA-6
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 2.43 ft

Pump Information:

Pump Model/Type QED MP50
Tubing Type polyethylene
Tubing Diameter 0.17 in

ft

Tubing Diameter 0.17 in Tubing Length ft

Pump placement from TOC

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.485 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 31.28 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond μS | cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|-----------|-------------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 12:33:52 | 300.04 | 17.47 | 7.50 | 381.13 | 1.57 | 4.53 | 1.94 | 41.24 |
| Last 5 | 12:38:52 | 600.02 | 17.50 | 7.52 | 379.82 | 1.98 | 4.80 | 1.56 | 40.07 |
| Last 5 | 12:43:52 | 900.01 | 17.55 | 7.51 | 380.16 | 1.92 | 4.90 | 0.68 | 38.69 |
| Last 5 | 12:48:52 | 1200.01 | 17.63 | 7.51 | 380.02 | 1.61 | 4.90 | 1.74 | 38.34 |
| Last 5 | 12:53:52 | 1500.00 | 17.63 | 7.50 | 380.18 | 1.97 | 4.90 | 0.47 | 36.25 |
| Variance 0 | | | 0.05 | -0.00 | 0.34 | | | -0.88 | -1.37 |
| Variance 1 | | | 0.09 | -0.00 | -0.14 | | | 1.06 | -0.36 |
| Variance 2 | | | 0.00 | -0.02 | 0.16 | | | -1.27 | -2.08 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A); and one 120-mL plastic bottle for fluoride (EPA 300.0). Total depth = 50.40 ft.

Grab Samples HGWA-6

Date: 2019-03-14 16:41:42

Project Information:

Operator Name
Company Name
Project Name
Site Name

Benjamin Mejia-Tickner
Geosyntec Consultants
GP-Plant Hammond
Plant Hammond

Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 613179

Turbidity Make/Model LaMotte 2020we

Well Information:

Well ID HGWC-14
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 22.90 ft

Pump Information:

Pump Model/Type QED MP50
Tubing Type polyethylene
Tubing Diameter 0.17 in

ft

Tubing Diameter 0.17 in Tubing Length ft

Pump placement from TOC

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.485 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 6 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond µS, | cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|------------|-------------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 16:04:57 | 300.02 | 20.03 | 4.66 | 2882.12 | 2.76 | 22.95 | 0.64 | 136.19 |
| Last 5 | 16:09:57 | 600.02 | 20.06 | 4.66 | 2876.28 | 1.64 | 22.95 | 0.44 | 145.48 |
| Last 5 | 16:14:57 | 900.02 | 20.10 | 4.66 | 2874.57 | 1.35 | 22.99 | 0.43 | 151.09 |
| Last 5 | | | | | | | | | |
| Last 5 | | | | | | | | | |
| Variance 0 | | | nan | nan | nan | | | nan | nan |
| Variance 1 | | | 0.03 | 0.00 | -5.84 | | | -0.19 | 9.29 |
| Variance 2 | | | 0.04 | 0.00 | -1.71 | | | -0.02 | 5.61 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A); and one 120-mL plastic bottle for fluoride (EPA 300.0). Total depth = 43.15 ft.

Grab Samples HGWC-14 Grab

Date: 2019-03-14 09:46:30

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

Project Information:

Operator Name Grant Walter

Company Name Geosyntec Consultants
Project Name GP-Plant Hammond

Site Name Plant Hammond

Latitude 0° 0' 0" Longitude 0° 0' 0" Sonde SN 597519

Turbidity Make/Model LaMotte 2020we

Pump placement from TOC

Well Information:

Well ID HGWC-15
Well diameter 2 in
Well Total Depth 38 ft
Screen Length 10 ft
Depth to Water 10.21 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.485 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 19 L

QED MP50

0.17 in

ft

ft

polyethylene

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond µS | cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|-----------|-------------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 09:22:51 | 300.06 | 18.44 | 5.73 | 1456.53 | 21.06 | 11.15 | 0.41 | 98.80 |
| Last 5 | 09:27:50 | 600.01 | 18.48 | 5.73 | 1461.99 | 15.73 | 11.15 | 0.40 | 90.92 |
| Last 5 | 09:32:50 | 900.00 | 18.52 | 5.72 | 1456.92 | 10.67 | 11.15 | 0.54 | 89.14 |
| Last 5 | 09:37:50 | 1200.00 | 18.53 | 5.72 | 1452.12 | 6.95 | 11.15 | 0.43 | 87.92 |
| Last 5 | 09:42:50 | 1499.98 | 18.53 | 5.71 | 1471.36 | 4.60 | 11.15 | 0.31 | 86.72 |
| Variance 0 | | | 0.04 | -0.01 | -5.07 | | | 0.14 | -1.78 |
| Variance 1 | | | 0.01 | -0.00 | -4.79 | | | -0.11 | -1.22 |
| Variance 2 | | | 0.00 | -0.01 | 19.24 | | | -0.12 | -1.19 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A); and one 120-mL plastic bottle for fluoride (EPA 300.0). Total depth = 38.10 ft.

Grab Samples HGWC-15 Grab

FD-2

HGWC-15 Duplicate Grab

Date: 2019-03-15 13:41:51

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

Project Information:

Operator Name Grant Walter

Company Name Geosyntec Consultants
Project Name GP-Plant Hammond

Site Name Plant Hammond

Latitude 0° 0' 0" Longitude 0° 0' 0" Sonde SN 597519

Turbidity Make/Model LaMotte 2020we

Pump placement from TOC

Well Information:

Well ID HGWC-16
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 6.23 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.485 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 124 L

QED MP50

0.17 in

ft

ft

polyethylene

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond μS/cmTurb NTU | | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|----------|---------|---------|----------------------|--------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 13:20:18 | 9906.75 | 18.35 | 7.08 | 1090.53 | 7.22 | 7.12 | 0.02 | -40.71 |
| Last 5 | 13:25:18 | 10206.74 | 18.53 | 7.08 | 1090.11 | 6.91 | 7.10 | 0.02 | -41.19 |
| Last 5 | 13:30:18 | 10506.74 | 18.65 | 7.08 | 1090.21 | 6.74 | 7.09 | 0.03 | -40.63 |
| Last 5 | 13:35:18 | 10806.73 | 18.66 | 7.09 | 1086.44 | 6.68 | 7.12 | 0.03 | -41.19 |
| Last 5 | 13:40:18 | 11106.71 | 18.63 | 7.09 | 1087.19 | 6.83 | 7.12 | 0.03 | -39.41 |
| Variance 0 | | | 0.13 | 0.00 | 0.10 | | | 0.01 | 0.57 |
| Variance 1 | | | 0.01 | 0.00 | -3.77 | | | 0.00 | -0.56 |
| Variance 2 | | | -0.03 | 0.00 | 0.74 | | | -0.00 | 1.78 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A); and one 120-mL plastic bottle for fluoride (EPA 300.0). Total depth = 38.73 ft.

Grab Samples HGWC-16 Grab

Date: 2019-03-15 13:25:01

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

Project Information:

Operator Name Noelia Muskus

Company Name Geosyntec Consultants
Project Name GP-Plant Hammond

Site Name Plant Hammond

Latitude 0° 0' 0" Longitude 0° 0' 0" Sonde SN 440279

Turbidity Make/Model LaMotte 2020we

Pump placement from TOC

Well Information:

Well ID HGWC-17
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 12.03 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.09 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 10 L

Alexis

0.17 in

ft

ft

polyethylene

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond µS, | cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|------------|-------------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 12:45:04 | 300.02 | 17.84 | 6.35 | 2081.50 | 5.67 | 12.35 | 0.14 | 42.65 |
| Last 5 | 12:50:04 | 600.01 | 17.89 | 6.33 | 2073.84 | 5.08 | 12.33 | 0.13 | 44.42 |
| Last 5 | 12:55:04 | 900.00 | 17.77 | 6.32 | 2079.36 | 4.51 | 12.36 | 0.12 | 46.43 |
| Last 5 | | | | | | | | | |
| Last 5 | | | | | | | | | |
| Variance 0 | | | nan | nan | nan | | | nan | nan |
| Variance 1 | | | 0.05 | -0.01 | -7.65 | | | -0.01 | 1.76 |
| Variance 2 | | | -0.11 | -0.01 | 5.52 | | | -0.02 | 2.01 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A); and one 120-mL plastic bottle for fluoride (EPA 300.0). Total depth = 27.85 ft.

Grab Samples HGWC-17 Grab

Date: 2019-03-14 14:28:55

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

Project Information:

Operator Name Grant Walter

Company Name Geosyntec Consultants
Project Name GP-Plant Hammond

Site Name Plant Hammond

Latitude 0° 0' 0" Longitude 0° 0' 0" Sonde SN 597519

Turbidity Make/Model LaMotte 2020we

Pump placement from TOC

Well Information:

Well ID HGWC-18
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 12.63 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.485 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 9.5 L

QED MP50

0.17 in

ft

ft

polyethylene

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond µS | /cmTurb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|-----------|-------------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 14:11:44 | 300.02 | 16.29 | 4.38 | 2216.13 | 2.31 | 12.82 | 1.39 | 308.27 |
| Last 5 | 14:16:44 | 600.01 | 16.09 | 4.39 | 2211.74 | 1.49 | 12.82 | 1.03 | 304.33 |
| Last 5 | 14:21:44 | 900.01 | 16.07 | 4.39 | 2216.58 | 0.94 | 12.83 | 0.92 | 303.55 |
| Last 5 | 14:26:44 | 1199.99 | 16.13 | 4.39 | 2220.74 | 0.92 | 12.83 | 0.85 | 287.12 |
| Last 5 | | | | | | | | | |
| Variance 0 | | | -0.20 | 0.01 | -4.39 | | | -0.36 | -3.94 |
| Variance 1 | | | -0.02 | 0.00 | 4.84 | | | -0.10 | -0.78 |
| Variance 2 | | | 0.06 | 0.01 | 4.16 | | | -0.07 | -16.43 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A); and one 120-mL plastic bottle for fluoride (EPA 300.0). Total depth = 27.71 ft.

Grab Samples HGWC-18 Grab

Date: 2019-03-15 12:17:20

Project Information:

Operator Name
Company Name
Project Name
Site Name
Benjamin Mejia-Tickner
Geosyntec Consultants
GP-Plant Hammond
Plant Hammond

Site Name Plant Ha
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 613179

Turbidity Make/Model LaMotte 2020we

Well Information:

Well ID MW-21D
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 12.05 ft

Pump Information:

Pump Model/Type Alexis

Tubing Type polyethylene

ft

Tubing Diameter 0.17 in Tubing Length ft

Pump placement from TOC

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.09 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 8 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond µS, | cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|------------|-------------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 11:12:43 | 900.01 | 16.74 | 6.99 | 1927.86 | 5.94 | 12.28 | 0.91 | 116.74 |
| Last 5 | 11:17:43 | 1200.01 | 17.01 | 6.69 | 2251.62 | 5.46 | 12.28 | 0.51 | 75.29 |
| Last 5 | 11:22:43 | 1500.01 | 17.09 | 6.76 | 2400.71 | 4.08 | 12.28 | 0.42 | 55.73 |
| Last 5 | 11:27:43 | 1800.00 | 17.05 | 6.77 | 2476.23 | 1.95 | 12.28 | 0.38 | 45.75 |
| Last 5 | 11:32:43 | 2100.00 | 17.11 | 6.81 | 2485.82 | 1.82 | 12.29 | 0.43 | 37.20 |
| Variance 0 | | | 0.09 | 0.07 | 149.09 | | | -0.09 | -19.56 |
| Variance 1 | | | -0.04 | 0.01 | 75.52 | | | -0.05 | -9.98 |
| Variance 2 | | | 0.06 | 0.05 | 9.60 | | | 0.05 | -8.54 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A); and one 120-mL plastic bottle for fluoride (EPA 300.0). Total depth = 51.70 ft.

Grab Samples MW-21D

Date: 2019-03-14 12:55:44

Project Information: Pump Information:

Operator Name Grant Walter Pump Model/Type Alexis

Company NameGeosyntec ConsultantsTubing TypepolyethyleneProject NameGP-Plant HammondTubing Diameter0.17 inSite NamePlant HammondTubing Length25 ft

 Latitude
 0° 0' 0"

 Longitude
 0° 0' 0"

 Sonde SN
 597519

Turbidity Make/Model LaMotte 2020we Pump placement from TOC ft

Well Information: Pumping Information:

Final Pumping Rate 200 mL/min Well ID MW-22 Well diameter Total System Volume 0.2015856 L 2 in Calculated Sample Rate Well Total Depth 300 sec ft Stabilization Drawdown Screen Length 10 ft 3.6 in Depth to Water 25 L 7.32 ft **Total Volume Pumped**

Low-Flow Sampling Stabilization Summary

| LOW 110W Od | mpmig otabini | zacion oanimai, | y | | | | | | |
|---------------|---------------|-----------------|---------|---------|-----------|--------------|--------|----------|--------|
| | Time | Elapsed | Temp C | рН | SpCond µS | /cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
| Stabilization | | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 12:47:31 | 300.03 | 17.72 | 6.04 | 1479.80 | 7.57 | 9.37 | 1.08 | 247.14 |
| Last 5 | 12:52:31 | 600.01 | 17.59 | 6.04 | 1483.47 | 6.69 | 10.39 | 1.08 | 261.06 |
| Last 5 | | | | | | | | | |
| Last 5 | | | | | | | | | |
| Last 5 | | | | | | | | | |
| Variance 0 | | | nan | nan | nan | | | nan | nan |
| Variance 1 | | | -0.13 | 0.00 | 3.67 | | | -0.00 | 13.93 |
| Variance 2 | | | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 |

Notes

Well was not recharging. Purged well to DTW = 30.62 ft and will sample 03/15/2019

Grab Samples

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Date: 2019-03-14 16:37:18

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

Project Information:

Operator Name Grant Walter

Company Name Geosyntec Consultants
Project Name GP-Plant Hammond

Site Name Plant Hammond

Latitude 0° 0' 0" Longitude 0° 0' 0" Sonde SN 597519

Turbidity Make/Model LaMotte 2020we

Pump placement from TOC

Well Information:

Well ID MW-23D
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 9.68 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.3354883 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 14 L

Alexis

0.17 in

55 ft

ft

polyethylene

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond µS/ | cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|------------|-------------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 16:15:11 | 1499.99 | 18.70 | 6.68 | 1948.85 | 7.36 | 10.23 | 0.16 | -14.00 |
| Last 5 | 16:20:11 | 1799.98 | 18.93 | 6.68 | 1944.18 | 7.46 | 10.23 | 0.15 | -12.57 |
| Last 5 | 16:25:11 | 2099.97 | 18.88 | 6.68 | 1947.88 | 6.30 | 10.23 | 0.17 | -9.47 |
| Last 5 | 16:30:11 | 2399.96 | 18.95 | 6.68 | 1949.08 | 5.92 | 10.23 | 0.25 | -5.92 |
| Last 5 | 16:35:11 | 2699.95 | 18.90 | 6.68 | 1958.91 | 4.92 | 10.23 | 0.29 | -2.31 |
| Variance 0 | | | -0.04 | -0.00 | 3.70 | | | 0.02 | 3.10 |
| Variance 1 | | | 0.07 | 0.00 | 1.20 | | | 0.08 | 3.55 |
| Variance 2 | | | -0.04 | -0.00 | 9.83 | | | 0.04 | 3.62 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A); and one 120-mL plastic bottle for fluoride (EPA 300.0). Total depth = 62.84 ft.

Grab Samples MW-23D

Date: 2019-04-02 09:46:15

Pump Information:

Tubing Diameter

Tubing Length

Project Information:

Operator Name Grant Walter

Pump Model/Type Company Name **Geosyntec Consultants Tubing Type**

Project Name **GP-Plant Hammond** Site Name Plant Hammond

Latitude 0° 0' 0"

0° 0' 0" Longitude Sonde SN 501336

Turbidity Make/Model LaMotte 2020we Pump placement from TOC 27.5 ft

Well Information:

Well ID HGWA-1 Well diameter 2 in Well Total Depth ft Screen Length 10 ft Depth to Water 10.44 ft

Pumping Information:

Final Pumping Rate 200 mL/min Total System Volume 0.09 L Calculated Sample Rate 300 sec Stabilization Drawdown 3.6 in

Alexis

0.17 in

ft

polyethylene

Total Volume Pumped 10.5 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond μS | S/cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|-----------|---------------|--------|----------|--------|
| Stabilization | 1 | | +/- 0.5 | +/- 0.2 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 09:23:38 | 300.01 | 16.00 | 6.82 | 913.48 | 1.01 | 11.25 | 1.07 | 39.65 |
| Last 5 | 09:28:38 | 599.95 | 16.03 | 6.83 | 890.15 | 1.23 | 11.22 | 0.79 | 33.74 |
| Last 5 | 09:33:38 | 899.95 | 16.11 | 6.85 | 860.38 | 1.13 | 11.22 | 0.58 | 29.09 |
| Last 5 | 09:38:38 | 1199.95 | 16.17 | 6.84 | 835.73 | 0.79 | 11.25 | 0.49 | 27.02 |
| Last 5 | 09:43:38 | 1499.94 | 16.22 | 6.86 | 815.04 | 0.84 | 11.26 | 0.41 | 24.50 |
| Variance 0 | | | 0.08 | 0.01 | -29.77 | | | -0.21 | -4.65 |
| Variance 1 | | | 0.06 | -0.00 | -24.65 | | | -0.08 | -2.07 |
| Variance 2 | | | 0.05 | 0.01 | -20.69 | | | -0.08 | -2.52 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EPA 3 00.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 32.30 ft.

Grab Samples HGWA-1

Date: 2019-04-02 13:40:26

Project Information:

Operator Name Dalton Anderson
Company Name Geosyntec Consultants
Project Name GP-Plant Hammond
Site Name Plant Hammond

Latitude 0° 0' 0"

Longitude 0° 0' 0"

Sonde SN 497259

Turbidity Make/Model LaMotte 2020we

Well Information:

Well ID HGWA-2
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 5.93 ft

Pump Information:

Pump Model/Type QED MP50
Tubing Type polyethylene
Tubing Diameter 0.17 in

ft

Tubing Diameter 0.17 in Tubing Length ft

Pump placement from TOC

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.485 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 11.25 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond μS | S/cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|-----------|---------------|--------|----------|--------|
| Stabilization | n | | +/- 0.5 | +/- 0.2 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 12:41:30 | 1499.98 | 16.86 | 5.43 | 212.89 | 7.76 | 6.00 | 0.37 | 100.65 |
| Last 5 | 12:46:30 | 1799.97 | 16.91 | 5.42 | 211.84 | 6.57 | 6.01 | 0.33 | 103.01 |
| Last 5 | 12:51:30 | 2099.96 | 17.00 | 5.39 | 208.90 | 5.90 | 6.02 | 0.30 | 105.38 |
| Last 5 | 12:56:30 | 2399.95 | 16.99 | 5.40 | 209.20 | 5.42 | 6.02 | 0.28 | 107.67 |
| Last 5 | 13:01:30 | 2699.94 | 17.09 | 5.41 | 209.45 | 4.74 | 6.00 | 0.26 | 110.11 |
| Variance 0 | | | 0.09 | -0.02 | -2.95 | | | -0.03 | 2.37 |
| Variance 1 | | | -0.00 | 0.00 | 0.30 | | | -0.02 | 2.29 |
| Variance 2 | | | 0.09 | 0.01 | 0.25 | | | -0.02 | 2.45 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 28.45

Grab Samples HGWA-2 Grab

Date: 2019-04-01 17:24:36

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

Project Information:

Operator Name Noelia Muskus

Company Name Geosyntec Consultants
Project Name GP-Plant Hammond

Site Name Plant Hammond

Latitude 0° 0' 0" Longitude 0° 0' 0" Sonde SN 364452

Turbidity Make/Model LaMotte 2020we

Pump placement from TOC

Well Information:

Well ID HGWA-3
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 5.30 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.485 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 8.5 L

QED MP50

0.17 in

ft

ft

polyethylene

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond μS | cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|-----------|-------------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.2 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 16:41:28 | 300.10 | 16.60 | 7.16 | 457.46 | 0.71 | 5.32 | 0.18 | -89.12 |
| Last 5 | 16:46:28 | 600.02 | 16.59 | 7.15 | 456.97 | 0.48 | 5.32 | 0.16 | -90.85 |
| Last 5 | 16:51:29 | 900.64 | 16.61 | 7.16 | 456.67 | 0.39 | 5.32 | 0.16 | -92.91 |
| Last 5 | | | | | | | | | |
| Last 5 | | | | | | | | | |
| Variance 0 | | | nan | nan | nan | | | nan | nan |
| Variance 1 | | | -0.01 | -0.01 | -0.49 | | | -0.03 | -1.73 |
| Variance 2 | | | 0.02 | 0.01 | -0.30 | | | 0.01 | -2.06 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 45.25 ft.

Grab Samples

HGWA-3 Grab

Date: 2019-04-02 11:48:27

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

Project Information:

Operator Name Grant Walter

Company Name Geosyntec Consultants
Project Name GP-Plant Hammond

Site Name Plant Hammond

Latitude 0° 0' 0" Longitude 0° 0' 0" Sonde SN 501336

Turbidity Make/Model LaMotte 2020we

Pump placement from TOC

20.8 ft

QED MP50

0.17 in

ft

polyethylene

Well Information:

Well ID HGWA-4
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 5.68 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.485 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 15.5 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond μS/cmTurb NTU | | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|----------------------|--------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.2 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 11:26:25 | 2100.00 | 16.10 | 6.69 | 447.30 | 5.99 | 5.91 | 0.31 | 19.75 |
| Last 5 | 11:31:25 | 2400.00 | 16.33 | 6.68 | 441.45 | 5.87 | 5.93 | 0.34 | 18.85 |
| Last 5 | 11:36:25 | 2700.00 | 16.46 | 6.67 | 435.38 | 5.53 | 5.92 | 0.31 | 18.16 |
| Last 5 | 11:41:25 | 3000.00 | 16.51 | 6.66 | 429.90 | 5.20 | 5.91 | 0.32 | 17.90 |
| Last 5 | 11:46:25 | 3300.00 | 16.60 | 6.66 | 427.07 | 4.57 | 5.94 | 0.46 | 17.79 |
| Variance 0 | | | 0.13 | -0.01 | -6.07 | | | -0.04 | -0.69 |
| Variance 1 | | | 0.04 | -0.01 | -5.48 | | | 0.02 | -0.26 |
| Variance 2 | | | 0.09 | -0.00 | -2.83 | | | 0.13 | -0.11 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EP A 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 24.80

Grab Samples HGWA-4 Grab

Date: 2019-04-02 10:56:57

Pump Information:

Pump Model/Type

Tubing Diameter

Pump placement from TOC

Tubing Length

Tubing Type

Project Information:

Well Information:

Operator Name Dalton Anderson
Company Name Geosyntec Consultants
Project Name GP-Plant Hammond
Site Name Plant Hammond

Latitude 0° 0' 0"

Longitude 0° 0' 0"

Sonde SN 497259

Turbidity Make/Model LaMotte 2020we

Well ID HGWA-5
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 4.72 ft

Pumping Information:
Final Pumping Rate 200 mL/min
Total System Volume 0.485 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in

QED MP50

0.17 in

ft

ft

polyethylene

Stabilization Drawdown 3.6 in Total Volume Pumped 4.75 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond μS | S/cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|-----------|---------------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.2 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 09:50:18 | 300.09 | 17.34 | 6.35 | 231.03 | 6.63 | 5.48 | 0.13 | 52.81 |
| Last 5 | 09:55:18 | 600.01 | 17.40 | 6.37 | 232.55 | 5.92 | 5.54 | 0.13 | 48.02 |
| Last 5 | 10:00:18 | 900.00 | 17.58 | 6.38 | 232.02 | 6.63 | 5.48 | 0.13 | 44.55 |
| Last 5 | | | | | | | | | |
| Last 5 | | | | | | | | | |
| Variance 0 | | | nan | nan | nan | | | nan | nan |
| Variance 1 | | | 0.06 | 0.02 | 1.53 | | | 0.01 | -4.79 |
| Variance 2 | | | 0.18 | 0.01 | -0.53 | | | -0.00 | -3.47 |

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), CI, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 27.55

Grab Samples HGWA-5 Grab

Date: 2019-04-02 10:56:17

Project Information:

Operator Name Noelia Muskus
Company Name Geosyntec Consultants

Project Name GP-Plant Hammond Site Name Plant Hammond

Latitude 0° 0' 0" Longitude 0° 0' 0" Sonde SN 364452

Turbidity Make/Model LaMotte 2020we

Pump Information:

Pump Model/Type QED MP50 Tubing Type polyethylene

ft

Tubing Diameter 0.17 in Tubing Length ft

Pump placement from TOC

Well Information:

Well ID HGWA-6
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 4.00 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.485 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 6.75 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond µS | S/cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|-----------|---------------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.2 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 09:47:54 | 300.14 | 17.04 | 7.39 | 377.39 | 2.50 | 5.56 | 1.51 | -55.00 |
| Last 5 | 09:52:54 | 600.02 | 17.07 | 7.43 | 377.21 | 2.14 | 5.74 | 1.05 | -65.48 |
| Last 5 | 09:57:54 | 900.02 | 17.21 | 7.44 | 376.38 | 1.93 | 5.85 | 0.72 | -71.36 |
| Last 5 | 10:02:54 | 1200.02 | 17.19 | 7.44 | 376.70 | 1.39 | 5.85 | 0.54 | -75.03 |
| Last 5 | 10:07:54 | 1500.02 | 17.29 | 7.46 | 377.34 | 1.47 | 5.86 | 0.43 | -79.02 |
| Variance 0 | | | 0.13 | 0.01 | -0.84 | | | -0.33 | -5.88 |
| Variance 1 | | | -0.02 | 0.01 | 0.32 | | | -0.18 | -3.67 |
| Variance 2 | | | 0.10 | 0.02 | 0.64 | | | -0.11 | -3.99 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 50.25 ft.

Grab Samples HGWA-6 Grab

Date: 2019-04-05 12:33:29

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

Project Information:

Operator Name Grant Walter

Company Name Geosyntec Consultants
Project Name GP-Plant Hammond

Site Name Plant Hammond

Latitude 0° 0' 0" Longitude 0° 0' 0" Sonde SN 588863

Turbidity Make/Model LaMotte 2020we

Pump placement from TOC

38 ft

QED MP50

0.17 in

ft

polyethylene

Well Information:

Well ID HGWC-14
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 24.13 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.485 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 9 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond µS | /cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|-----------|--------------|--------|----------|--------|
| Stabilization | า | | +/- 0.5 | +/- 0.2 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 12:22:03 | 300.04 | 19.98 | 4.66 | 2775.27 | 1.80 | 24.27 | 0.25 | 239.66 |
| Last 5 | 12:27:03 | 600.02 | 19.93 | 4.67 | 2775.23 | 0.76 | 24.30 | 0.24 | 236.16 |
| Last 5 | 12:32:03 | 900.02 | 19.94 | 4.67 | 2775.45 | 0.68 | 24.29 | 0.23 | 234.87 |
| Last 5 | | | | | | | | | |
| Last 5 | | | | | | | | | |
| Variance 0 | | | nan | nan | nan | | | nan | nan |
| Variance 1 | | | -0.05 | 0.00 | -0.04 | | | -0.01 | -3.51 |
| Variance 2 | | | 0.00 | 0.01 | 0.22 | | | -0.02 | -1.28 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 43.10

Grab Samples HGWC-14 Grab

Date: 2019-04-04 10:27:26

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

Project Information:

Operator Name Grant Walter

Company Name **Geosyntec Consultants** Project Name **GP-Plant Hammond**

Site Name Plant Hammond

Latitude 0° 0' 0" 0° 0' 0" Longitude Sonde SN 501336

Turbidity Make/Model LaMotte 2020we Pump placement from TOC

33 ft

QED MP50

0.17 in

ft

polyethylene

Well Information:

Well ID HGWC-15 Well diameter 2 in Well Total Depth ft Screen Length 10 ft Depth to Water 15.38 ft

Pumping Information:

Final Pumping Rate 200 mL/min Total System Volume 0.485 L Calculated Sample Rate 300 sec Stabilization Drawdown 3.6 in **Total Volume Pumped** 28.5 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | | | SpCond µS/cmTurb NTU | | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|----------------------|--------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.2 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 10:16:06 | 300.03 | 18.43 | 5.68 | 1465.02 | 4.72 | 16.15 | 0.23 | 111.99 |
| Last 5 | 10:21:06 | 600.02 | 18.44 | 5.66 | 1453.47 | 3.49 | 16.12 | 0.14 | 113.03 |
| Last 5 | 10:26:06 | 900.02 | 18.47 | 5.66 | 1450.22 | 3.18 | 16.11 | 0.31 | 113.73 |
| Last 5 | | | | | | | | | |
| Last 5 | | | | | | | | | |
| Variance 0 | | | nan | nan | nan | | | nan | nan |
| Variance 1 | | | 0.01 | -0.03 | -11.55 | | | -0.09 | 1.05 |
| Variance 2 | | | 0.03 | 0.00 | -3.25 | | | 0.17 | 0.69 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 38.10

Grab Samples HGWC-15 Grab

Date: 2019-04-04 13:04:31

Project Information:

Operator Name Dalton Anderson Company Name **Geosyntec Consultants** Project Name **GP-Plant Hammond** Site Name Plant Hammond

Latitude 0° 0' 0" 0° 0' 0" Longitude Sonde SN 497259

Turbidity Make/Model LaMotte 2020we

Well Information:

Well ID HGWC-16 Well diameter 2 in Well Total Depth ft Screen Length 10 ft Depth to Water 14.15 ft

Pump Information:

Pump Model/Type QED MP50 **Tubing Type** polyethylene

ft

Tubing Diameter 0.17 in Tubing Length ft

Pump placement from TOC

Pumping Information:

Final Pumping Rate 200 mL/min Total System Volume 0.485 L Calculated Sample Rate 300 sec Stabilization Drawdown 3.6 in **Total Volume Pumped** 105 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond µS | cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|-----------|-------------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.2 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 12:00:29 | 5745.91 | 18.76 | 6.94 | 1064.33 | 5.68 | 11.50 | 0.10 | -32.02 |
| Last 5 | 12:05:29 | 6045.93 | 18.78 | 6.94 | 1065.12 | 6.13 | 11.52 | 0.09 | -32.39 |
| Last 5 | 12:10:29 | 6345.93 | 18.76 | 6.94 | 1063.52 | 5.64 | 11.40 | 0.10 | -32.84 |
| Last 5 | 12:15:29 | 6645.89 | 18.70 | 6.94 | 1064.83 | 5.35 | 11.43 | 0.09 | -33.22 |
| Last 5 | 12:20:29 | 6945.89 | 18.69 | 6.95 | 1062.10 | 4.62 | 11.47 | 0.09 | -33.54 |
| Variance 0 | | | -0.02 | -0.00 | -1.60 | | | 0.01 | -0.46 |
| Variance 1 | | | -0.06 | 0.00 | 1.31 | | | -0.01 | -0.38 |
| Variance 2 | | | -0.01 | 0.00 | -2.72 | | | 0.00 | -0.32 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth =33.42

Grab Samples HGWC-16 Grab

Date: 2019-04-05 12:43:09

Project Information:

Operator Name Dalton Anderson
Company Name Geosyntec Consultants
Project Name GP-Plant Hammond
Site Name Plant Hammond

Latitude 0° 0' 0"

Longitude 0° 0' 0"

Sonde SN 497259

Turbidity Make/Model LaMotte 2020we

Well Information:

Well ID HGWC-17
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 16.94 ft

Pump Information:

Pump Model/Type QED MP50
Tubing Type polyethylene
Tubing Diameter 0.17 in

ft

Tubing Diameter 0.17 Tubing Length ft

Pump placement from TOC

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.485 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 53 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond µS/ | cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|------------|-------------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.2 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 11:41:11 | 600.01 | 18.07 | 6.27 | 1869.90 | 10.41 | 17.35 | 0.16 | 102.31 |
| Last 5 | 11:46:11 | 900.00 | 18.06 | 6.26 | 1874.76 | 7.43 | 17.33 | 0.16 | 101.30 |
| Last 5 | 11:51:11 | 1199.99 | 18.29 | 6.26 | 1875.02 | 6.93 | 17.32 | 0.16 | 100.51 |
| Last 5 | 11:56:11 | 1499.98 | 18.33 | 6.26 | 1870.41 | 5.84 | 17.29 | 0.16 | 100.13 |
| Last 5 | 12:01:11 | 1799.97 | 18.51 | 6.26 | 1869.83 | 4.90 | 17.27 | 0.15 | 99.82 |
| Variance 0 | | | 0.23 | -0.00 | 0.26 | | | 0.01 | -0.79 |
| Variance 1 | | | 0.04 | -0.00 | -4.61 | | | -0.00 | -0.39 |
| Variance 2 | | | 0.18 | -0.00 | -0.58 | | | -0.01 | -0.31 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 27.89

Grab Samples HGWC-17 Grab

Date: 2019-04-05 14:22:17

Project Information:

Operator Name Dalton Anderson
Company Name Geosyntec Consultants
Project Name GP-Plant Hammond
Site Name Plant Hammond

Latitude 0° 0' 0"

Longitude 0° 0' 0"

Sonde SN 497259

Turbidity Make/Model LaMotte 2020we

Well Information:

Well ID HGWC-18
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 16.60 ft

Pump Information:

Pump Model/Type QED MP50
Tubing Type polyethylene
Tubing Diameter 0.17 in

ft

Tubing Diameter 0.17 in Tubing Length ft

Pump placement from TOC

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.485 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 10.25 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond µS | /cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|-----------|--------------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.2 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 13:35:53 | 1499.98 | 15.89 | 4.50 | 2153.84 | 2.74 | 16.85 | 0.81 | 154.52 |
| Last 5 | 13:40:53 | 1799.97 | 15.83 | 4.50 | 2166.96 | 2.88 | 16.89 | 0.76 | 154.78 |
| Last 5 | 13:45:53 | 2099.96 | 15.83 | 4.50 | 2177.17 | 2.33 | 16.89 | 0.69 | 155.22 |
| Last 5 | 13:50:57 | 2403.95 | 15.89 | 4.50 | 2179.56 | 2.76 | 16.94 | 0.68 | 155.28 |
| Last 5 | 13:55:57 | 2703.94 | 15.83 | 4.50 | 2185.00 | 2.22 | 16.94 | 0.66 | 155.48 |
| Variance 0 | | | 0.00 | -0.00 | 10.20 | | | -0.06 | 0.44 |
| Variance 1 | | | 0.06 | 0.00 | 2.39 | | | -0.02 | 0.06 |
| Variance 2 | | | -0.06 | -0.00 | 5.44 | | | -0.02 | 0.20 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 21.70

Grab Samples HGWC-18 Grab

Date: 2019-04-04 15:49:40

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

Project Information:

Operator Name Dalton Anderson

Company Name **Geosyntec Consultants** Project Name **GP-Plant Hammond**

Site Name Plant Hammond

Latitude 0° 0' 0" 0° 0' 0" Longitude Sonde SN 497259

Turbidity Make/Model LaMotte 2020we Pump placement from TOC

Well Information:

Well ID MW-21D Well diameter 2 in Well Total Depth ft Screen Length 10 ft Depth to Water 15.58 ft

Pumping Information: Final Pumping Rate

200 mL/min Total System Volume 0.09 L Calculated Sample Rate 300 sec Stabilization Drawdown 3.6 in **Total Volume Pumped** 7 L

Alexis

0.17 in

ft

ft

polyethylene

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond µS/cmTurb NTU | | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|----------------------|--------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.2 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 14:52:21 | 600.01 | 17.84 | 6.63 | 2465.22 | 5.18 | 16.02 | 0.19 | -9.87 |
| Last 5 | 14:57:21 | 900.01 | 17.88 | 6.67 | 2448.98 | 4.73 | 16.02 | 0.17 | -16.34 |
| Last 5 | 15:02:21 | 1200.00 | 17.92 | 6.68 | 2441.30 | 4.76 | 16.03 | 0.15 | -21.73 |
| Last 5 | 15:07:21 | 1500.00 | 17.98 | 6.68 | 2437.09 | 3.88 | 16.03 | 0.14 | -26.69 |
| Last 5 | 15:12:21 | 1799.99 | 17.95 | 6.70 | 2460.44 | 2.76 | 16.04 | 0.14 | -31.35 |
| Variance 0 | | | 0.04 | 0.01 | -7.68 | | | -0.02 | -5.39 |
| Variance 1 | | | 0.06 | -0.00 | -4.21 | | | -0.01 | -4.96 |
| Variance 2 | | | -0.02 | 0.02 | 23.35 | | | -0.01 | -4.66 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth =51.78

Grab Samples MW-21D Grab

Date: 2019-04-04 09:13:24

Project Information:

Operator Name

Grant Walter

Pump Information:

Pump Model/Type

Operator Name Grant Walter 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 ft

Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 501336

Turbidity Make/Model LaMotte 2020we Pump placement from TOC ft

Well Information: Pumping Information:

Final Pumping Rate 200 mL/min Well ID MW-22 Well diameter Total System Volume 0.2239027 L 2 in Calculated Sample Rate Well Total Depth 300 sec ft Stabilization Drawdown Screen Length 10 ft 3.6 in Depth to Water 14.24 L 12.73 ft **Total Volume Pumped**

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | pH SpCond μS/cmTurb NTU | | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|-------------------------|--------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.2 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 09:06:34 | 300.06 | 16.69 | 6.03 | 1337.83 | 8.19 | 14.92 | 2.41 | 100.17 |
| Last 5 | 09:11:34 | 600.02 | 16.77 | 6.02 | 1342.39 | 8.03 | 16.23 | 2.28 | 101.29 |
| Last 5 | | | | | | | | | |
| Last 5 | | | | | | | | | |
| Last 5 | | | | | | | | | |
| Variance 0 | | | nan | nan | nan | | | nan | nan |
| Variance 1 | | | 0.09 | -0.01 | 4.57 | | | -0.14 | 1.11 |
| Variance 2 | | | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 |

Notes

Well has exceeded DTW criteria and will be purged. Purge rate 400ml/min.

Date: 2019-04-05 09:33:09

Pump Information:

Project Information:

Operator Name Grant Walter Pump Model/Type Alexis
Company Name Geosyntec Consultants Tubing Type polyetl

Company NameGeosyntec ConsultantsTubing TypepolyethyleneProject NameGP-Plant HammondTubing Diameter0.17 inSite NamePlant HammondTubing Length30 ft

 Latitude
 0° 0' 0"

 Longitude
 0° 0' 0"

 Sonde SN
 588863

Turbidity Make/Model LaMotte 2020we Pump placement from TOC ft

Well Information: Pumping Information:

Final Pumping Rate Well ID MW-22 200 mL/min Total System Volume Well diameter 2 in 0.2239027 L Calculated Sample Rate Well Total Depth ft 300 sec Screen Length 10 ft Stabilization Drawdown 3.6 in 14.24 L Depth to Water 12.71 ft **Total Volume Pumped**

Low-Flow Sampling Stabilization Summary
Time Flansed

| Time | | Elapsed | sed Temp C | рН | SpCond µS/cmTurb NTU | | DTW ft | RDO mg/L | ORP mV |
|--------------------------------------|----------|---------|------------|---------|----------------------|--------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.2 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 Last 5 Last 5 Last 5 | 09:31:50 | 300.09 | 16.93 | 5.96 | 1315.14 | 3.31 | 14.55 | 0.69 | 101.99 |
| Last 5 Variance 0 | | | nan | nan | nan | | | nan | nan |
| Variance 1 | | | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 |
| Variance 2 | | | 0.00 | 0.00 | 0.00 | | | 0.00 | 0.00 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EP A 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 38.95

Grab Samples MW-22

Date: 2019-04-05 11:06:21

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

Project Information:

Operator Name Grant Walter

Company Name Geosyntec Consultants
Project Name GP-Plant Hammond

Site Name Plant Hammond

Latitude 0° 0' 0" Longitude 0° 0' 0" Sonde SN 588863

Turbidity Make/Model LaMotte 2020we

Pump placement from TOC

Well Information:

Well ID MW-23D
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 15.83 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.2863906 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 11.5 L

Alexis

0.17 in

44 ft

ft

polyethylene

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond µS/cmTurb NTU | | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|----------------------|--------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.2 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 10:44:51 | 900.02 | 17.90 | 6.65 | 1774.57 | 0.59 | 15.95 | 1.81 | 59.60 |
| Last 5 | 10:49:51 | 1200.01 | 17.96 | 6.65 | 1836.94 | 0.13 | 15.95 | 1.80 | 46.73 |
| Last 5 | 10:54:51 | 1500.01 | 17.98 | 6.65 | 1841.47 | 0.23 | 15.96 | 0.71 | 39.24 |
| Last 5 | 10:59:51 | 1800.01 | 17.93 | 6.66 | 1839.77 | 0.45 | 15.95 | 1.69 | 37.52 |
| Last 5 | 11:04:51 | 2100.01 | 17.96 | 6.66 | 1846.10 | | | 0.43 | 35.91 |
| Variance 0 | | | 0.02 | 0.00 | 4.53 | | | -1.09 | -7.49 |
| Variance 1 | | | -0.05 | 0.00 | -1.70 | | | 0.97 | -1.72 |
| Variance 2 | | | 0.03 | 0.01 | 6.33 | | | -1.26 | -1.61 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 62.81

Grab Samples MW-23D

Date: 2019-09-23 15:33:40

Pump Information:

Project Information:

Operator Name Dan Gibbs Pump Model/Type QED MP50
Company Name Geosyntec Consultants Tubing Type polyethylene
Project Name GP-Plant Hammond Tubing Diameter 0.17 in

Project Name GP-Plant Hammond Tubing Diameter 0.17 in Site Name Plant Hammond Tubing Length 27.50 ft

Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 463453

Turbidity Make/Model LaMotte 2020we Pump placement from TOC 27.50 ft

Well Information: Pumping Information:

Final Pumping Rate Well ID HGWA-1 250 mL/min Total System Volume 0.6077442 L Well diameter 2 in Calculated Sample Rate Well Total Depth ft 300 sec Screen Length 10 ft Stabilization Drawdown 3.6 in Depth to Water 22.18 ft **Total Volume Pumped** 5 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond μS | /cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|-----------|--------------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 15:12:05 | 299.91 | 19.51 | 6.87 | 666.62 | 0.81 | 22.82 | 0.38 | 73.97 |
| Last 5 | 15:17:05 | 599.88 | 19.41 | 6.97 | 683.54 | 4.73 | 22.90 | 0.39 | 68.82 |
| Last 5 | 15:22:05 | 899.88 | 18.93 | 7.00 | 683.93 | 5.14 | 22.96 | 0.36 | 66.85 |
| Last 5 | 15:27:05 | 1199.88 | 18.88 | 7.01 | 681.21 | 4.87 | 22.94 | 0.33 | 65.60 |
| Last 5 | 15:32:05 | 1499.88 | 18.88 | 7.02 | 677.72 | 4.59 | 22.94 | 0.28 | 64.44 |
| Variance 0 | | | -0.48 | 0.04 | 0.39 | | | -0.03 | -1.97 |
| Variance 1 | | | -0.05 | 0.01 | -2.72 | | | -0.03 | -1.26 |
| Variance 2 | | | -0.00 | 0.01 | -3.49 | | | -0.05 | -1.16 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for Radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 32.28'

Grab Samples HGWA-1 Grab

Date: 2019-09-30 09:52:13

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

Project Information:

Operator Name Dan Gibbs

Company Name Geosyntec Consultants
Project Name GP-Plant Hammond

Site Name Plant Hammond Latitude 0° 0' 0"

Longitude 0° 0' 0" Sonde SN 463453

Turbidity Make/Model LaMotte 2020we

Pump placement from TOC

27.50 ft

QED MP50

0.17 in

27.50 ft

polyethylene

Well Information:

Well IDHGWA-1Well diameter2 inWell Total Depth32.28 ftScreen Length10 ftDepth to Water22.35 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.6077442 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 8 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond μS | S/cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|-----------|---------------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 09:14:08 | 1200.03 | 17.86 | 7.00 | 698.30 | 3.64 | 22.94 | 0.71 | 65.88 |
| Last 5 | 09:19:08 | 1500.02 | 17.93 | 7.00 | 700.71 | 2.76 | 22.94 | 0.53 | 65.34 |
| Last 5 | 09:24:08 | 1800.03 | 17.99 | 7.00 | 701.37 | 1.65 | 22.94 | 0.40 | 64.81 |
| Last 5 | 09:29:08 | 2100.03 | 18.22 | 7.00 | 700.47 | 1.10 | 22.94 | 0.33 | 64.07 |
| Last 5 | 09:34:08 | 2400.03 | 18.08 | 7.00 | 702.34 | 1.02 | 22.94 | 0.29 | 63.31 |
| Variance 0 | | | 0.06 | -0.00 | 0.66 | | | -0.13 | -0.53 |
| Variance 1 | | | 0.23 | 0.00 | -0.90 | | | -0.07 | -0.74 |
| Variance 2 | | | -0.14 | 0.00 | 1.87 | | | -0.04 | -0.76 |

Notes

Radium 2-1L plastic w/HNO3

Grab Samples HGWA-1 Grab

| Geosyntec Consultants | | | Y. T. | | GR | OUNDWATER SAM | 1PLING LOG S | НЕЕТ | | |
|------------------------|------------|---------------------|------------|--|---------------|--|-----------------|------------------------|----------------------|---|
| Client: | | 505 | | | | Project No.: | 606581 | | | Sampling Date: 9/23/19 |
| Site: | | API/A | 82 | • | | | Plant How | Loon | = | Sampling Date: Sampler's Name: B. Weinmann |
| Well ID: | | HGWA-Z | | | | Pump Type/Model | | | _ | Sample Collection Time: (615 |
| Total Depth (ft): | | 28.43 | 3 | | | Tubing Material: | | | - So | imple Purge Rate (mL/min): 175 |
| Depth to Water (ft): | | | | | Pi | umn Intake Denth (ft): | 7 | 98 | _ | (|
| Well Diameter (in): | | 2" | | | | ump Intake Depth (ft): Start/Stop Purge Time: | 3-35 /10 | 055 | | Sample ID: #4\(\tau\) A-2 |
| Well Volume (gal) = (| | 400 200SD | 1 2.607 | 6 | | Purge Rate (mL/min): | | | = | Laboratory Analyses: APP III + IV |
| Well Volume (L) = ga | | 9.91 | | 5 | | | | | _ | |
| | | | | 9 | 10 | tal Purge Volume (L): | | | | * |
| d = well diameter (inc | | | umn (feet) | | | | | Vell Volume Other: | | QA/QC Collected? |
| Well Type: | Flush | Stick Up | | | | Sampling Method: | Pump Discha | ge Other: | | QA/QC I.D. |
| Well Lock: | Yes | No | | | | | | | | |
| Well Cap Condition: | Good | Replace | | | All sample co | ontainers requiring o | hemical preserv | ation properly prese | rved prior to demo | b from well? Yes No |
| Well Tag Present: | (Yes) | No | | | | | | | | |
| Time | pH (SU) | Spec. Cond. (µS/cm) | ORP (mV) | DO (mg/L) | Temp. (°C) | Turbidity (NTUs) | DTW (ft btoc) | Purge Rate (mL/min) | Purged Volume (L) | Notes (Purge method, water clarity, odor, purge rate, issues with pump/well/weather/etc.) |
| 3:50 15:42 | 5.50 | 193.70 | 30.60 | 0.33 | 22.41 | 35.1 | 12.52 | 75 | Z | |
| 547 | 5.58 | 197019800 | | 0.24 | 23.02 | 24.1 | (7.73 | 454 | 234 | |
| 1552 | 5.41 | 180.00 | 26.90 | 0.18 | 20.43 | 15.1 | :7.55 | 25 | 5 | |
| ;557 | 5.40 | 178.00 | 25.10 | 0.18 | 21.44 | 11.5 | 12.57 | ነንና | 5.5 | |
| (602 | 5.35 | 174.60 | 23.80 | 0.15 | 21.41 | 8.11 | (2.55 | ۶۴) | 6.5 | |
| 1607 | | 173.20 | 27.80 | 0.16 | 21.60 | 5.43 | 12.54 | i 75 | 4.457.5 | |
| 16:2 | 5.33 | 170.70 | 72.73 | 0.16 | 21.65 | 4.44 | (2.54 | 175 | 8.25 | |
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| | | | | BEW | 0110-1 | | | | | |
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| | | | | | | | | | | |
| Stabilizing Criteria | +/- 0.1 SU | +/- 5% | | 0.2 mg/L or 10% for DO > 0.5 mg/L (whichever is greater) | | < 5 NTUs | < 0.3 ft | > 100 mL < 250 mL | > 3L | |

Date: 2019-09-30 11:01:40

Project Information:

Well Information:

Operator Name Dan Gibbs

Company Name Geosyntec Consultants
Project Name GP-Plant Hammond

Site Name Plant Hammond Latitude 0° 0' 0"

Longitude 0° 0' 0" Sonde SN 463453

Turbidity Make/Model LaMotte 2020we

Well ID HGWA-2
Well diameter 2 in
Well Total Depth ft

Screen Length 10 ft Depth to Water 12.65 ft Pump Information:

Pump Model/Type QED MP50 Tubing Type polyethylene

22.95 ft

Tubing Diameter 0.17 in Tubing Length 22.95 ft

Pump placement from TOC

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.5874355 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 8 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond μS/cmTurb NTU | | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|----------------------|--------|--------|----------|--------|
| Stabilization | 1 | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 10:39:33 | 1200.02 | 21.89 | 5.51 | 213.01 | 16.90 | 12.68 | 0.27 | 77.83 |
| Last 5 | 10:44:33 | 1500.02 | 21.07 | 5.48 | 208.16 | 13.10 | 12.68 | 0.39 | 79.57 |
| Last 5 | 10:49:33 | 1800.03 | 20.91 | 5.42 | 202.42 | 9.87 | 12.68 | 0.28 | 81.65 |
| Last 5 | 10:54:33 | 2100.03 | 20.94 | 5.38 | 198.16 | 4.65 | 12.68 | 0.23 | 83.62 |
| Last 5 | 10:59:33 | 2400.03 | 21.03 | 5.35 | 195.88 | 4.77 | 12.68 | 0.21 | 85.59 |
| Variance 0 | | | -0.16 | -0.05 | -5.74 | | | -0.11 | 2.08 |
| Variance 1 | | | 0.03 | -0.05 | -4.26 | | | -0.06 | 1.97 |
| Variance 2 | | | 0.09 | -0.03 | -2.29 | | | -0.02 | 1.98 |

Notes

Radium 2-1L plastic w/HNO3

Grab Samples HGWA-2 Grab

Date: 2019-09-23 17:21:39

Pump Information:

Project Information:

Operator Name Noelia Muskus

Company Name Geosyntec Consultants
Project Name GP-Plant Hammond

Site Name Plant Hammond

Latitude 0° 0' 0" Longitude 0° 0' 0" Sonde SN 513028

Turbidity Make/Model LaMotte 2020we

Pump Model/Type QED MP50 Tubing Type polyethylene

ft

Tubing Diameter 0.17 in Tubing Length ft

Pump placement from TOC

Well Information:

Well ID HGWA-3
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 12.31 ft

Pumping Information:

Final Pumping Rate 150 mL/min
Total System Volume 0.485 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 5 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond μS | S/cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|-----------|---------------|--------|----------|--------|
| Stabilization | า | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 15:47:39 | 599.94 | 21.11 | 7.28 | 420.89 | 11.30 | 12.32 | 0.62 | 30.66 |
| Last 5 | 15:52:39 | 899.93 | 21.26 | 7.29 | 419.77 | 6.50 | 12.32 | 0.45 | 26.64 |
| Last 5 | 15:57:39 | 1199.93 | 21.23 | 7.29 | 419.87 | 6.47 | 12.32 | 0.38 | 23.79 |
| Last 5 | 16:02:39 | 1499.93 | 21.24 | 7.30 | 419.78 | 5.84 | 12.32 | 0.34 | 21.25 |
| Last 5 | 16:07:39 | 1799.93 | 21.50 | 7.30 | 420.11 | 3.53 | 12.32 | 0.31 | 18.32 |
| Variance 0 | | | -0.02 | -0.00 | 0.10 | | | -0.07 | -2.85 |
| Variance 1 | | | 0.00 | 0.00 | -0.09 | | | -0.04 | -2.54 |
| Variance 2 | | | 0.26 | 0.00 | 0.33 | | | -0.03 | -2.93 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 45.36 ft.

Grab Samples HGWA-3 Grab

| Geosyntec Consultants | | | | | GR | OUNDWATER SAM | MPLING LOG S | НЕЕТ | | |
|------------------------|------------------------|-------------|------------|--|---------------|-----------------------|------------------|------------------------|--------------------|---|
| Client: | | Creasynt | ec | | | Project No. | GN6581 | | | Sampling Date: 9/3019 |
| Site: | | Plant H. | MMON | Ā | | | AP-1/2 | | - 2 | Sampler's Name: Charles Busso |
| Well ID: | | MGWA-3 | | -: | | Pump Type/Model | | C | | Sample Collection Time: 1059 |
| Total Depth (ft): | | 74.87 | | 2.4 | | Tubing Material | | | - Sa | mple Purge Rate (mL/min): |
| Depth to Water (ft): | | 12.46 | | | Pi | ump Intake Depth (ft) | | | - | Sample ID: HGWA-3 |
| Well Diameter (in): | | 2_ | | | | Start/Stop Purge Time | | 5 | =: | Laboratory Analyses: The Laboratory Analyses: |
| Well Volume (gal) = (| 0.041d ² h: | 6.32 | | - | | Purge Rate (mL/min): | | | = | Laboratory Analyses. |
| Well Volume (L) = ga | | 20,12 | | - | | otal Purge Volume (L) | | | | |
| d = well diameter (inc | | | umn (feet) | | 10 | | | Well Volume Other: | | QA/QC Collected? |
| Well Type: | Flush | Stick Up) | um (Jeen) | | | Sampling Method | | | | QA/QC LD. NA |
| Well Lock: | Yes | No | | | | Sampling Wellion | - rump Discha | other. | - | QA/QC1,D. |
| Well Cap Condition: | Good | Replace | | | All sample co | ontainers requiring o | chemical preserv | vation properly preser | rved prior to demo | b from well? Yes No |
| Well Tag Present: | Yes | No | | | | | | action property presen | rea prior to acino | Diron wen. |
| | | Spec. Cond. | | DO | | | | Purge Rate | Purged Volume | Notes (Purge method, water clarity, odor, purge |
| Time | pH (SU) | (µS/cm) | ORP (mV) | (mg/L) | Temp. (°C) | Turbidity (NTUs) | DTW (ft btoc) | (mL/min) | (L) | rate, issues with pump/well/weather/etc.) |
| 1034 | 7.38 | 435.5 | 29.10 | 0,85 | 21.05 | 31.8 | 12.98 | 220 | 2 25 | |
| 1029 | 7.37 | 432. 2 | 19.70 | 0.33 | 20 63 | 6.27 | 12.47 | 220 | 3 | |
| 1044 | 7.37 | 433 8 | 13.1 | 0.3 | 20.3 | 4.58 | 12.47 | 220 | hj. | |
| 1049 | 736 | 432 | 9.5 | 0.35 | 20.79 | 4.36 | 12.42 | 220 | 5 | |
| 1054 | 7.37 | 431.7 | 5.4 | 0.36 | 20,84 | 3.42 | 12.47 | 220 | 6 | |
| | | | | | | | | | | |
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| | | | | | | | | | | |
| Stabilizing Criteria | +/- 0.1 SU | +/- 5% | | 0.2 mg/L or 10% for DO > 0.5 mg/L (whichever is greater) | | < 5 NTUs | < 0.3 ft | > 100 mL < 250 mL | > 3L | |

Date: 2019-09-24 11:02:29

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

Project Information:

Operator Name Dan Gibbs

Company Name **Geosyntec Consultants** Project Name **GP-Plant Hammond**

Site Name Plant Hammond Latitude 0° 0' 0"

0° 0' 0" Longitude Sonde SN 463453

Turbidity Make/Model LaMotte 2020we Pump placement from TOC

20.80 ft

QED MP50

0.17 in

20.80 ft

polyethylene

Well Information:

Well ID HGWA-4 Well diameter 2 in Well Total Depth ft Screen Length 10 ft Depth to Water 12.29 ft

Pumping Information:

Final Pumping Rate 200 mL/min Total System Volume 0.5778393 L Calculated Sample Rate 300 sec Stabilization Drawdown 3.6 in **Total Volume Pumped** 16 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond µS | S/cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|-----------|---------------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 10:08:15 | 3600.04 | 21.15 | 6.09 | 188.71 | 0.99 | 12.50 | 0.57 | 75.32 |
| Last 5 | 10:13:15 | 3900.04 | 21.24 | 6.11 | 195.03 | 0.71 | 12.50 | 0.56 | 87.06 |
| Last 5 | 10:18:15 | 4200.05 | 21.33 | 6.14 | 202.59 | 1.20 | 12.50 | 0.57 | 107.41 |
| Last 5 | 10:23:15 | 4500.05 | 21.45 | 6.15 | 207.45 | 0.50 | 12.50 | 0.55 | 160.37 |
| Last 5 | 10:28:15 | 4800.05 | 21.42 | 6.16 | 212.55 | 0.57 | 12.50 | 0.54 | 362.52 |
| Variance 0 | | | 0.09 | 0.02 | 7.56 | | | 0.01 | 20.34 |
| Variance 1 | | | 0.12 | 0.01 | 4.86 | | | -0.03 | 52.96 |
| Variance 2 | | | -0.03 | 0.01 | 5.10 | | | -0.00 | 202.15 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for Radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EPA 3 00.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 24.79'

Grab Samples

HGWA-4

Date: 2019-09-24 12:14:06

Project Information:

Operator Name Noelia Muskus Company Name **Geosyntec Consultants**

Project Name **GP-Plant Hammond** Site Name Plant Hammond

Latitude 0° 0' 0"

0° 0' 0" Longitude Sonde SN 513028

LaMotte 2020we Turbidity Make/Model

Well Information:

Well ID HGWA-5 2 in Well diameter Well Total Depth ft

Screen Length 10 ft Depth to Water 6.95 ft Pump Information:

Pump Model/Type QED MP50 **Tubing Type** polyethylene

ft

Tubing Diameter 0.17 in Tubing Length ft

Pumping Information:

Pump placement from TOC

Final Pumping Rate 155 mL/min Total System Volume 0.485 L Calculated Sample Rate 300 sec Stabilization Drawdown 3.6 in **Total Volume Pumped** 7.25 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond μS/cmTurb NTU | | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|----------------------|--------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 10:46:35 | 1801.01 | 20.57 | 6.24 | 190.17 | 5.55 | 7.76 | 0.75 | 43.55 |
| Last 5 | 10:51:35 | 2101.00 | 20.39 | 6.28 | 207.05 | 5.77 | 7.85 | 0.57 | 41.87 |
| Last 5 | 10:56:35 | 2401.00 | 20.47 | 6.34 | 213.51 | 5.05 | 7.90 | 0.46 | 38.70 |
| Last 5 | 11:01:35 | 2701.00 | 20.65 | 6.39 | 221.74 | 4.52 | 7.89 | 0.39 | 36.45 |
| Last 5 | 11:06:35 | 3001.00 | 20.83 | 6.40 | 221.49 | 3.96 | 7.91 | 0.37 | 34.43 |
| Variance 0 | | | 0.09 | 0.06 | 6.46 | | | -0.11 | -3.17 |
| Variance 1 | | | 0.17 | 0.05 | 8.23 | | | -0.07 | -2.25 |
| Variance 2 | | | 0.19 | 0.02 | -0.25 | | | -0.02 | -2.01 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 27.54 ft.

Grab Samples HGWA-5 Grab

Date: 2019-09-24 10:51:30

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

Project Information:

Operator Name

Company Name

Ben Weinmann

Geosyntec Consultants

Project Name GP-Plant Hammond Site Name Plant Hammond

Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 642531

Turbidity Make/Model LaMotte 2020we

Pump placement from TOC

Well Information:

Well ID HGWA-6
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 6.91 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.485 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 19.5 L

QED MP50

0.17 in

ft

ft

polyethylene

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | · | | SpCond μS/cm Turb NTU | | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|-----------------------|--------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 10:34:54 | 300.08 | 20.60 | 7.42 | 376.96 | 11.60 | 8.20 | 0.08 | 0.92 |
| Last 5 | 10:39:54 | 600.03 | 20.56 | 7.42 | 377.82 | 2.44 | 8.37 | 0.06 | -4.35 |
| Last 5 | 10:44:54 | 900.02 | 20.07 | 7.42 | 378.65 | 2.26 | 8.44 | 0.06 | -10.63 |
| Last 5 | 10:49:54 | 1200.03 | 19.81 | 7.41 | 378.74 | 2.17 | 8.48 | 0.07 | -16.46 |
| Last 5 | | | | | | | | | |
| Variance 0 | | | -0.03 | -0.00 | 0.87 | | | -0.02 | -5.27 |
| Variance 1 | | | -0.49 | 0.00 | 0.82 | | | -0.00 | -6.28 |
| Variance 2 | | | -0.26 | -0.01 | 0.09 | | | 0.00 | -5.83 |

Notes

Four bottles: Two 1-L plastic bottles with NHO3 for Radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EPA 3 00.0); and one 250-mL plastic bottle with HNO3 for App. III and IV Metals (EPA 6020B/7470A). Total depth = 50.48'

Grab Samples HGWA-6

Date: 2019-09-24 12:36:28

Project Information:

Operator Name Dan Gibbs

Company Name Geosyntec Consultants
Project Name GP-Plant Hammond
Site Name Plant Hammond

Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 463453

Turbidity Make/Model LaMotte 2020we

Well Information:

Well ID HGWC-14
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 28.72 ft

Pump Information:

Pump Model/Type QED MP50 Tubing Type polyethylene

38 ft

Tubing Diameter 0.17 in Tubing Length 38 ft

Pump placement from TOC

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.6546101 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 5 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond µS/ | cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|------------|-------------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 11:37:45 | 300.03 | 23.39 | 4.85 | 2669.88 | 5.41 | 28.72 | 1.70 | 438.68 |
| Last 5 | 11:42:45 | 600.02 | 22.10 | 4.78 | 2711.98 | 3.38 | 28.79 | 0.58 | 396.01 |
| Last 5 | 11:47:45 | 900.03 | 21.96 | 4.77 | 2723.24 | 3.70 | 28.79 | 0.24 | 377.27 |
| Last 5 | 11:57:45 | 1500.03 | 22.01 | 4.77 | 2721.80 | 3.94 | 28.79 | 0.17 | 389.97 |
| Last 5 | | | | | | | | | |
| Variance 0 | | | -1.29 | -0.07 | 42.11 | | | -1.12 | -42.66 |
| Variance 1 | | | -0.14 | -0.00 | 11.25 | | | -0.34 | -18.74 |
| Variance 2 | | | 0.06 | -0.00 | -1.43 | | | -0.07 | 12.70 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for Radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 43.10'

Grab Sample HGWC-14 Grab

Date: 2019-09-24 14:32:19

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

Project Information:

Operator Name Dan Gibbs

Company Name Geosyntec Consultants
Project Name GP-Plant Hammond
Site Name Plant Hammond

Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 463453

Turbidity Make/Model LaMotte 2020we

Pump placement from TOC

33 ft

QED MP50

0.17 in

33 ft

polyethylene

Well Information:

Well ID HGWC-15
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 18.13 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.632293 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 6 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond µS | /cmTurb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|-----------|-------------|--------|----------|--------|
| Stabilization | 1 | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 13:20:19 | 600.02 | 20.31 | 6.45 | 1458.29 | 13.90 | 18.61 | 0.26 | 254.45 |
| Last 5 | 13:25:19 | 900.03 | 20.22 | 6.44 | 1461.15 | 7.60 | 18.61 | 0.20 | 238.11 |
| Last 5 | 13:30:19 | 1200.03 | 20.19 | 6.41 | 1455.02 | 4.60 | 18.61 | 0.18 | 225.58 |
| Last 5 | 13:35:19 | 1500.03 | 20.11 | 6.38 | 1452.83 | 3.19 | 18.61 | 0.16 | 216.59 |
| Last 5 | 13:40:19 | 1800.03 | 20.17 | 6.33 | 1445.72 | 2.39 | 18.61 | 0.16 | 211.99 |
| Variance 0 | | | -0.03 | -0.02 | -6.13 | | | -0.02 | -12.53 |
| Variance 1 | | | -0.08 | -0.03 | -2.19 | | | -0.01 | -9.00 |
| Variance 2 | | | 0.06 | -0.04 | -7.12 | | | -0.01 | -4.59 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for Radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 38.10'

Grab Samples HGWC-15

Date: 2019-09-25 11:10:22

Project Information: Pump Information:

Operator NameDan GibbsPump Model/TypeQED MP50Company NameGeosyntec ConsultantsTubing TypepolyethyleneProject NameGP-Plant HammondTubing Diameter0.17 in

Project Name GP-Plant Hammond Tubing Diameter 0.17 in Site Name Plant Hammond Tubing Length 28.10 ft

Latitude 0° 0' 0" Longitude 0° 0' 0" Sonde SN 463453

Turbidity Make/Model LaMotte 2020we Pump placement from TOC 28.10 ft

Well Information: Pumping Information:

Final Pumping Rate Well ID HGWC-16 200 mL/min Total System Volume Well diameter 0.6104222 L 2 in Calculated Sample Rate Well Total Depth ft 300 sec Screen Length 10 ft Stabilization Drawdown 3.6 in Depth to Water 12.40 ft **Total Volume Pumped** 18 L

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond µS | /cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|-----------|--------------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 10:11:42 | 3000.03 | 20.19 | 6.91 | 1102.48 | 10.60 | 12.88 | 0.14 | 26.36 |
| Last 5 | 10:16:42 | 3300.02 | 20.20 | 6.91 | 1102.46 | 7.50 | 12.88 | 0.14 | 24.52 |
| Last 5 | 10:21:42 | 3600.02 | 20.04 | 6.92 | 1103.03 | 4.93 | 12.88 | 0.17 | 23.02 |
| Last 5 | 10:26:42 | 3900.03 | 20.14 | 6.92 | 1104.30 | 4.71 | 12.88 | 0.18 | 21.81 |
| Last 5 | 10:31:42 | 4200.03 | 20.24 | 6.92 | 1100.84 | 4.51 | 12.88 | 0.16 | 20.64 |
| Variance 0 | | | -0.16 | 0.01 | 0.57 | | | 0.03 | -1.50 |
| Variance 1 | | | 0.10 | 0.00 | 1.27 | | | 0.01 | -1.22 |
| Variance 2 | | | 0.09 | 0.00 | -3.45 | | | -0.02 | -1.17 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for Radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 33.43'

Grab Samples HGWC-16

Date: 2019-09-25 12:41:56

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

Project Information:

Operator Name Dan Gibbs

Company Name Geosyntec Consultants
Project Name GP-Plant Hammond
Site Name Plant Hammond

Latitude 0° 0' 0"

Longitude 0° 0' 0"

Sonde SN 463453

Turbidity Make/Model LaMotte 2020we

te 2020we Pump placement from TOC

Tump placement from 100

Well Information:

Well ID HGWC-17
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 17.74 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.5867661 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 8 L

QED MP50

0.17 in

22.80 ft

22.80 ft

polyethylene

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond μS/cmTurb NTU | | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|----------------------|--------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 11:50:09 | 1200.02 | 21.02 | 6.31 | 1690.52 | 8.43 | 18.11 | 0.19 | 63.65 |
| Last 5 | 11:55:09 | 1500.02 | 21.04 | 6.30 | 1694.50 | 5.32 | 18.11 | 0.18 | 65.24 |
| Last 5 | 12:00:09 | 1800.02 | 21.06 | 6.29 | 1693.82 | 4.89 | 18.11 | 0.17 | 66.65 |
| Last 5 | 12:05:09 | 2100.03 | 21.06 | 6.28 | 1695.59 | 4.48 | 18.11 | 0.17 | 67.77 |
| Last 5 | 12:10:09 | 2400.03 | 21.06 | 6.28 | 1692.36 | 4.06 | 18.11 | 0.17 | 68.82 |
| Variance 0 | | | 0.03 | -0.01 | -0.68 | | | -0.01 | 1.41 |
| Variance 1 | | | 0.00 | -0.01 | 1.78 | | | -0.00 | 1.12 |
| Variance 2 | | | 0.00 | -0.00 | -3.23 | | | -0.00 | 1.05 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for Radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 27.83'

Grab Samples

HGWC-17 Grab

Date: 2019-09-25 14:47:16

Project Information:

Operator Name Dan Gibbs

Company Name **Geosyntec Consultants** Project Name **GP-Plant Hammond** Site Name Plant Hammond

Latitude 0° 0' 0" 0° 0' 0" Longitude Sonde SN 463453

Turbidity Make/Model LaMotte 2020we

Well Information:

Well ID HGWC-18 Well diameter 2 in Well Total Depth ft Screen Length 10 ft Depth to Water 17.32 ft

Pump Information:

Pump Model/Type QED MP50 **Tubing Type** polyethylene

22.80 ft

Tubing Diameter 0.17 in Tubing Length 22.80 ft

Pump placement from TOC

Pumping Information:

Final Pumping Rate 200 mL/min Total System Volume 0.5867661 L Calculated Sample Rate 300 sec Stabilization Drawdown 3.6 in **Total Volume Pumped** 5 L

Low-Flow Sampling Stabilization Summary

| LOW 1 10W 0 | Time | Elapsed | Temp C | Hq | SnCond uS | /cm Turb NTU | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|-----------|--------------|--------|----------|--------|
| Stabilization | | Liapseu | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | DIWIL | +/- 10% | +/- 10 |
| Last 5 | 13:30:49 | 300.05 | 23.47 | 4.64 | 2320.51 | 3.37 | 17.42 | 1.56 | 123.31 |
| Last 5 | 13:35:49 | 600.03 | 22.89 | 4.56 | 2365.31 | 5.48 | 17.49 | 0.35 | 131.71 |
| Last 5 | 13:40:49 | 900.02 | 22.85 | 4.54 | 2367.84 | 4.90 | 17.49 | 0.25 | 137.01 |
| Last 5 | 13:45:49 | 1200.02 | 22.87 | 4.54 | 2367.44 | 4.77 | 17.49 | 0.22 | 140.69 |
| Last 5 | 13:50:49 | 1500.02 | 22.88 | 4.54 | 2370.32 | 4.89 | 17.49 | 0.20 | 143.47 |
| Variance 0 | | | -0.04 | -0.02 | 2.53 | | | -0.10 | 5.30 |
| Variance 1 | | | 0.02 | -0.00 | -0.40 | | | -0.03 | 3.68 |
| Variance 2 | | | 0.01 | -0.01 | 2.88 | | | -0.02 | 2.78 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for Radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 27.69'

Grab Samples HGWC-18

Date: 2019-09-25 15:35:54

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

Project Information:

Operator Name Dan Gibbs

Company Name Geosyntec Consultants
Project Name GP-Plant Hammond

Site Name Plant Hammond

Latitude 0° 0' 0" Longitude 0° 0' 0" Sonde SN 463453

Turbidity Make/Model LaMotte 2020we

Pump placement from TOC 46.80 ft

Well Information:

Well ID MW-21D
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 16.55 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.3078151 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 4 L

Alexis

0.17 in

48.80 ft

polyethylene

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond μS/cmTurb NTU | | DTW ft | RDO mg/L | ORP mV |
|---------------|----------|---------|---------|---------|----------------------|--------|--------|----------|--------|
| Stabilization | | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 15:18:40 | 300.02 | 23.47 | 6.35 | 2375.53 | 2.12 | 16.94 | 0.29 | 57.84 |
| Last 5 | 15:23:40 | 600.02 | 23.07 | 6.44 | 2384.45 | 1.74 | 16.94 | 0.23 | 45.46 |
| Last 5 | 15:28:40 | 900.02 | 22.99 | 6.49 | 2350.48 | 1.63 | 16.94 | 0.22 | 36.71 |
| Last 5 | 15:33:40 | 1200.02 | 22.89 | 6.54 | 2323.64 | 1.10 | 16.94 | 0.23 | 29.24 |
| Last 5 | | | | | | | | | |
| Variance 0 | | | -0.40 | 0.08 | 8.91 | | | -0.06 | -12.38 |
| Variance 1 | | | -0.08 | 0.06 | -33.97 | | | -0.01 | -8.75 |
| Variance 2 | | | -0.10 | 0.04 | -26.84 | | | 0.00 | -7.47 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for Radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 51.62'

Grab Samples

MW-21D

Date: 2019-09-26 11:29:54

Project Information:

Operator Name

Dan Gibbs

Pump Information:

Pump Model/Type

Operator NameDan GibbsPump Model/TypeQED MP50Company NameGeosyntec ConsultantsTubing TypepolyethyleneProject NameGP-Plant HammondTubing Diameter0.17 inSite NamePlant HammondTubing Length32.58 ft

Site Name Plant Hammond Tubing Length
Latitude 0° 0' 0"

Longitude 0° 0' 0"

Sonde SN 463453

Turbidity Make/Model LaMotte 2020we Pump placement from TOC 32.58 ft

Well Information: Pumping Information:

Final Pumping Rate Well ID MW-22 100 mL/min Well diameter Total System Volume 0.6304184 L 2 in Well Total Depth Calculated Sample Rate 300 sec ft Screen Length 10 ft Stabilization Drawdown 3.6 in Depth to Water 15.30 ft **Total Volume Pumped** 11.5 L

Low-Flow Sampling Stabilization Summary

| Time | | Elapsed | Temp C | рН | SpCond µS | /cm Turb NTU | DTW ft | RDO mg/L | ORP mV | |
|---------------|----------|---------|---------|---------|-----------|--------------|--------|----------|--------|--|
| Stabilization | 1 | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 | |
| Last 5 | 10:58:00 | 300.02 | 20.72 | 6.07 | 1491.80 | 3.87 | 16.22 | 2.85 | 77.29 | |
| Last 5 | 11:03:00 | 600.02 | 20.43 | 5.96 | 1508.02 | 5.59 | 16.65 | 1.70 | 75.23 | |
| Last 5 | 11:08:00 | 900.02 | 20.48 | 5.92 | 1509.54 | 5.84 | 17.20 | 1.18 | 75.16 | |
| Last 5 | 11:13:00 | 1200.02 | 20.50 | 5.90 | 1510.91 | 8.33 | 17.60 | 0.91 | 75.74 | |
| Last 5 | | | | | | | | | | |
| Variance 0 | | | -0.29 | -0.12 | 16.22 | | | -1.15 | -2.06 | |
| Variance 1 | | | 0.05 | -0.04 | 1.51 | | | -0.52 | -0.07 | |
| Variance 2 | | | 0.02 | -0.02 | 1.38 | | | -0.27 | 0.59 | |

Notes

Increased purge rate to 600 ml per 5 min to purge dry because of water level stability. Will sample in 24h.

Grab Samples

Date: 2019-09-27 11:08:44

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

Project Information:

Operator Name Noelia Muskus

Company Name Geosyntec Consultants
Project Name GP-Plant Hammond

Site Name Plant Hammond

Latitude 0° 0' 0" Longitude 0° 0' 0" Sonde SN 513028

Turbidity Make/Model LaMotte 2020we

Pump placement from TOC

Well Information:

Well ID MW-22
Well diameter 2 in
Well Total Depth ft
Screen Length 10 ft
Depth to Water 15.40 ft

Pumping Information:

Final Pumping Rate 140 mL/min
Total System Volume 0.485 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.6 in
Total Volume Pumped 8.7 L

QED MP50

0.17 in

ft

ft

polyethylene

Low-Flow Sampling Stabilization Summary

| | Time | Elapsed | Temp C | рН | SpCond μS/cmTurb NTU | | DTW ft | RDO mg/L | ORP mV | |
|---------------|----------|---------|---------|---------|----------------------|--------|--------|----------|--------|--|
| Stabilization | | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 | |
| Last 5 | 09:49:38 | 2100.00 | 19.32 | 5.81 | 1587.49 | 7.61 | 21.82 | 0.65 | 80.21 | |
| Last 5 | 09:54:38 | 2400.00 | 19.34 | 5.81 | 1586.36 | 5.96 | 22.35 | 0.66 | 80.82 | |
| Last 5 | 09:59:38 | 2700.00 | 19.49 | 5.82 | 1585.64 | 5.71 | 22.65 | 0.66 | 81.23 | |
| Last 5 | 10:04:38 | 3000.00 | 19.54 | 5.81 | 1582.36 | 5.31 | 23.06 | 0.66 | 81.81 | |
| Last 5 | 10:09:38 | 3299.99 | 19.72 | 5.81 | 1581.20 | 4.87 | 23.36 | 0.65 | 82.30 | |
| Variance 0 | | | 0.15 | 0.00 | -0.72 | | | 0.00 | 0.40 | |
| Variance 1 | | | 0.05 | -0.00 | -3.27 | | | -0.00 | 0.58 | |
| Variance 2 | | | 0.18 | -0.00 | -1.16 | | | -0.01 | 0.50 | |

Notes

Water was turbid. Purged at low flow until turbidity <5 NTU. Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 38.50 ft.

Grab Samples

MW-22

Date: 2019-09-26 09:45:17

Pump Information:

Pump Model/Type

Tubing Diameter

Pump placement from TOC

Tubing Length

Tubing Type

Alexis

0.17 in

59.82 ft

57.82 ft

4 L

polyethylene

Project Information:

Operator Name Dan Gibbs

Company Name **Geosyntec Consultants** Project Name **GP-Plant Hammond**

Site Name Plant Hammond

Latitude 0° 0' 0" 0° 0' 0" Longitude Sonde SN 463453

Turbidity Make/Model LaMotte 2020we

Well Information: Pumping Information:

Final Pumping Rate Well ID 200 mL/min MW-23D Total System Volume Well diameter 2 in 0.357002 L Calculated Sample Rate Well Total Depth ft 300 sec Screen Length 10 ft Stabilization Drawdown 3.6 in **Total Volume Pumped**

Depth to Water 18.08 ft

Low-Flow Sampling Stabilization Summary

| LUW-I IUW Ja | mping Stabinz | Zation Summar | y | | | | | | |
|---------------|---------------|---------------|---------|---------|-----------|-------------|--------|----------|--------|
| Time | | Elapsed | Temp C | рН | SpCond µS | /cmTurb NTU | DTW ft | RDO mg/L | ORP mV |
| Stabilization | | | +/- 0.5 | +/- 0.1 | +/- 5% | +/- 10 | | +/- 10% | +/- 10 |
| Last 5 | 09:20:32 | 300.05 | 20.00 | 6.61 | 1774.63 | 1.76 | 18.16 | 0.84 | 78.96 |
| Last 5 | 09:25:32 | 600.02 | 19.82 | 6.63 | 1789.44 | 1.85 | 18.16 | 0.44 | 73.04 |
| Last 5 | 09:30:32 | 900.02 | 19.83 | 6.63 | 1768.51 | 1.36 | 18.16 | 0.42 | 71.10 |
| Last 5 | 09:35:32 | 1200.01 | 19.70 | 6.64 | 1762.67 | 0.77 | 18.16 | 0.36 | 70.50 |
| Last 5 | | | | | | | | | |
| Variance 0 | | | -0.18 | 0.02 | 14.81 | | | -0.39 | -5.92 |
| Variance 1 | | | 0.01 | 0.01 | -20.93 | | | -0.02 | -1.95 |
| Variance 2 | | | -0.12 | 0.00 | -5.84 | | | -0.06 | -0.59 |

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for Radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), CI, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 62.82'

Grab Samples

Grab

MW-23d

FD-02

APPENDIX F

Statistical Analyses

Detection Monitoring Program Statistical Analysis Package Plant Hammond Ash Pond 2 (AP-2) April and September 2019 events (AM 01 & AM 02)

Table F-1Detection Monitoring Prediction Limit Comparison
Plant Hammond AP-2, Floyd County, Georgia

| | | 2019 AM 01 20 | | | | | | |
|-----------------|---------|---------------|----------|------------------|----------|----------|--------------------|--|
| Parameter | Well ID | Upper PL | Lower PL | Apr 1-5, 2019 | Upper PL | Lower PL | Sep 23-30, 2019 | |
| Boron (mg/L) | HGWC-14 | 0.045 | - | 12.5 | 0.044 | _ | 14.7 | |
| Boron (mg/L) | HGWC-15 | 0.045 | - | 2.3 | 0.044 | - | 2.9 | |
| Boron (mg/L) | HGWC-16 | 0.045 | - | 2.1 | 0.044 | - | 2.7 | |
| Boron (mg/L) | HGWC-17 | 0.045 | ı | 5.9 | 0.044 | ı | 8.1 | |
| Boron (mg/L) | HGWC-18 | 0.045 | - | 6.4 | 0.044 | - | 11.7 | |
| Calcium (mg/L) | HGWC-14 | 123 | - | 606 | 123 | - | 507 | |
| Calcium (mg/L) | HGWC-15 | 123 | ı | 214 | 123 | - | 202 | |
| Calcium (mg/L) | HGWC-16 | 123 | - | 196 | 123 | - | 185 | |
| Calcium (mg/L) | HGWC-17 | 123 | ı | 340 | 123 | - | 305 | |
| Calcium (mg/L) | HGWC-18 | 123 | ı | 400 | 123 | ı | 437 | |
| Chloride (mg/L) | HGWC-14 | 20.3 | - | 227 | 20.3 | - | 188 | |
| Chloride (mg/L) | HGWC-15 | 20.3 | - | 138 | 20.3 | - | 120 | |
| Chloride (mg/L) | HGWC-16 | 20.3 | - | 76.8 | 20.3 | - | 84.4 | |
| Chloride (mg/L) | HGWC-17 | 20.3 | - | 195 | 20.3 | - | 139 | |
| Chloride (mg/L) | HGWC-18 | 20.3 | - | 217 | 20.3 | - | 181 | |
| Fluoride (mg/L) | HGWC-14 | 0.36 | - | 0.66 | 0.36 | - | 0.053 J | |
| Fluoride (mg/L) | HGWC-15 | 0.36 | - | 0.066 J | 0.36 | - | 0.12 J | |
| Fluoride (mg/L) | HGWC-16 | 0.36 | ı | ND | 0.36 | - | ND | |
| Fluoride (mg/L) | HGWC-17 | 0.36 | - | 0.16 J | 0.36 | - | 0.081 J | |
| Fluoride (mg/L) | HGWC-18 | 0.36 | ı | 0.37 | 0.36 | ı | 0.73 | |
| pH (s.u.) | HGWC-14 | 7.7 | 4.5 | 4.7 | 7.7 | 4.9 | 4.8 | |
| pH (s.u.) | HGWC-15 | 7.7 | 4.5 | 5.7 | 7.7 | 4.9 | 6.3 | |
| pH (s.u.) | HGWC-16 | 7.7 | 4.5 | 7.0 | 7.7 | 4.9 | 6.9 | |
| pH (s.u.) | HGWC-17 | 7.7 | 4.5 | 6.3 | 7.7 | 4.9 | 6.3 | |
| pH (s.u.) | HGWC-18 | 7.7 | 4.5 | 4.5 | 7.7 | 4.9 | 4.5 | |
| Sulfate (mg/L) | HGWC-14 | 84.3 | - | 1520 | 84.3 | - | 1110 | |
| Sulfate (mg/L) | HGWC-15 | 84.3 | ı | 528 | 84.3 | ı | 382 | |
| Sulfate (mg/L) | HGWC-16 | 84.3 | ı | 251 | 84.3 | ı | 223 | |
| Sulfate (mg/L) | HGWC-17 | 84.3 | Ī | 642 | 84.3 | ı | 434 | |
| Sulfate (mg/L) | HGWC-18 | 84.3 | - | 1030 | 84.3 | - | 920 | |
| TDS (mg/L) | HGWC-14 | 416 | - | 2310 | 417 | = | 2470 | |
| TDS (mg/L) | HGWC-15 | 416 | ı | 926 | 417 | - | 1140 | |
| TDS (mg/L) | HGWC-16 | 416 | - | 704 | 417 | - | 813 | |
| TDS (mg/L) | HGWC-17 | 416 | - | 1260 | 417 | - | 1280 | |
| TDS (mg/L) | HGWC-18 | 416 | - | 1610 | 417 | - | 1960 | |

Notes:

- = Not applicable
- 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.

1 of 1 January 2020

Prediction Limit (AM 01) - Significant Results

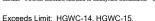
| | | Pla | ant Hammond | Client: Georgi | ia Power Com | ipany I | Data: Hammo | ond AP-2 | Printed 7/22/20 | 19, 2:20 AM | |
|-------------------------------|---------|------------|-------------|----------------|--------------|---------|-------------|----------|-----------------|--------------|-----------------------------|
| Constituent | Well | Upper Lim. | Lower Lim. | <u>Date</u> | Observ. | Sig. | Bg N | %NDs | Transform | <u>Alpha</u> | <u>Method</u> |
| Boron (mg/L) | HGWC-14 | 0.0445 | n/a | 4/5/2019 | 12.5 | Yes | 72 | 8.333 | ln(x) | 0.001504 | Param Inter 1 of 2 |
| Boron (mg/L) | HGWC-15 | 0.0445 | n/a | 4/4/2019 | 2.3 | Yes | 72 | 8.333 | ln(x) | 0.001504 | Param Inter 1 of 2 |
| Boron (mg/L) | HGWC-16 | 0.0445 | n/a | 4/4/2019 | 2.1 | Yes | 72 | 8.333 | ln(x) | 0.001504 | Param Inter 1 of 2 |
| Boron (mg/L) | HGWC-17 | 0.0445 | n/a | 4/5/2019 | 5.9 | Yes | 72 | 8.333 | ln(x) | 0.001504 | Param Inter 1 of 2 |
| Boron (mg/L) | HGWC-18 | 0.0445 | n/a | 4/5/2019 | 6.4 | Yes | 72 | 8.333 | ln(x) | 0.001504 | Param Inter 1 of 2 |
| Calcium (mg/L) | HGWC-14 | 123.4 | n/a | 4/5/2019 | 606 | Yes | 72 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Calcium (mg/L) | HGWC-15 | 123.4 | n/a | 4/4/2019 | 214 | Yes | 72 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Calcium (mg/L) | HGWC-16 | 123.4 | n/a | 4/4/2019 | 196 | Yes | 72 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Calcium (mg/L) | HGWC-17 | 123.4 | n/a | 4/5/2019 | 340 | Yes | 72 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Calcium (mg/L) | HGWC-18 | 123.4 | n/a | 4/5/2019 | 400 | Yes | 72 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Chloride (mg/L) | HGWC-14 | 20.3 | n/a | 4/5/2019 | 227 | Yes | 72 | 0 | n/a | 0.0003703 | NP Inter (normality) 1 of 2 |
| Chloride (mg/L) | HGWC-15 | 20.3 | n/a | 4/4/2019 | 138 | Yes | 72 | 0 | n/a | 0.0003703 | NP Inter (normality) 1 of 2 |
| Chloride (mg/L) | HGWC-16 | 20.3 | n/a | 4/4/2019 | 76.8 | Yes | 72 | 0 | n/a | 0.0003703 | NP Inter (normality) 1 of 2 |
| Chloride (mg/L) | HGWC-17 | 20.3 | n/a | 4/5/2019 | 195 | Yes | 72 | 0 | n/a | 0.0003703 | NP Inter (normality) 1 of 2 |
| Chloride (mg/L) | HGWC-18 | 20.3 | n/a | 4/5/2019 | 217 | Yes | 72 | 0 | n/a | 0.0003703 | NP Inter (normality) 1 of 2 |
| Fluoride (mg/L) | HGWC-14 | 0.36 | n/a | 4/5/2019 | 0.66 | Yes | 84 | 27.38 | n/a | 0.0002746 | NP Inter (normality) 1 of 2 |
| Fluoride (mg/L) | HGWC-18 | 0.36 | n/a | 4/5/2019 | 0.37 | Yes | 84 | 27.38 | n/a | 0.0002746 | NP Inter (normality) 1 of 2 |
| pH (s.u.) (1) | HGWC-18 | 7.658 | 4.527 | 4/5/2019 | 4.5 | Yes | 84 | 0 | x^6 | 0.000752 | Param Inter 1 of 2 |
| Sulfate (mg/L) | HGWC-14 | 84.3 | n/a | 4/5/2019 | 1520 | Yes | 72 | 0 | n/a | 0.0003703 | NP Inter (normality) 1 of 2 |
| Sulfate (mg/L) | HGWC-15 | 84.3 | n/a | 4/4/2019 | 528 | Yes | 72 | 0 | n/a | 0.0003703 | NP Inter (normality) 1 of 2 |
| Sulfate (mg/L) | HGWC-16 | 84.3 | n/a | 4/4/2019 | 251 | Yes | 72 | 0 | n/a | 0.0003703 | NP Inter (normality) 1 of 2 |
| Sulfate (mg/L) | HGWC-17 | 84.3 | n/a | 4/5/2019 | 642 | Yes | 72 | 0 | n/a | 0.0003703 | NP Inter (normality) 1 of 2 |
| Sulfate (mg/L) | HGWC-18 | 84.3 | n/a | 4/5/2019 | 1030 | Yes | 72 | 0 | n/a | 0.0003703 | NP Inter (normality) 1 of 2 |
| Total Dissolved Solids (mg/L) | HGWC-14 | 415.5 | n/a | 4/5/2019 | 2310 | Yes | 72 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Total Dissolved Solids (mg/L) | HGWC-15 | 415.5 | n/a | 4/4/2019 | 926 | Yes | 72 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Total Dissolved Solids (mg/L) | HGWC-16 | 415.5 | n/a | 4/4/2019 | 704 | Yes | 72 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Total Dissolved Solids (mg/L) | HGWC-17 | 415.5 | n/a | 4/5/2019 | 1260 | Yes | 72 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Total Dissolved Solids (mg/L) | HGWC-18 | 415.5 | n/a | 4/5/2019 | 1610 | Yes | 72 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| | | | | | | | | | | | |

Note:

(1) The measured pH for well HGWC-18 was within the standard margin of error for the instrument (+/- 0.1 s.u.) and therefore not considered an SSI.

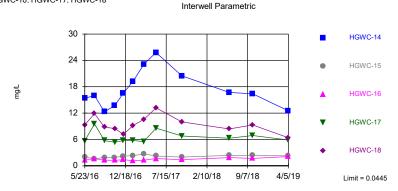
Prediction Limit (AM 01) - All Results

| | | DI | nt Hammand | Client: Coorgi | a Dawar Cam | nony De | ta: Hamma | nd AD 2 | Drintod 7/22/201 | 0 2:20 AM | |
|-------------------------------|-------------|------------|-------------|----------------|-------------|-------------|-------------|-------------|------------------|--------------|-----------------------------|
| | | Pi | ant Hammond | Client: Georgi | a Power Com | | ata: Hammo | nu AP-2 | Printed 7/22/201 | 19, 2:20 AW | |
| Constituent | <u>Well</u> | Upper Lim. | Lower Lim. | <u>Date</u> | Observ. | <u>Sig.</u> | <u>Bg N</u> | <u>%NDs</u> | <u>Transform</u> | <u>Alpha</u> | <u>Method</u> |
| Boron (mg/L) | HGWC-14 | 0.0445 | n/a | 4/5/2019 | 12.5 | Yes | 72 | 8.333 | ln(x) | 0.001504 | Param Inter 1 of 2 |
| Boron (mg/L) | HGWC-15 | 0.0445 | n/a | 4/4/2019 | 2.3 | Yes | 72 | 8.333 | ln(x) | 0.001504 | Param Inter 1 of 2 |
| Boron (mg/L) | HGWC-16 | 0.0445 | n/a | 4/4/2019 | 2.1 | Yes | 72 | 8.333 | ln(x) | 0.001504 | Param Inter 1 of 2 |
| Boron (mg/L) | HGWC-17 | 0.0445 | n/a | 4/5/2019 | 5.9 | Yes | 72 | 8.333 | ln(x) | 0.001504 | Param Inter 1 of 2 |
| Boron (mg/L) | HGWC-18 | 0.0445 | n/a | 4/5/2019 | 6.4 | Yes | 72 | 8.333 | ln(x) | 0.001504 | Param Inter 1 of 2 |
| Calcium (mg/L) | HGWC-14 | 123.4 | n/a | 4/5/2019 | 606 | Yes | 72 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Calcium (mg/L) | HGWC-15 | 123.4 | n/a | 4/4/2019 | 214 | Yes | 72 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Calcium (mg/L) | HGWC-16 | 123.4 | n/a | 4/4/2019 | 196 | Yes | 72 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Calcium (mg/L) | HGWC-17 | 123.4 | n/a | 4/5/2019 | 340 | Yes | 72 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Calcium (mg/L) | HGWC-18 | 123.4 | n/a | 4/5/2019 | 400 | Yes | 72 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Chloride (mg/L) | HGWC-14 | 20.3 | n/a | 4/5/2019 | 227 | Yes | 72 | 0 | n/a | 0.0003703 | NP Inter (normality) 1 of 2 |
| Chloride (mg/L) | HGWC-15 | 20.3 | n/a | 4/4/2019 | 138 | Yes | 72 | 0 | n/a | 0.0003703 | NP Inter (normality) 1 of 2 |
| Chloride (mg/L) | HGWC-16 | 20.3 | n/a | 4/4/2019 | 76.8 | Yes | 72 | 0 | n/a | 0.0003703 | NP Inter (normality) 1 of 2 |
| Chloride (mg/L) | HGWC-17 | 20.3 | n/a | 4/5/2019 | 195 | Yes | 72 | 0 | n/a | 0.0003703 | NP Inter (normality) 1 of 2 |
| Chloride (mg/L) | HGWC-18 | 20.3 | n/a | 4/5/2019 | 217 | Yes | 72 | 0 | n/a | 0.0003703 | NP Inter (normality) 1 of 2 |
| Fluoride (mg/L) | HGWC-14 | 0.36 | n/a | 4/5/2019 | 0.66 | Yes | 84 | 27.38 | n/a | 0.0002746 | NP Inter (normality) 1 of 2 |
| Fluoride (mg/L) | HGWC-15 | 0.36 | n/a | 4/4/2019 | 0.066 | No | 84 | 27.38 | n/a | 0.0002746 | NP Inter (normality) 1 of 2 |
| Fluoride (mg/L) | HGWC-16 | 0.36 | n/a | 4/4/2019 | 0.3ND | No | 84 | 27.38 | n/a | 0.0002746 | NP Inter (normality) 1 of 2 |
| Fluoride (mg/L) | HGWC-17 | 0.36 | n/a | 4/5/2019 | 0.16 | No | 84 | 27.38 | n/a | 0.0002746 | NP Inter (normality) 1 of 2 |
| Fluoride (mg/L) | HGWC-18 | 0.36 | n/a | 4/5/2019 | 0.37 | Yes | 84 | 27.38 | n/a | 0.0002746 | NP Inter (normality) 1 of 2 |
| pH (s.u.) | HGWC-14 | 7.658 | 4.527 | 4/5/2019 | 4.67 | No | 84 | 0 | x^6 | 0.000752 | Param Inter 1 of 2 |
| pH (s.u.) | HGWC-15 | 7.658 | 4.527 | 4/4/2019 | 5.66 | No | 84 | 0 | x^6 | 0.000752 | Param Inter 1 of 2 |
| pH (s.u.) | HGWC-16 | 7.658 | 4.527 | 4/4/2019 | 6.95 | No | 84 | 0 | x^6 | 0.000752 | Param Inter 1 of 2 |
| pH (s.u.) | HGWC-17 | 7.658 | 4.527 | 4/5/2019 | 6.26 | No | 84 | 0 | x^6 | 0.000752 | Param Inter 1 of 2 |
| pH (s.u.) | HGWC-18 | 7.658 | 4.527 | 4/5/2019 | 4.5 | Yes | 84 | 0 | x^6 | 0.000752 | Param Inter 1 of 2 |
| Sulfate (mg/L) | HGWC-14 | 84.3 | n/a | 4/5/2019 | 1520 | Yes | 72 | 0 | n/a | 0.0003703 | NP Inter (normality) 1 of 2 |
| Sulfate (mg/L) | HGWC-15 | 84.3 | n/a | 4/4/2019 | 528 | Yes | 72 | 0 | n/a | 0.0003703 | NP Inter (normality) 1 of 2 |
| Sulfate (mg/L) | HGWC-16 | 84.3 | n/a | 4/4/2019 | 251 | Yes | 72 | 0 | n/a | 0.0003703 | NP Inter (normality) 1 of 2 |
| Sulfate (mg/L) | HGWC-17 | 84.3 | n/a | 4/5/2019 | 642 | Yes | 72 | 0 | n/a | 0.0003703 | NP Inter (normality) 1 of 2 |
| Sulfate (mg/L) | HGWC-18 | 84.3 | n/a | 4/5/2019 | 1030 | Yes | 72 | 0 | n/a | 0.0003703 | NP Inter (normality) 1 of 2 |
| Total Dissolved Solids (mg/L) | HGWC-14 | 415.5 | n/a | 4/5/2019 | 2310 | Yes | 72 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Total Dissolved Solids (mg/L) | HGWC-15 | 415.5 | n/a | 4/4/2019 | 926 | Yes | 72 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Total Dissolved Solids (mg/L) | HGWC-16 | 415.5 | n/a | 4/4/2019 | 704 | Yes | 72 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Total Dissolved Solids (mg/L) | HGWC-17 | 415.5 | n/a | 4/5/2019 | 1260 | Yes | 72 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Total Dissolved Solids (mg/L) | HGWC-18 | 415.5 | n/a | 4/5/2019 | 1610 | Yes | 72 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |



HGWC-16, HGWC-17, HGWC-18

Prediction Limit

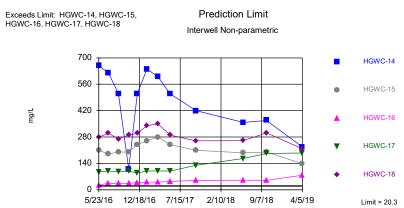


Background Data Summary (based on natural log transformation): Mean=-4.171, Std. Dev.=0.5798, n=72, 8.333% NDs. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.97, critical = 0.954. Kappa = 1.826 (c=7, w=5, of 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001504. Comparing 5 points to limit.

Constituent: Boron Analysis Run 7/22/2019 2:19 AM

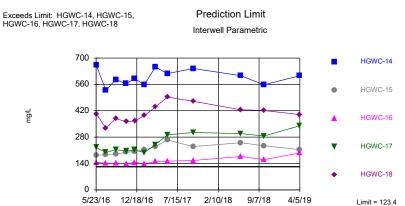
Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 72 background values. Annual per-constituent alpha = 0.003697. Individual comparison alpha = 0.003703 (1 of 2). Comparing 5 points to limit.

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG



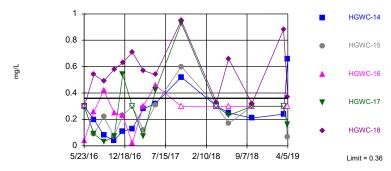
Background Data Summary (based on square root transformation): Mean=7.263, Std. Dev.=2.105, n=72. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9571, critical = 0.954. Kappa = 1.826 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001504. Comparing 5 points to limit.

Constituent: Calcium Analysis Run 7/22/2019 2:19 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG Hollow symbols indicate censored values.

Exceeds Limit: HGWC-14, HGWC-18 Prediction Limit
Interwell Non-parametric

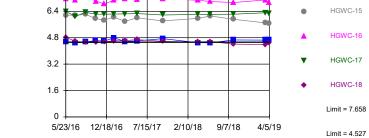


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 84 background values. 27.38% NDs. Annual perconstituent alpha = 0.002742. Individual comparison alpha = 0.0002746 (1 of 2). Comparing 5 points to limit.

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Prediction Limit Exceeds Limits: HGWC-18 Interwell Parametric

> HGWC-14 HGWC-15 HGWC-16



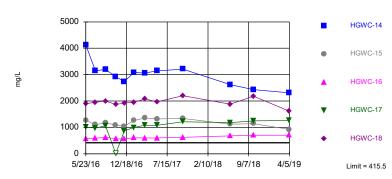
Background Data Summary (based on x^6 transformation): Mean=105137, Std. Dev.=53213, n=84. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9624, critical = 0.96. Kappa = 1.814 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.000752. Comparing 5 points to limit.

> Constituent: pH Analysis Run 7/22/2019 2:19 AM Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG Hollow symbols indicate censored values.

Exceeds Limit: HGWC-14, HGWC-15, HGWC-16, HGWC-17, HGWC-18

Prediction Limit Interwell Parametric



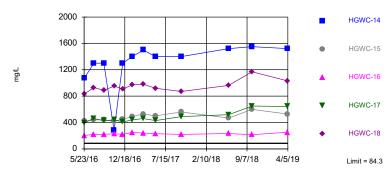
Background Data Summary (based on square root transformation): Mean=14.88, Std. Dev.=3.014, n=72. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9666, critical = 0.954. Kappa = 1.826 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001504. Comparing 5 points to limit.

> Constituent: Total Dissolved Solids Analysis Run 7/22/2019 2:19 AM Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

Exceeds Limit: HGWC-14, HGWC-15, HGWC-16, HGWC-17, HGWC-18

Prediction Limit Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 72 background values. Annual per-constituent alpha = 0.003697. Individual comparison alpha = 0.0003703 (1 of 2). Comparing 5 points to limit.

Constituent: Sulfate Analysis Run 7/22/2019 2:19 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

Trend Test (AM 01) - Significant Results

| | Plant Ham | mond Client: Ge | eorgia Power Co | ompany Data: | Hammon | d AP-2 | Printed 7/24/ | 2019, 10:31 AM | | | |
|-------------------------------|-------------|-----------------|-----------------|--------------|--------|----------|---------------|----------------|--------------|--------------|--------|
| Constituent | <u>Well</u> | Slope | Calc. | Critical | Sig. | <u>N</u> | %NDs | Normality | <u>Xform</u> | <u>Alpha</u> | Method |
| Boron (mg/L) | HGWC-15 | 0.1736 | 32 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Boron (mg/L) | HGWC-16 | 0.2133 | 32 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Calcium (mg/L) | HGWA-3 (bg) | 3.671 | 32 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Calcium (mg/L) | HGWC-15 | 31.18 | 48 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Calcium (mg/L) | HGWC-16 | 13.83 | 43 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Calcium (mg/L) | HGWC-17 | 49.2 | 36 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Chloride (mg/L) | HGWA-4 (bg) | -0.1811 | -31 | -30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Chloride (mg/L) | HGWC-14 | -125.1 | -35 | -30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Chloride (mg/L) | HGWC-16 | 13.43 | 60 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Chloride (mg/L) | HGWC-17 | 35.07 | 46 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Sulfate (mg/L) | HGWA-2 (bg) | 1.418 | 34 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Sulfate (mg/L) | HGWA-3 (bg) | 2.946 | 48 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Sulfate (mg/L) | HGWA-6 (bg) | 1.632 | 39 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Sulfate (mg/L) | HGWC-14 | 120.5 | 47 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Sulfate (mg/L) | HGWC-15 | 67.29 | 43 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Sulfate (mg/L) | HGWC-17 | 67.11 | 41 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Sulfate (mg/L) | HGWC-18 | 64.07 | 32 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Total Dissolved Solids (mg/L) | HGWC-14 | -324 | -33 | -30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Total Dissolved Solids (mg/L) | HGWC-16 | 51.55 | 40 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Total Dissolved Solids (mg/L) | HGWC-17 | 114.8 | 45 | 30 | Yes | 12 | 8.333 | n/a | n/a | 0.05 | NP |

Trend Test (AM 01) - All Results

| Description Month | | Plant Har | nmond Client: G | Georgia Power (| Company | Data: Hammon | d AP-2 | Printed 7/24 | l/2019, 10:31 Al | Л | | |
|--|-----------------|-------------|-----------------|-----------------|----------|--------------|----------|--------------|------------------|--------------|--------------|--------|
| Booms (might) HGWA-1 (bg) 0.0005149 .8 .80 | Constituent | <u>Well</u> | Slope | Calc. | Critical | Sig. | <u>N</u> | %NDs | Normality | <u>Xform</u> | <u>Alpha</u> | Method |
| Bosses (mysl.) HoWA-6 (log) 0.001200 -10 0.00 No 12 16.70 ris ris 0.05 No No 12 16.70 ris ris 0.05 No No 12 16.70 ris ris 0.05 No No No 12 16.70 ris ris 0.05 No No No No 12 16.70 ris ris 0.05 No No No No 12 16.70 ris ris 0.05 No No No No 12 16.70 ris ris 0.05 No No No No 12 16.70 ris ris 0.05 No No No No 12 16.70 ris ris 0.05 No No No No No 12 16.70 ris ris 0.05 No No No No No 12 16.70 ris ris 0.05 No No No No No No No N | Boron (mg/L) | HGWA-1 (bg) | -0.0006149 | | -30 | | | 0 | n/a | n/a | | NP |
| | Boron (mg/L) | HGWA-2 (bg) | 0.001596 | 26 | 30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Botton (mpsk) HOWA-4 (bg) HOWA-5 (bg) | Boron (mg/L) | HGWA-3 (bg) | -0.001203 | -16 | -30 | No | 12 | 16.67 | n/a | n/a | 0.05 | NP |
| Boom (mglub) HOWA-Si (bg) HOWA-Si (bg) HOWS (bg) HOW (b | | | -0.003129 | -28 | -30 | No | 12 | 8.333 | n/a | n/a | 0.05 | NP |
| Borner (mg/L) | | | -0.0009715 | -16 | -30 | No | 12 | 16.67 | n/a | n/a | 0.05 | NP |
| Borno mgmL HGWC-15 | Boron (mg/L) | HGWA-6 (bg) | -0.001836 | -27 | -30 | No | 12 | 8.333 | n/a | n/a | 0.05 | NP |
| | Boron (mg/L) | HGWC-14 | 1.312 | 14 | 30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Bonn (mght) HowC-18 | Boron (mg/L) | HGWC-15 | 0.1736 | 32 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Demming(L) HGWA-1 (bg) HGWA-2 (bg) H | Boron (mg/L) | HGWC-16 | 0.2133 | 32 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Calcium (mgl.) HGWA-2 (bg) 6.687 28 30 No 12 0 n/a n/a 0.05 NP | Boron (mg/L) | HGWC-17 | 0.1521 | 16 | 30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Calcium (mgl.) MGW-2 (bg) -1.26 -10 -30 No 12 0 No No 10 0.05 NP | Boron (mg/L) | HGWC-18 | -0.5126 | -12 | -30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Calcium (mg/L) HGWA-3 (bg) 4.571 32 30 Yes 12 0 n/a n/a 0.05 NP Calcium (mg/L) HGWA-4 (bg) -5.012 -1.0 -3.0 No 12 0 n/a n/a 0.05 NP Calcium (mg/L) HGWA-6 (bg) -4.032 -1.8 -3.0 No 12 0 n/a n/a 0.05 NP Calcium (mg/L) HGWA-6 (bg) -4.03267 0 30 No 12 0 n/a n/a 0.05 NP Calcium (mg/L) HGWA-6 (bg) -4.03267 0 30 No 12 0 n/a n/a 0.05 NP Calcium (mg/L) HGWC-14 7.298 4 30 NF 12 0 n/a n/a 0.05 NP Calcium (mg/L) HGWC-15 13.83 43 30 Yes 12 0 n/a n/a 0.05 NP Calcium (mg/L) HGWC-14 13.83 43 30 Yes 12 0 n/a n/a 0.05 NP Calcium (mg/L) HGWC-14 9.2 36 30 Yes 12 0 n/a n/a 0.05 NP Calcium (mg/L) HGWC-14 9.0 3.0 30 NF 12 0 n/a n/a 0.05 NP Calcium (mg/L) HGWA-1 (bg) -0.1046 -1 -30 NF 12 0 n/a n/a 0.05 NP Chloride (mg/L) HGWA-2 (bg) 0 -4 -30 NF 12 0 n/a n/a 0.05 NP Chloride (mg/L) HGWA-2 (bg) 0 -4 -30 NF 12 0 n/a n/a 0.05 NP Chloride (mg/L) HGWA-3 (bg) 0.09075 17 30 NF 12 0 n/a n/a 0.05 NP Chloride (mg/L) HGWA-3 (bg) 0.09075 17 30 NF 12 0 n/a n/a 0.05 NP Chloride (mg/L) HGWA-3 (bg) 0.02075 17 30 NF 12 0 n/a n/a 0.05 NP Chloride (mg/L) HGWA-4 (bg) 0.02274 33 -30 NF 12 0 n/a n/a 0.05 NP Chloride (mg/L) HGWA-4 (bg) 0.02274 33 -30 NF 12 0 n/a n/a 0.05 NP Chloride (mg/L) HGWA-16 1.343 -30 NF 12 0 n/a n/a 0.05 NP Chloride (mg/L) HGWA-16 0.0214 13 37 NF 12 0 n/a n/a 0.05 NP Chloride (mg/L) HGWA-16 0.0214 37 NF 12 0 n/a n/a 0.05 NP Flucide (mg/L) HGWA-16 0.00213 11 37 NF 14 14 14 14 14 14 14 1 | Calcium (mg/L) | HGWA-1 (bg) | 6.667 | 28 | 30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Calcium (mg/L) | Calcium (mg/L) | HGWA-2 (bg) | -1.26 | -10 | -30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Calcium (mg/L) | Calcium (mg/L) | HGWA-3 (bg) | 3.671 | 32 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Calcium (rngL) | | HGWA-4 (bg) | -5.012 | -10 | -30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Calcium (mg/L) | Calcium (mg/L) | HGWA-5 (bg) | -1.812 | -18 | -30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Calcium (mg/L) | Calcium (mg/L) | HGWA-6 (bg) | -0.03657 | 0 | 30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Calcium (mg/L) HGWC-16 13.83 43 30 Ves 12 0 n/a n/a 0.05 NP | Calcium (mg/L) | HGWC-14 | 7.298 | 4 | 30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Calcium (mg/L) | Calcium (mg/L) | HGWC-15 | 31.18 | 48 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Calcium (mg/L) | Calcium (mg/L) | HGWC-16 | 13.83 | 43 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Chloride (mg/L) | | HGWC-17 | 49.2 | 36 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Chloride (mg/L) HGWA-2 (bg) 0 | Calcium (mg/L) | HGWC-18 | 30.33 | 24 | 30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Chloride (mg/L) HGWA-3 (bg) 0.09075 17 30 No 12 0 n/a n/a 0.05 NP | Chloride (mg/L) | HGWA-1 (bg) | -0.1046 | -1 | -30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Chloride (mg/L) HGWA-4 (bg) 0.1811 31 30 Yes 12 0 n/a n/a 0.05 NP | Chloride (mg/L) | HGWA-2 (bg) | 0 | -4 | -30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Chloride (mg/L) HGWA-4 (bg) 0.1811 31 30 Yes 12 0 n/a n/a 0.05 NP | Chloride (mg/L) | HGWA-3 (bg) | 0.09075 | 17 | 30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Chloride (mg/L) HGWA-6 (bg) 0 -2 -30 No 12 0 n/a n/a 0.05 NP | | HGWA-4 (bg) | -0.1811 | -31 | -30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Chloride (mg/L) HGWC-14 -125.1 -35 -30 Yes 12 0 n/a n/a 0.05 NP | Chloride (mg/L) | HGWA-5 (bg) | 0 | -2 | -30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Chloride (mg/L) HGWC-15 -2.373 -6 -30 No 12 0 n/a n/a 0.05 NP Chloride (mg/L) HGWC-16 13.43 60 30 Yes 12 0 n/a n/a 0.05 NP Chloride (mg/L) HGWC-17 35.07 46 30 Yes 12 0 n/a n/a 0.05 NP Chloride (mg/L) HGWC-18 -10.43 -8 -30 No 12 0 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-1 (bg) 0.02724 19 37 No 14 14.29 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-2 (bg) 0 14 37 No 14 50 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-3 (bg) 0.01182 10 37 No 14 21.43 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-4 (bg) 0.021 25 37 No 14 22.43 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-5 (bg) 0.0021 25 37 No 14 42.66 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-6 (bg) 0.00213 11 37 No 14 14.29 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-6 (bg) 0.00287 9 37 No 14 42.86 n/a n/a 0.05 NP Fluoride (mg/L) HGWC-14 0.08752 30 37 No 14 14.29 n/a n/a 0.05 NP Fluoride (mg/L) HGWC-14 0.08752 30 37 No 14 14.29 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-1 (bg) 8.918 25 30 No 14 14.29 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-1 (bg) 8.918 25 30 No 14 7.143 n/a n/a n/a 0.05 NP Sulfate (mg/L) HGWA-2 (bg) 1.418 34 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-4 (bg) -0.07193 -13 -30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-5 (bg) -0.06972 -5 -30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) -0.06972 -5 -30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) -0.06972 -5 -30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) -0.06972 -5 -30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) -0.06972 -5 -30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) -0.06972 -5 -30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) -0.06972 -5 -30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) -0.06972 -5 -30 No 12 0 n/a n/a n/a 0.05 NP Sulfate (mg/L) HGWC-14 120.5 47 30 Yes 12 0 n/a n/a 0.05 NP | Chloride (mg/L) | HGWA-6 (bg) | 0 | -2 | -30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Chloride (mg/L) HGWC-16 HGWC-17 35.07 46 30 Yes 12 0 n/a n/a 0.05 NP Chloride (mg/L) HGWC-18 HGWC-18 -10.43 -8 -30 No 12 0 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-1 (bg) 0.02724 19 37 No 14 14.29 n/a 10 14 37 No 14 50 n/a 10 10 10 10 10 10 10 10 10 10 10 10 10 | Chloride (mg/L) | HGWC-14 | -125.1 | -35 | -30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Chloride (mg/L) HGWC-17 35.07 46 30 Yes 12 0 n/a n/a 0.05 NP Chloride (mg/L) HGWC-18 -10.43 -8 -30 No 12 0 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-1 (bg) 0.02724 19 37 No 14 14.29 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-2 (bg) 0 14 37 No 14 50 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-3 (bg) 0.01182 10 37 No 14 21.43 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-3 (bg) 0.021 25 37 No 14 22.43 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-5 (bg) 0.0221 15 37 No 14 22.86 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-5 (bg) 0.002013 11 37 No 14 22.86 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-5 (bg) 0.00287 9 37 No 14 14.29 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-6 (bg) 0.00287 9 37 No 14 14.29 n/a n/a n/a 0.05 NP Fluoride (mg/L) HGWC-14 0.08752 30 37 No 14 14.29 n/a n/a n/a 0.05 NP Fluoride (mg/L) HGWA-1 (bg) 8.918 25 30 No 14 14.29 n/a n/a n/a 0.05 NP Fluoride (mg/L) HGWA-1 (bg) 8.918 25 30 No 12 0 n/a n/a n/a 0.05 NP Sulfate (mg/L) HGWA-2 (bg) 1.418 34 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-2 (bg) 1.418 34 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-3 (bg) 2.946 48 30 Yes 12 0 n/a n/a n/a 0.05 NP Sulfate (mg/L) HGWA-5 (bg) -0.09872 -5 -30 No 12 0 n/a n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a n/a 0.05 NP NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a n/a 0.05 NP NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a n/a 0.05 NP NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a n/a 0.05 NP NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a n/a 0.05 NP NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a n/a 0.05 NP NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a n/a 0 | Chloride (mg/L) | HGWC-15 | -2.373 | -6 | -30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Chloride (mg/L) Fluoride (mg/L) Fluoride (mg/L) Fluoride (mg/L) Fluoride (mg/L) HGWA-1 (bg) 0.02724 19 37 No 14 14.29 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-2 (bg) 0 14 37 No 14 50 n/a 14 0.05 NP Fluoride (mg/L) Fluoride (mg/L) Fluoride (mg/L) Fluoride (mg/L) HGWA-3 (bg) 0.01182 10 37 No 14 21.43 n/a n/a 0.05 NP Fluoride (mg/L) Fluoride (mg/L) HGWA-4 (bg) 0.021 25 37 No 14 22.43 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-5 (bg) 0.002013 11 37 No 14 42.86 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-6 (bg) 0.00287 9 37 No 14 42.143 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-6 (bg) 0.00287 9 37 No 14 21.43 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-6 (bg) 0.00287 9 37 No 14 41.29 n/a n/a 0.05 NP Fluoride (mg/L) HGWC-14 0.08752 30 37 No 14 41.29 n/a n/a 0.05 NP Fluoride (mg/L) HGWC-14 0.08752 30 37 No 14 7.143 n/a n/a 0.05 NP Fluoride (mg/L) HGWC-14 0.08752 30 37 No 14 7.143 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-1 (bg) 1.418 34 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-4 (bg) 0.7193 1-3 30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a 0.05 NP | Chloride (mg/L) | HGWC-16 | 13.43 | 60 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Fluoride (mg/L) HGWA-2 (bg) 0 0 14 37 No 14 14.29 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-2 (bg) 0 0 14 37 No 14 50 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-3 (bg) 0.01182 10 37 No 14 21.43 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-4 (bg) 0.021 25 37 No 14 42.86 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-5 (bg) 0.002013 11 37 No 14 14.29 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-6 (bg) 0.002013 11 37 No 14 14.29 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-6 (bg) 0.00287 9 37 No 14 21.43 n/a n/a 0.05 NP Fluoride (mg/L) HGWC-14 0.08752 30 37 No 14 21.43 n/a n/a 0.05 NP Fluoride (mg/L) HGWC-18 0.04311 12 37 No 14 14.29 n/a n/a n/a 0.05 NP Fluoride (mg/L) HGWA-1 (bg) 8.918 25 30 No 14 14.29 n/a n/a n/a 0.05 NP Sulfate (mg/L) HGWA-2 (bg) 1.418 34 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-4 (bg) -0.05 NP Sulfate (mg/L) HGWA-5 (bg) -0.06972 -5 -30 No 12 0 n/a n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a n/a 0.05 NP Sulfate (mg/L) HGWC-14 120.5 47 30 Yes 12 0 n/a n/a n/a 0.05 NP | Chloride (mg/L) | HGWC-17 | 35.07 | 46 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Fluoride (mg/L) | Chloride (mg/L) | HGWC-18 | -10.43 | -8 | -30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Fluoride (mg/L) Fluoride (mg/L | Fluoride (mg/L) | HGWA-1 (bg) | 0.02724 | 19 | 37 | No | 14 | 14.29 | n/a | n/a | 0.05 | NP |
| Fluoride (mg/L) HGWA-4 (bg) 0.021 25 37 No 14 42.86 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-5 (bg) 0.002013 11 37 No 14 14.29 n/a n/a 0.05 NP Fluoride (mg/L) HGWA-6 (bg) 0.00287 9 37 No 14 21.43 n/a n/a 0.05 NP Fluoride (mg/L) HGWC-14 0.08752 30 37 No 14 14.29 n/a n/a 0.05 NP Fluoride (mg/L) HGWC-18 0.04311 12 37 No 14 7.143 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-1 (bg) 8.918 25 30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-2 (bg) 1.418 34 30 Yes 12 0 n/a n/a 0.05 NP | Fluoride (mg/L) | HGWA-2 (bg) | 0 | 14 | 37 | No | 14 | 50 | n/a | n/a | 0.05 | NP |
| Fluoride (mg/L) HGWA-5 (bg) 0.002013 11 37 No 14 14.29 n/a n/a 0.05 NP | Fluoride (mg/L) | HGWA-3 (bg) | 0.01182 | 10 | 37 | No | 14 | 21.43 | n/a | n/a | 0.05 | NP |
| Fluoride (mg/L) HGWA-6 (bg) 0.00287 9 37 No 14 21.43 n/a n/a 0.05 NP Fluoride (mg/L) HGWC-14 0.08752 30 37 No 14 14.29 n/a n/a 0.05 NP Fluoride (mg/L) HGWC-18 0.04311 12 37 No 14 7.143 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-1 (bg) 8.918 25 30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-2 (bg) 1.418 34 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-3 (bg) 2.946 48 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-4 (bg) -0.7193 -13 -30 No 12 0 n/a n/a 0.05 NP Sul | Fluoride (mg/L) | HGWA-4 (bg) | 0.021 | 25 | 37 | No | 14 | 42.86 | n/a | n/a | 0.05 | NP |
| Fluoride (mg/L) HGWC-14 0.08752 30 37 No 14 14.29 n/a n/a 0.05 NP Fluoride (mg/L) HGWC-18 0.04311 12 37 No 14 7.143 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-1 (bg) 8.918 25 30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-2 (bg) 1.418 34 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-3 (bg) 2.946 48 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-4 (bg) -0.7193 -13 -30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-5 (bg) -0.06972 -5 -30 No 12 0 n/a n/a 0.05 NP Sulfa | Fluoride (mg/L) | HGWA-5 (bg) | 0.002013 | 11 | 37 | No | 14 | 14.29 | n/a | n/a | 0.05 | NP |
| Fluoride (mg/L) HGWC-18 0.04311 12 37 No 14 7.143 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-1 (bg) 8.918 25 30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-2 (bg) 1.418 34 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-3 (bg) 2.946 48 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-4 (bg) -0.7193 -13 -30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-5 (bg) -0.06972 -5 -30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a 0.05 NP Sulfate | Fluoride (mg/L) | HGWA-6 (bg) | 0.00287 | 9 | 37 | No | 14 | 21.43 | n/a | n/a | 0.05 | NP |
| Sulfate (mg/L) HGWA-1 (bg) 8.918 25 30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-2 (bg) 1.418 34 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-3 (bg) 2.946 48 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-4 (bg) -0.7193 -13 -30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-5 (bg) -0.06972 -5 -30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWC-14 120.5 47 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L | Fluoride (mg/L) | HGWC-14 | 0.08752 | 30 | 37 | No | 14 | 14.29 | n/a | n/a | 0.05 | NP |
| Sulfate (mg/L) HGWA-2 (bg) 1.418 34 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-3 (bg) 2.946 48 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-4 (bg) -0.7193 -13 -30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-5 (bg) -0.06972 -5 -30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWC-14 120.5 47 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWC-15 67.29 43 30 Yes 12 0 n/a n/a 0.05 NP | Fluoride (mg/L) | HGWC-18 | 0.04311 | 12 | 37 | No | 14 | 7.143 | n/a | n/a | 0.05 | NP |
| Sulfate (mg/L) HGWA-3 (bg) 2.946 48 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-4 (bg) -0.7193 -13 -30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-5 (bg) -0.06972 -5 -30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWC-14 120.5 47 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWC-15 67.29 43 30 Yes 12 0 n/a n/a 0.05 NP | Sulfate (mg/L) | HGWA-1 (bg) | 8.918 | 25 | 30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Sulfate (mg/L) HGWA-4 (bg) -0.7193 -13 -30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-5 (bg) -0.06972 -5 -30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWC-14 120.5 47 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWC-15 67.29 43 30 Yes 12 0 n/a n/a 0.05 NP | Sulfate (mg/L) | HGWA-2 (bg) | 1.418 | | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Sulfate (mg/L) HGWA-5 (bg) -0.06972 -5 -30 No 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWC-14 120.5 47 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWC-15 67.29 43 30 Yes 12 0 n/a n/a 0.05 NP | Sulfate (mg/L) | HGWA-3 (bg) | 2.946 | 48 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWC-14 120.5 47 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWC-15 67.29 43 30 Yes 12 0 n/a n/a 0.05 NP | Sulfate (mg/L) | HGWA-4 (bg) | -0.7193 | -13 | -30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Sulfate (mg/L) HGWA-6 (bg) 1.632 39 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWC-14 120.5 47 30 Yes 12 0 n/a n/a 0.05 NP Sulfate (mg/L) HGWC-15 67.29 43 30 Yes 12 0 n/a n/a 0.05 NP | Sulfate (mg/L) | HGWA-5 (bg) | -0.06972 | -5 | -30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Sulfate (mg/L) HGWC-15 67.29 43 30 Yes 12 0 n/a n/a 0.05 NP | Sulfate (mg/L) | HGWA-6 (bg) | 1.632 | 39 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| | Sulfate (mg/L) | HGWC-14 | 120.5 | 47 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| | Sulfate (mg/L) | HGWC-15 | 67.29 | 43 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| | Sulfate (mg/L) | HGWC-16 | 7.991 | 21 | 30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |

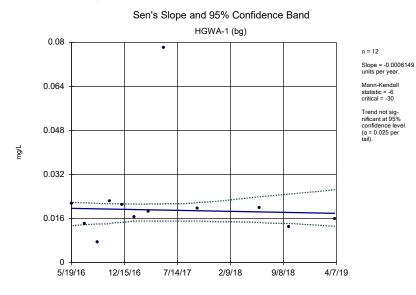
Trend Test (AM 01) - All Results

| | Plant Har | nmond Client: G | Client: Georgia Power Company | | Data: Hammond AP-2 | | Printed 7/24 | 1/2019, 10:31 AM | Л | | |
|-------------------------------|-------------|-----------------|-------------------------------|-----------------|--------------------|----------|--------------|------------------|--------------|--------------|--------|
| Constituent | Well | <u>Slope</u> | Calc. | <u>Critical</u> | Sig. | <u>N</u> | %NDs | Normality | <u>Xform</u> | <u>Alpha</u> | Method |
| Sulfate (mg/L) | HGWC-17 | 67.11 | 41 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Sulfate (mg/L) | HGWC-18 | 64.07 | 32 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Total Dissolved Solids (mg/L) | HGWA-1 (bg) | 6.354 | 4 | 30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Total Dissolved Solids (mg/L) | HGWA-2 (bg) | -5.334 | -14 | -30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Total Dissolved Solids (mg/L) | HGWA-3 (bg) | 7.889 | 11 | 30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Total Dissolved Solids (mg/L) | HGWA-4 (bg) | -20.46 | -12 | -30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Total Dissolved Solids (mg/L) | HGWA-5 (bg) | -3.047 | -7 | -30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Total Dissolved Solids (mg/L) | HGWA-6 (bg) | 4.34 | 22 | 30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Total Dissolved Solids (mg/L) | HGWC-14 | -324 | -33 | -30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Total Dissolved Solids (mg/L) | HGWC-15 | -26.61 | -4 | -30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |
| Total Dissolved Solids (mg/L) | HGWC-16 | 51.55 | 40 | 30 | Yes | 12 | 0 | n/a | n/a | 0.05 | NP |
| Total Dissolved Solids (mg/L) | HGWC-17 | 114.8 | 45 | 30 | Yes | 12 | 8.333 | n/a | n/a | 0.05 | NP |
| Total Dissolved Solids (mg/L) | HGWC-18 | 63.32 | 9 | 30 | No | 12 | 0 | n/a | n/a | 0.05 | NP |

0.06

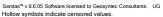
0.048

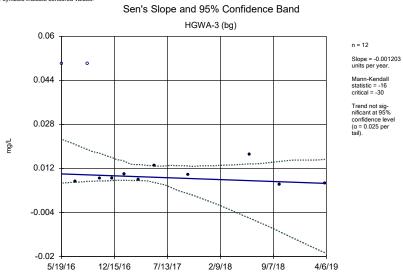
mg/L



Constituent: Boron Analysis Run 7/24/2019 10:29 AM

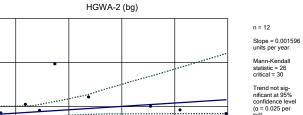
Plant Hammond Client: Georgia Power Company Data: Hammond AP-2



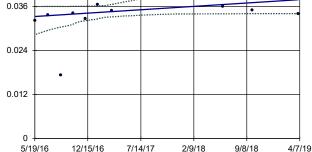


Constituent: Boron Analysis Run 7/24/2019 10:29 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2



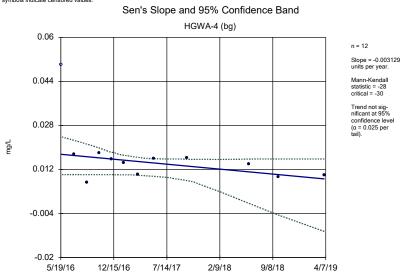
Sen's Slope and 95% Confidence Band



Constituent: Boron Analysis Run 7/24/2019 10:29 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

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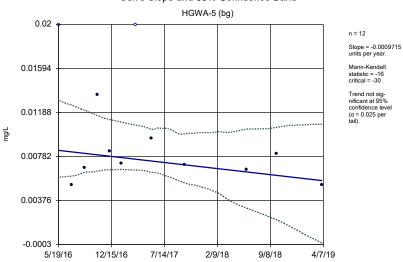
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Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

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Hollow symbols indicate censored values.

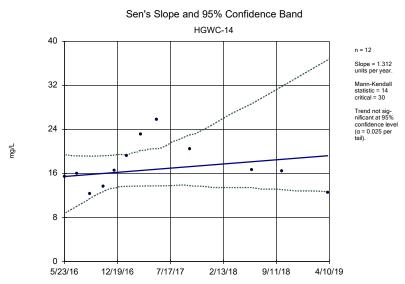




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Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

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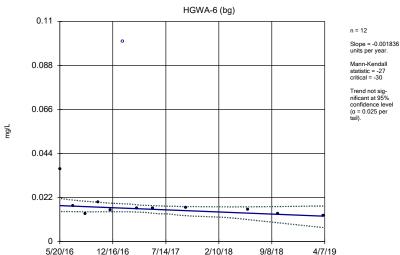


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Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

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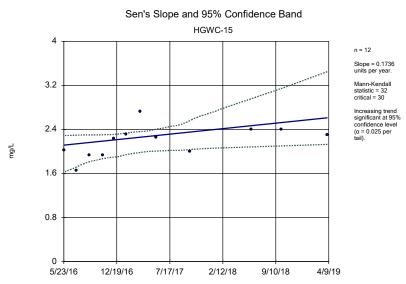
Sen's Slope and 95% Confidence Band



Constituent: Boron Analysis Run 7/24/2019 10:29 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

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Constituent: Boron Analysis Run 7/24/2019 10:29 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

Sen's Slope and 95% Confidence Band HGWC-16 n = 12 Slope = 0.2133 units per year. Mann-Kendall statistic = 32 critical = 30 Increasing trend significant at 95% confidence level (a = 0.025 per tail).

Constituent: Boron Analysis Run 7/24/2019 10:29 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

2/12/18

9/10/18

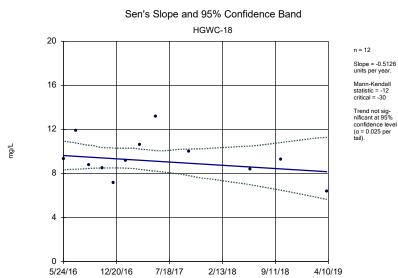
4/9/19

7/17/17

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5/23/16

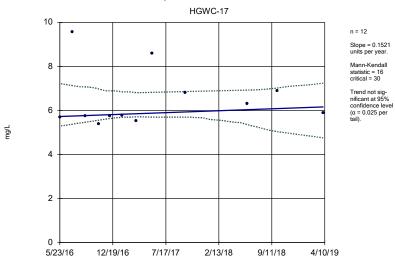
12/19/16



Constituent: Boron Analysis Run 7/24/2019 10:29 AM

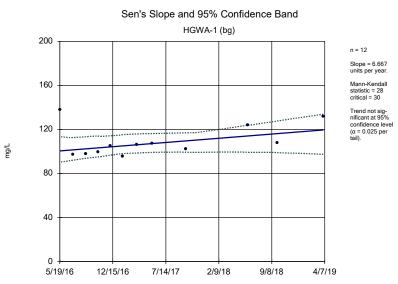
Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

Sen's Slope and 95% Confidence Band



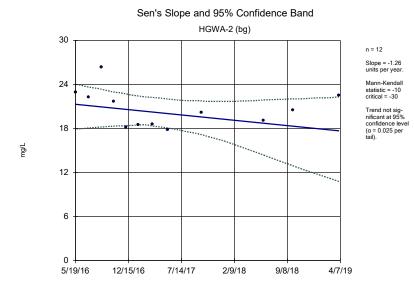
Constituent: Boron Analysis Run 7/24/2019 10:29 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2



Constituent: Calcium Analysis Run 7/24/2019 10:29 AM

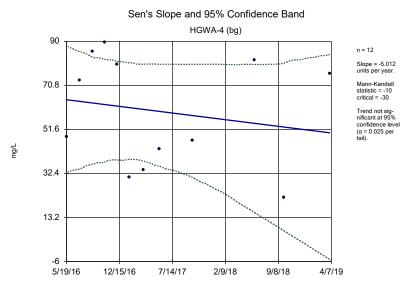
Plant Hammond Client: Georgia Power Company Data: Hammond AP-2



Constituent: Calcium Analysis Run 7/24/2019 10:29 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

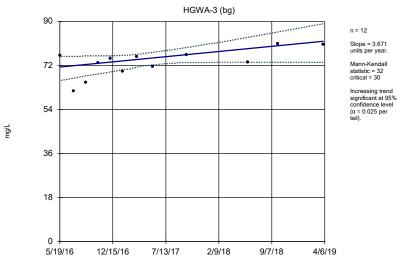
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Constituent: Calcium Analysis Run 7/24/2019 10:29 AM

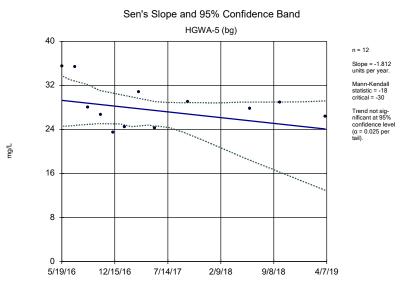
Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

Sen's Slope and 95% Confidence Band



Constituent: Calcium Analysis Run 7/24/2019 10:29 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

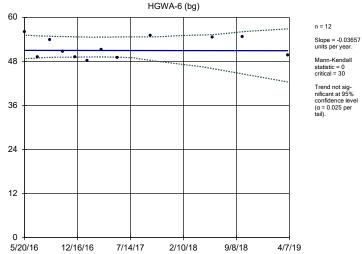


Constituent: Calcium Analysis Run 7/24/2019 10:29 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

mg/L

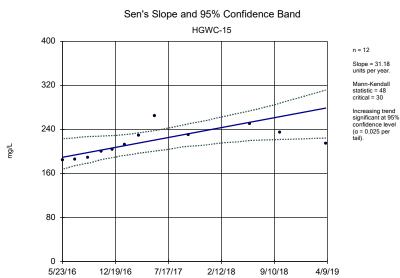
Sen's Slope and 95% Confidence Band HGWA-6 (bg)



Constituent: Calcium Analysis Run 7/24/2019 10:29 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

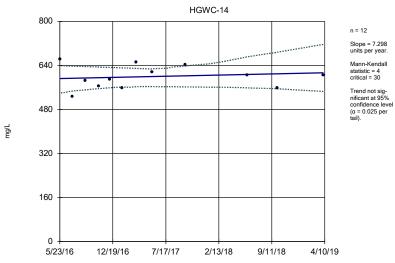
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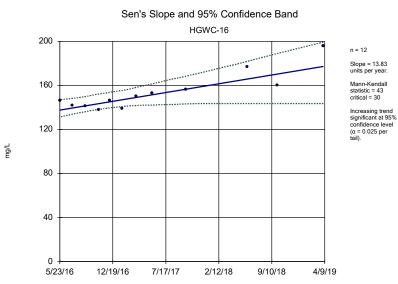
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Sen's Slope and 95% Confidence Band



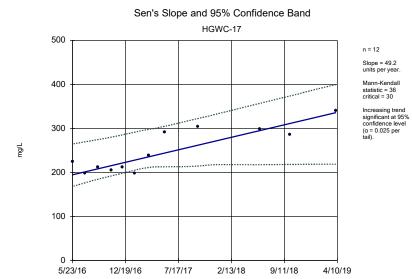
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Plant Hammond Client: Georgia Power Company Data: Hammond AP-2



Constituent: Calcium Analysis Run 7/24/2019 10:29 AM

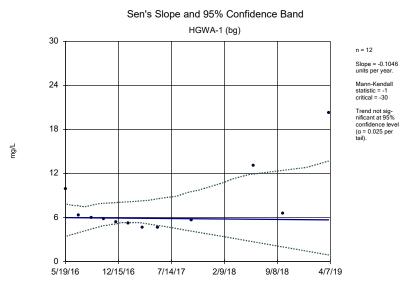
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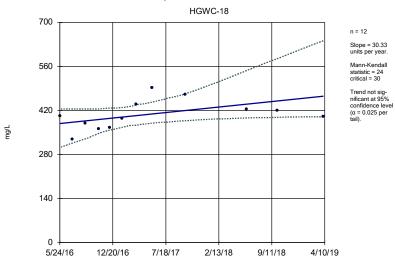
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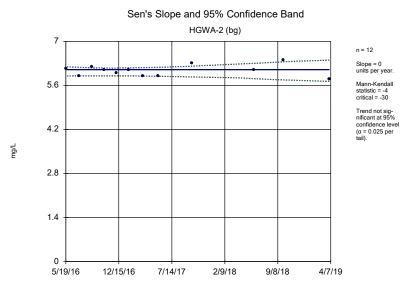
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Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

Sen's Slope and 95% Confidence Band



Constituent: Calcium Analysis Run 7/24/2019 10:29 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2



Constituent: Chloride Analysis Run 7/24/2019 10:29 AM

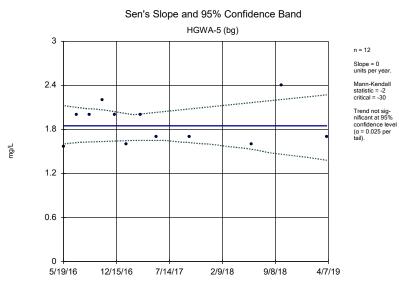
Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

mg/L

Sen's Slope and 95% Confidence Band HGWA-3 (bg) 9 Slope = 0.09075 units per year. 7.2 Mann-Kendal statistic = 17 critical = 30 Trend not sig-nificant at 95% confidence level 5.4 (α = 0.025 per tail). mg/L 3.6 1.8 5/19/16 12/15/16 7/13/17 2/9/18 9/7/18 4/6/19

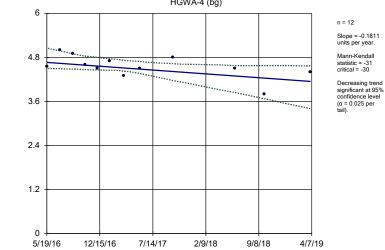
Constituent: Chloride Analysis Run 7/24/2019 10:29 AM Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

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Constituent: Chloride Analysis Run 7/24/2019 10:29 AM Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

Sen's Slope and 95% Confidence Band HGWA-4 (bg)



Constituent: Chloride Analysis Run 7/24/2019 10:29 AM Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

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Sen's Slope and 95% Confidence Band HGWA-6 (bg) n = 12 Slope = 0 units per year. Mann-Kendall 2.4 critical = -30 Trend not sig-nificant at 95% confidence level $(\alpha = 0.025 \text{ per})$ mg/L 1.2 0.6 5/20/16 12/16/16 7/14/17 2/10/18 9/8/18 4/7/19

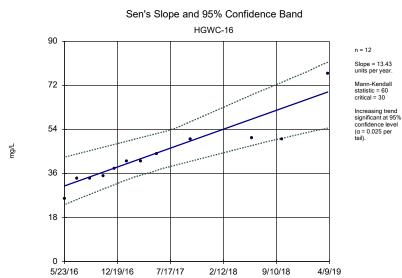
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Constituent: Chloride Analysis Run 7/24/2019 10:29 AM

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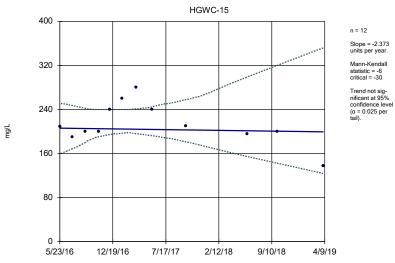
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Constituent: Chloride Analysis Run 7/24/2019 10:29 AM

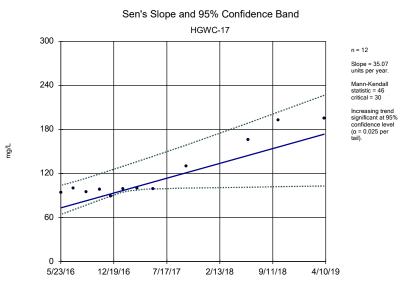
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Sen's Slope and 95% Confidence Band



Constituent: Chloride Analysis Run 7/24/2019 10:29 AM

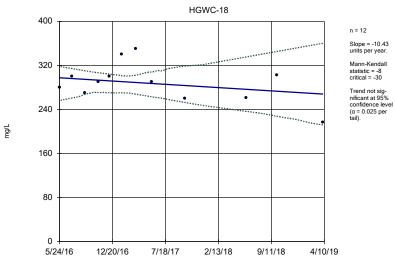
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Constituent: Chloride Analysis Run 7/24/2019 10:29 AM

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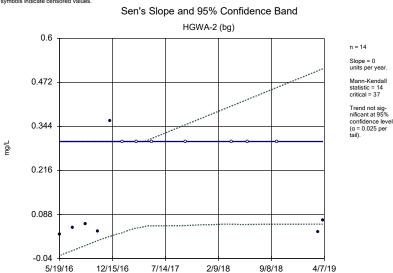
Sen's Slope and 95% Confidence Band



Constituent: Chloride Analysis Run 7/24/2019 10:29 AM Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

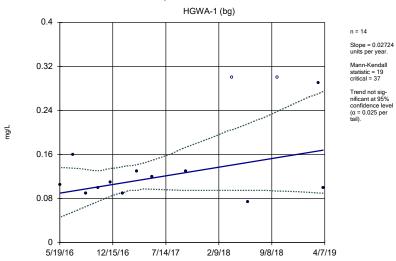
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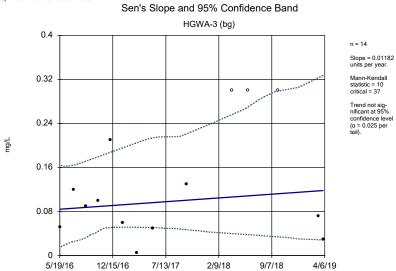
Constituent: Fluoride Analysis Run 7/24/2019 10:29 AM Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

Sen's Slope and 95% Confidence Band



Constituent: Fluoride Analysis Run 7/24/2019 10:29 AM Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

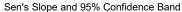
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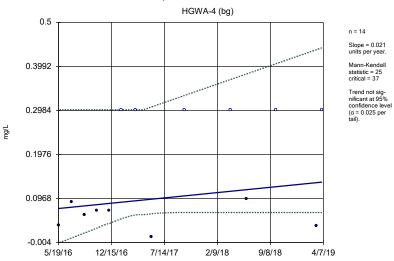


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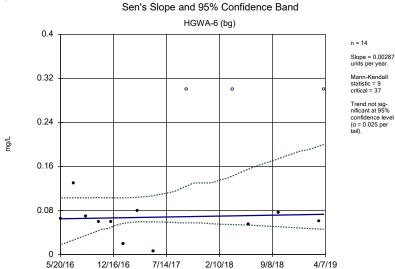




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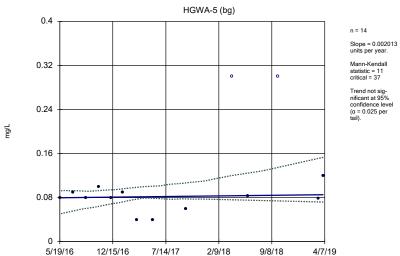
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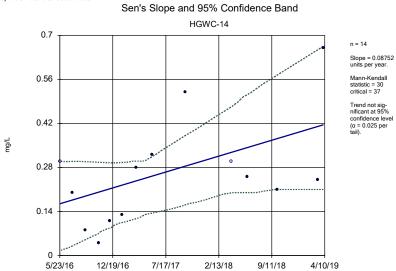
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Sen's Slope and 95% Confidence Band



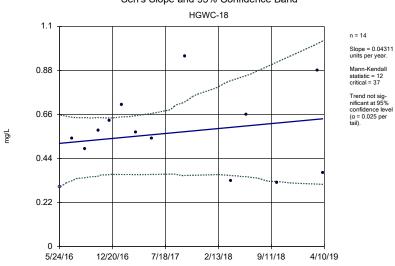
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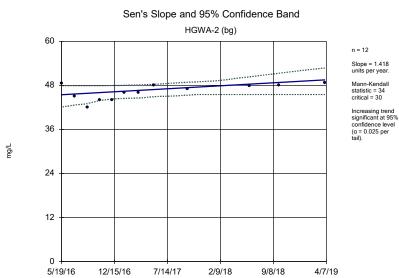


Constituent: Fluoride Analysis Run 7/24/2019 10:29 AM Plant Hammond Client: Georgia Power Company Data: Hammond AP-2



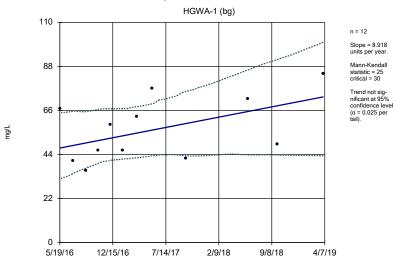


Constituent: Fluoride Analysis Run 7/24/2019 10:29 AM Plant Hammond Client: Georgia Power Company Data: Hammond AP-2



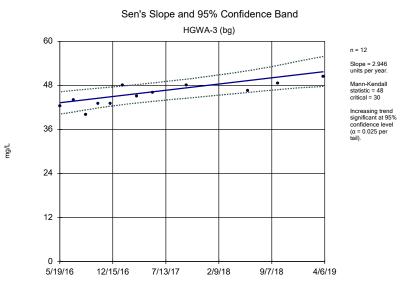
Constituent: Sulfate Analysis Run 7/24/2019 10:29 AM Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

Sen's Slope and 95% Confidence Band

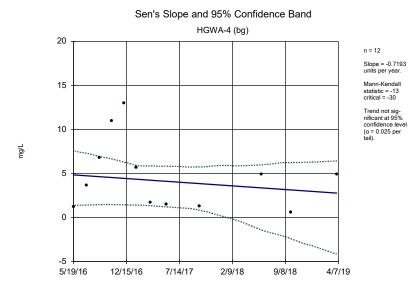


Constituent: Sulfate Analysis Run 7/24/2019 10:29 AM Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

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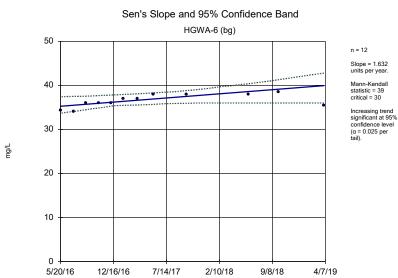


Constituent: Sulfate Analysis Run 7/24/2019 10:29 AM Plant Hammond Client: Georgia Power Company Data: Hammond AP-2



Constituent: Sulfate Analysis Run 7/24/2019 10:29 AM

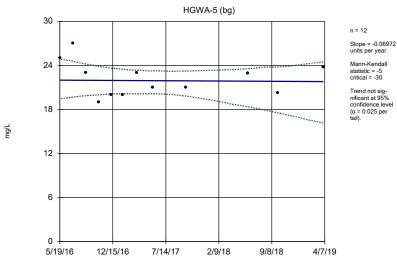
Plant Hammond Client: Georgia Power Company Data: Hammond AP-2



Constituent: Sulfate Analysis Run 7/24/2019 10:29 AM

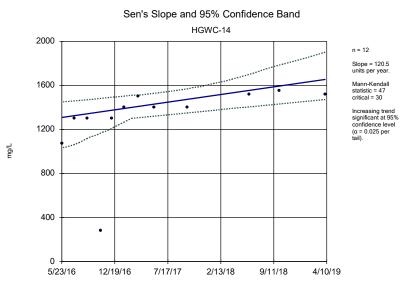
Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

Sen's Slope and 95% Confidence Band



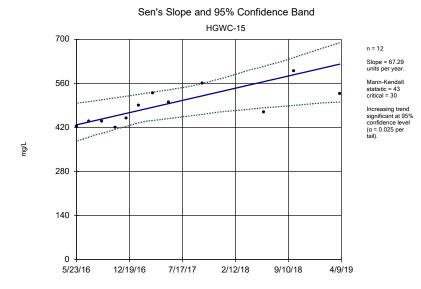
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Plant Hammond Client: Georgia Power Company Data: Hammond AP-2



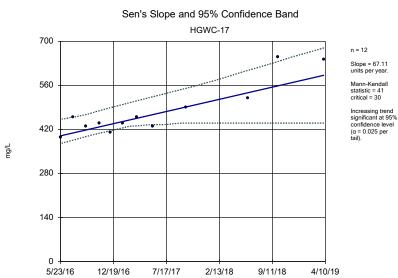
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Plant Hammond Client: Georgia Power Company Data: Hammond AP-2



Constituent: Sulfate Analysis Run 7/24/2019 10:29 AM

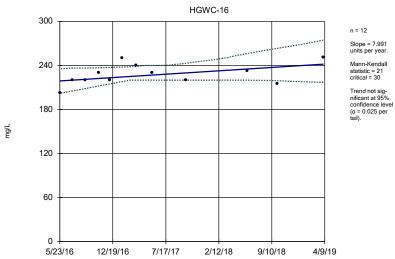
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Constituent: Sulfate Analysis Run 7/24/2019 10:29 AM

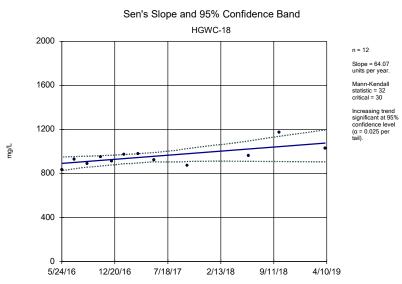
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Sen's Slope and 95% Confidence Band



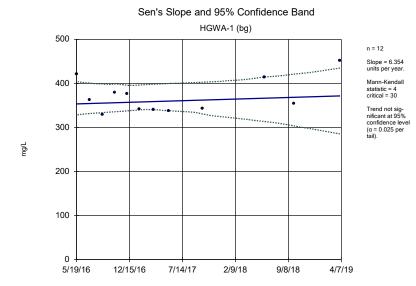
Constituent: Sulfate Analysis Run 7/24/2019 10:29 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2



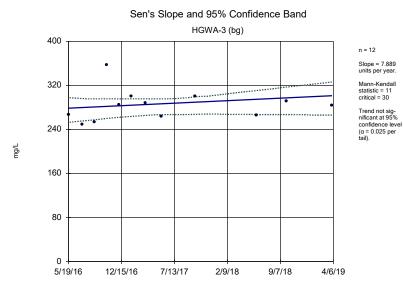
Constituent: Sulfate Analysis Run 7/24/2019 10:29 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2



Constituent: Total Dissolved Solids Analysis Run 7/24/2019 10:29 AM

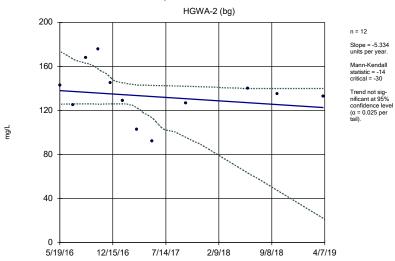
Plant Hammond Client: Georgia Power Company Data: Hammond AP-2



Constituent: Total Dissolved Solids Analysis Run 7/24/2019 10:29 AM

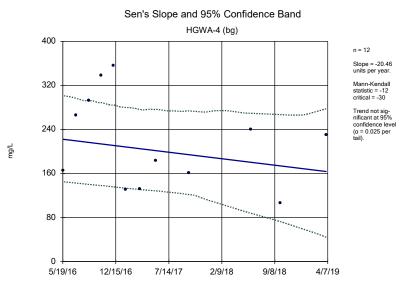
Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

Sen's Slope and 95% Confidence Band



Constituent: Total Dissolved Solids Analysis Run 7/24/2019 10:29 AM

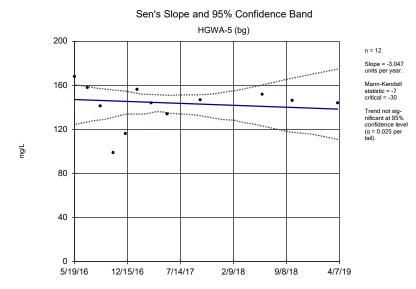
Plant Hammond Client: Georgia Power Company Data: Hammond AP-2



Constituent: Total Dissolved Solids Analysis Run 7/24/2019 10:30 AM

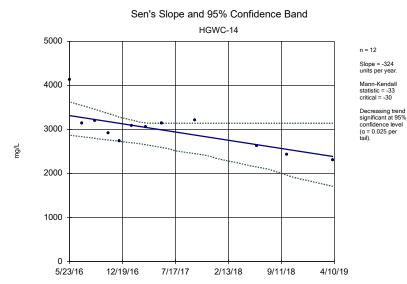
Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

mg/L



Constituent: Total Dissolved Solids Analysis Run 7/24/2019 10:30 AM Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

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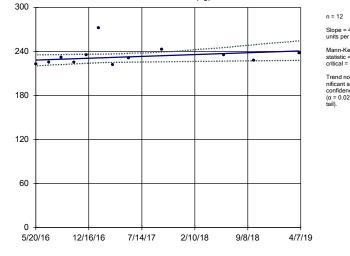
Constituent: Total Dissolved Solids Analysis Run 7/24/2019 10:30 AM Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

Sen's Slope and 95% Confidence Band HGWA-6 (bg) units per year. Mann-Kendall

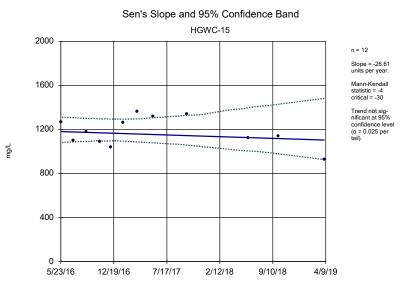
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statistic = 22 critical = 30

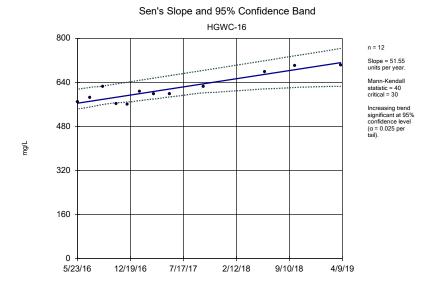
Trend not sig-nificant at 95% confidence level $(\alpha = 0.025 \text{ per})$



Constituent: Total Dissolved Solids Analysis Run 7/24/2019 10:30 AM Plant Hammond Client: Georgia Power Company Data: Hammond AP-2



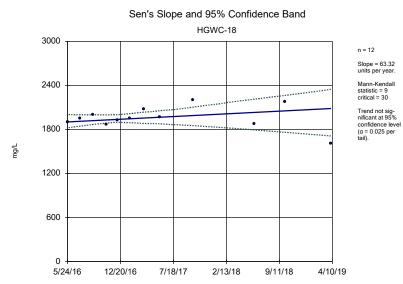
Constituent: Total Dissolved Solids Analysis Run 7/24/2019 10:30 AM Plant Hammond Client: Georgia Power Company Data: Hammond AP-2



Constituent: Total Dissolved Solids Analysis Run 7/24/2019 10:30 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

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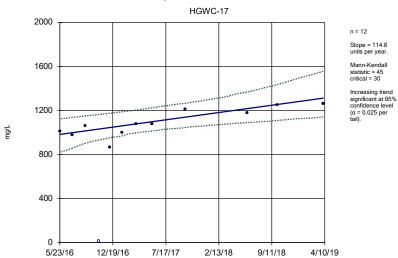


Constituent: Total Dissolved Solids Analysis Run 7/24/2019 10:30 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

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Sen's Slope and 95% Confidence Band



Constituent: Total Dissolved Solids Analysis Run 7/24/2019 10:30 AM
Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

Prediction Limit (AM 02) - Significant Results

Hammond AP Client: Georgia Power Data: Hammond AP-2 Printed 12/16/2019, 5:16 PM

| <u>Constituent</u> | <u>Well</u> | Upper Lim. | Lower Lim. | <u>Date</u> | Observ. | Sig. | <u>Bg N</u> | %NDs | <u>Transform</u> | <u>Alpha</u> | <u>Method</u> |
|-------------------------------|-------------|------------|------------|-------------|---------|------|-------------|-------|------------------|--------------|-----------------------------|
| Boron (mg/L) | HGWC-14 | 0.04407 | n/a | 9/24/2019 | 14.7 | Yes | 78 | 7.692 | ln(x) | 0.001504 | Param Inter 1 of 2 |
| Boron (mg/L) | HGWC-15 | 0.04407 | n/a | 9/24/2019 | 2.9 | Yes | 78 | 7.692 | ln(x) | 0.001504 | Param Inter 1 of 2 |
| Boron (mg/L) | HGWC-16 | 0.04407 | n/a | 9/25/2019 | 2.7 | Yes | 78 | 7.692 | ln(x) | 0.001504 | Param Inter 1 of 2 |
| Boron (mg/L) | HGWC-17 | 0.04407 | n/a | 9/25/2019 | 8.1 | Yes | 78 | 7.692 | ln(x) | 0.001504 | Param Inter 1 of 2 |
| Boron (mg/L) | HGWC-18 | 0.04407 | n/a | 9/25/2019 | 11.7 | Yes | 78 | 7.692 | ln(x) | 0.001504 | Param Inter 1 of 2 |
| Calcium (mg/L) | HGWC-14 | 122.8 | n/a | 9/24/2019 | 507 | Yes | 78 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Calcium (mg/L) | HGWC-15 | 122.8 | n/a | 9/24/2019 | 202 | Yes | 78 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Calcium (mg/L) | HGWC-16 | 122.8 | n/a | 9/25/2019 | 185 | Yes | 78 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Calcium (mg/L) | HGWC-17 | 122.8 | n/a | 9/25/2019 | 305 | Yes | 78 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Calcium (mg/L) | HGWC-18 | 122.8 | n/a | 9/25/2019 | 437 | Yes | 78 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Chloride (mg/L) | HGWC-14 | 20.3 | n/a | 9/24/2019 | 188 | Yes | 78 | 0 | n/a | 0.000317 | NP Inter (normality) 1 of 2 |
| Chloride (mg/L) | HGWC-15 | 20.3 | n/a | 9/24/2019 | 120 | Yes | 78 | 0 | n/a | 0.000317 | NP Inter (normality) 1 of 2 |
| Chloride (mg/L) | HGWC-16 | 20.3 | n/a | 9/25/2019 | 84.4 | Yes | 78 | 0 | n/a | 0.000317 | NP Inter (normality) 1 of 2 |
| Chloride (mg/L) | HGWC-17 | 20.3 | n/a | 9/25/2019 | 139 | Yes | 78 | 0 | n/a | 0.000317 | NP Inter (normality) 1 of 2 |
| Chloride (mg/L) | HGWC-18 | 20.3 | n/a | 9/25/2019 | 181 | Yes | 78 | 0 | n/a | 0.000317 | NP Inter (normality) 1 of 2 |
| Fluoride (mg/L) | HGWC-18 | 0.36 | n/a | 9/25/2019 | 0.73 | Yes | 90 | 30 | n/a | 0.0002377 | NP Inter (normality) 1 of 2 |
| pH (s.u.) | HGWC-14 | 7.69 | 4.9 | 9/24/2019 | 4.77 | Yes | 90 | 0 | n/a | 0.0004753 | NP Inter (normality) 1 of 2 |
| pH (s.u.) | HGWC-18 | 7.69 | 4.9 | 9/25/2019 | 4.54 | Yes | 90 | 0 | n/a | 0.0004753 | NP Inter (normality) 1 of 2 |
| Sulfate (mg/L) | HGWC-14 | 84.3 | n/a | 9/24/2019 | 1110 | Yes | 78 | 1.282 | n/a | 0.000317 | NP Inter (normality) 1 of 2 |
| Sulfate (mg/L) | HGWC-15 | 84.3 | n/a | 9/24/2019 | 382 | Yes | 78 | 1.282 | n/a | 0.000317 | NP Inter (normality) 1 of 2 |
| Sulfate (mg/L) | HGWC-16 | 84.3 | n/a | 9/25/2019 | 223 | Yes | 78 | 1.282 | n/a | 0.000317 | NP Inter (normality) 1 of 2 |
| Sulfate (mg/L) | HGWC-17 | 84.3 | n/a | 9/25/2019 | 434 | Yes | 78 | 1.282 | n/a | 0.000317 | NP Inter (normality) 1 of 2 |
| Sulfate (mg/L) | HGWC-18 | 84.3 | n/a | 9/25/2019 | 920 | Yes | 78 | 1.282 | n/a | 0.000317 | NP Inter (normality) 1 of 2 |
| Total Dissolved Solids (mg/L) | HGWC-14 | 416.7 | n/a | 9/24/2019 | 2470 | Yes | 78 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Total Dissolved Solids (mg/L) | HGWC-15 | 416.7 | n/a | 9/24/2019 | 1140 | Yes | 78 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Total Dissolved Solids (mg/L) | HGWC-16 | 416.7 | n/a | 9/25/2019 | 813 | Yes | 78 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Total Dissolved Solids (mg/L) | HGWC-17 | 416.7 | n/a | 9/25/2019 | 1280 | Yes | 78 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Total Dissolved Solids (mg/L) | HGWC-18 | 416.7 | n/a | 9/25/2019 | 1960 | Yes | 78 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| | | | | | | | | | | | |

Prediction Limit (AM 02) - All Results

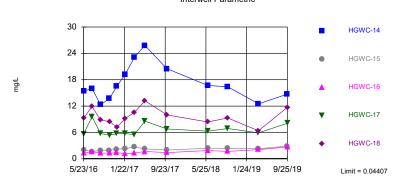
Hammond AP Client: Georgia Power Data: Hammond AP-2 Printed 12/16/2019, 5:16 PM Constituent Well Upper Lim. Lower Lim. <u>Date</u> Observ. Sig. Bg N %NDs <u>Alpha</u> <u>Method</u> **Transform**

| Constituent | <u>vveii</u> | <u>Upper Lim.</u> | Lower Lim. | Date | Observ. | <u>Sig.</u> | <u>Bg N</u> | %NDS | <u>i ransiorm</u> | <u>Alpna</u> | Method |
|-------------------------------|--------------|-------------------|------------|-----------|---------|-------------|-------------|-------|-------------------|--------------|-----------------------------|
| Boron (mg/L) | HGWC-14 | 0.04407 | n/a | 9/24/2019 | 14.7 | Yes | 78 | 7.692 | ln(x) | 0.001504 | Param Inter 1 of 2 |
| Boron (mg/L) | HGWC-15 | 0.04407 | n/a | 9/24/2019 | 2.9 | Yes | 78 | 7.692 | ln(x) | 0.001504 | Param Inter 1 of 2 |
| Boron (mg/L) | HGWC-16 | 0.04407 | n/a | 9/25/2019 | 2.7 | Yes | 78 | 7.692 | ln(x) | 0.001504 | Param Inter 1 of 2 |
| Boron (mg/L) | HGWC-17 | 0.04407 | n/a | 9/25/2019 | 8.1 | Yes | 78 | 7.692 | ln(x) | 0.001504 | Param Inter 1 of 2 |
| Boron (mg/L) | HGWC-18 | 0.04407 | n/a | 9/25/2019 | 11.7 | Yes | 78 | 7.692 | ln(x) | 0.001504 | Param Inter 1 of 2 |
| Calcium (mg/L) | HGWC-14 | 122.8 | n/a | 9/24/2019 | 507 | Yes | 78 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Calcium (mg/L) | HGWC-15 | 122.8 | n/a | 9/24/2019 | 202 | Yes | 78 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Calcium (mg/L) | HGWC-16 | 122.8 | n/a | 9/25/2019 | 185 | Yes | 78 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Calcium (mg/L) | HGWC-17 | 122.8 | n/a | 9/25/2019 | 305 | Yes | 78 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Calcium (mg/L) | HGWC-18 | 122.8 | n/a | 9/25/2019 | 437 | Yes | 78 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Chloride (mg/L) | HGWC-14 | 20.3 | n/a | 9/24/2019 | 188 | Yes | 78 | 0 | n/a | 0.000317 | NP Inter (normality) 1 of 2 |
| Chloride (mg/L) | HGWC-15 | 20.3 | n/a | 9/24/2019 | 120 | Yes | 78 | 0 | n/a | 0.000317 | NP Inter (normality) 1 of 2 |
| Chloride (mg/L) | HGWC-16 | 20.3 | n/a | 9/25/2019 | 84.4 | Yes | 78 | 0 | n/a | 0.000317 | NP Inter (normality) 1 of 2 |
| Chloride (mg/L) | HGWC-17 | 20.3 | n/a | 9/25/2019 | 139 | Yes | 78 | 0 | n/a | 0.000317 | NP Inter (normality) 1 of 2 |
| Chloride (mg/L) | HGWC-18 | 20.3 | n/a | 9/25/2019 | 181 | Yes | 78 | 0 | n/a | 0.000317 | NP Inter (normality) 1 of 2 |
| Fluoride (mg/L) | HGWC-14 | 0.36 | n/a | 9/24/2019 | 0.053 | No | 90 | 30 | n/a | 0.0002377 | NP Inter (normality) 1 of 2 |
| Fluoride (mg/L) | HGWC-15 | 0.36 | n/a | 9/24/2019 | 0.12 | No | 90 | 30 | n/a | 0.0002377 | NP Inter (normality) 1 of 2 |
| Fluoride (mg/L) | HGWC-16 | 0.36 | n/a | 9/25/2019 | 0.3ND | No | 90 | 30 | n/a | 0.0002377 | NP Inter (normality) 1 of 2 |
| Fluoride (mg/L) | HGWC-17 | 0.36 | n/a | 9/25/2019 | 0.081 | No | 90 | 30 | n/a | 0.0002377 | NP Inter (normality) 1 of 2 |
| Fluoride (mg/L) | HGWC-18 | 0.36 | n/a | 9/25/2019 | 0.73 | Yes | 90 | 30 | n/a | 0.0002377 | NP Inter (normality) 1 of 2 |
| pH (s.u.) | HGWC-14 | 7.69 | 4.9 | 9/24/2019 | 4.77 | Yes | 90 | 0 | n/a | 0.0004753 | NP Inter (normality) 1 of 2 |
| pH (s.u.) | HGWC-15 | 7.69 | 4.9 | 9/24/2019 | 6.33 | No | 90 | 0 | n/a | 0.0004753 | NP Inter (normality) 1 of 2 |
| pH (s.u.) | HGWC-16 | 7.69 | 4.9 | 9/25/2019 | 6.92 | No | 90 | 0 | n/a | 0.0004753 | NP Inter (normality) 1 of 2 |
| pH (s.u.) | HGWC-17 | 7.69 | 4.9 | 9/25/2019 | 6.28 | No | 90 | 0 | n/a | 0.0004753 | NP Inter (normality) 1 of 2 |
| pH (s.u.) | HGWC-18 | 7.69 | 4.9 | 9/25/2019 | 4.54 | Yes | 90 | 0 | n/a | 0.0004753 | NP Inter (normality) 1 of 2 |
| Sulfate (mg/L) | HGWC-14 | 84.3 | n/a | 9/24/2019 | 1110 | Yes | 78 | 1.282 | n/a | 0.000317 | NP Inter (normality) 1 of 2 |
| Sulfate (mg/L) | HGWC-15 | 84.3 | n/a | 9/24/2019 | 382 | Yes | 78 | 1.282 | n/a | 0.000317 | NP Inter (normality) 1 of 2 |
| Sulfate (mg/L) | HGWC-16 | 84.3 | n/a | 9/25/2019 | 223 | Yes | 78 | 1.282 | n/a | 0.000317 | NP Inter (normality) 1 of 2 |
| Sulfate (mg/L) | HGWC-17 | 84.3 | n/a | 9/25/2019 | 434 | Yes | 78 | 1.282 | n/a | 0.000317 | NP Inter (normality) 1 of 2 |
| Sulfate (mg/L) | HGWC-18 | 84.3 | n/a | 9/25/2019 | 920 | Yes | 78 | 1.282 | n/a | 0.000317 | NP Inter (normality) 1 of 2 |
| Total Dissolved Solids (mg/L) | HGWC-14 | 416.7 | n/a | 9/24/2019 | 2470 | Yes | 78 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Total Dissolved Solids (mg/L) | HGWC-15 | 416.7 | n/a | 9/24/2019 | 1140 | Yes | 78 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Total Dissolved Solids (mg/L) | HGWC-16 | 416.7 | n/a | 9/25/2019 | 813 | Yes | 78 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Total Dissolved Solids (mg/L) | HGWC-17 | 416.7 | n/a | 9/25/2019 | 1280 | Yes | 78 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| Total Dissolved Solids (mg/L) | HGWC-18 | 416.7 | n/a | 9/25/2019 | 1960 | Yes | 78 | 0 | sqrt(x) | 0.001504 | Param Inter 1 of 2 |
| | | | | | | | | | | | |

Exceeds Limit: HGWC-14. HGWC-15.

HGWC-16, HGWC-17, HGWC-18

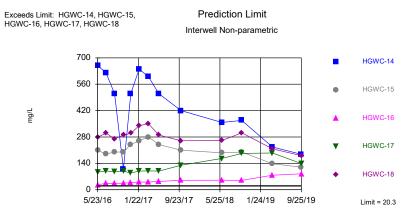
Prediction Limit
Interwell Parametric



Background Data Summary (based on natural log transformation): Mean=-4.172, Std. Dev.=0.5769, n=78, 7.692% NDs. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9711, critical = 0.957. Kappa = 1.82 (c=7, w=5, of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001504. Comparing 5 points to limit.

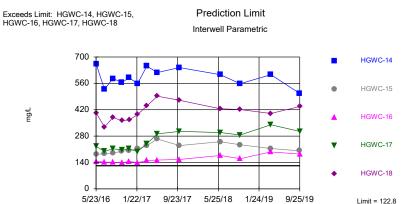
Constituent: Boron Analysis Run 12/16/2019 5:11 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

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Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 78 background values. Annual per-constituent alpha = 0.003155. Individual comparison alpha = 0.00317 (1 of 2). Comparing 5 points to limit.

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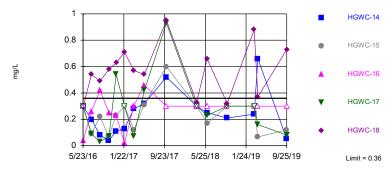


Background Data Summary (based on square root transformation): Mean=7.248, Std. Dev=2.107, n=78. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9578, critical = 0.957. Kappa = 1.82 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001504. Comparing 5 points to limit.

Constituent: Calcium Analysis Run 12/16/2019 5:11 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

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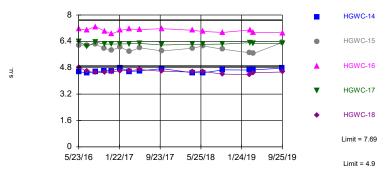
Exceeds Limit: HGWC-18 Prediction Limit
Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 90 background values. 30% NDs. Annual perconstituent alpha = 0.002374. Individual comparison alpha = 0.0002377 (1 of 2). Comparing 5 points to limit.

Exceeds Limits: HGWC-14, HGWC-18

Prediction Limit Interwell Non-parametric



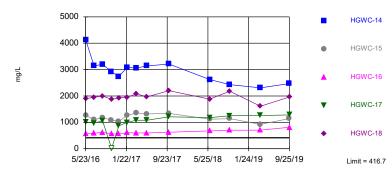
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 90 background values. Annual perconstituent alpha = 0.004748. Individual comparison alpha = 0.0004753 (1 of 2). Comparing 5 points to limit.

> Constituent: pH Analysis Run 12/16/2019 5:11 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

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Exceeds Limit: HGWC-14, HGWC-15, HGWC-16, HGWC-17, HGWC-18

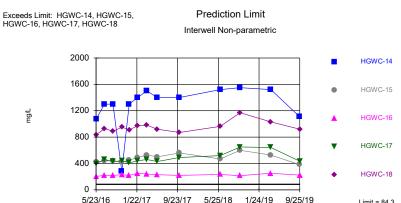
Prediction Limit Interwell Parametric



Background Data Summary (based on square root transformation): Mean=14.85, Std. Dev.=3.059, n=78. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9624, critical = 0.957. Kappa = 1.82 (c=7, w=5, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001504. Comparing 5 points to limit.

> Constituent: Total Dissolved Solids Analysis Run 12/16/2019 5:11 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

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Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 78 background values. 1.282% NDs. Annual perconstituent alpha = 0.003165. Individual comparison alpha = 0.000317 (1 of 2). Comparing 5 points to limit.

Limit = 84.3

Constituent: Sulfate Analysis Run 12/16/2019 5:11 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

Trend Test (AM 02) - Significant Results

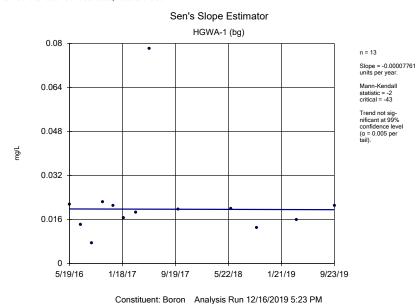
| | | Hammond AP | Client: Georgia Power | r Data: Hamm | nond AP-2 | Printed | 12/16/2019 | , 5:26 PM | | | |
|-------------------------------|-------------|------------|-----------------------|-----------------|-----------|----------|------------|-----------|--------------|--------------|---------------|
| Constituent | <u>Well</u> | Slope | <u>Calc.</u> | <u>Critical</u> | Sig. | <u>N</u> | %NDs | Normality | <u>Xform</u> | <u>Alpha</u> | <u>Method</u> |
| Boron (mg/L) | HGWC-15 | 0.2388 | 44 | 43 | Yes | 13 | 0 | n/a | n/a | 0.01 | NP |
| Boron (mg/L) | HGWC-16 | 0.2616 | 44 | 43 | Yes | 13 | 0 | n/a | n/a | 0.01 | NP |
| Calcium (mg/L) | HGWC-15 | 21.55 | 44 | 43 | Yes | 13 | 0 | n/a | n/a | 0.01 | NP |
| Calcium (mg/L) | HGWC-16 | 13.92 | 53 | 43 | Yes | 13 | 0 | n/a | n/a | 0.01 | NP |
| Calcium (mg/L) | HGWC-17 | 40.14 | 45 | 43 | Yes | 13 | 0 | n/a | n/a | 0.01 | NP |
| Chloride (mg/L) | HGWC-14 | -127.8 | -45 | -43 | Yes | 13 | 0 | n/a | n/a | 0.01 | NP |
| Chloride (mg/L) | HGWC-16 | 15.63 | 72 | 43 | Yes | 13 | 0 | n/a | n/a | 0.01 | NP |
| Chloride (mg/L) | HGWC-17 | 25.36 | 52 | 43 | Yes | 13 | 0 | n/a | n/a | 0.01 | NP |
| Sulfate (mg/L) | HGWA-3 (bg) | 2.359 | 44 | 43 | Yes | 13 | 0 | n/a | n/a | 0.01 | NP |
| Total Dissolved Solids (mg/L) | HGWC-16 | 55.46 | 52 | 43 | Yes | 13 | 0 | n/a | n/a | 0.01 | NP |
| Total Dissolved Solids (mg/L) | HGWC-17 | 102.7 | 57 | 43 | Yes | 13 | 7.692 | n/a | n/a | 0.01 | NP |

Trend Test (AM 02) - All Results

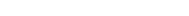
| | | Hammond AP C | Client: Georgia Powe | r Data: Ha | mmond AP-2 | Printe | d 12/16/2019 | , 5:26 PM | | | |
|------------------------------------|----------------------------|--------------|-------------------------|------------------|------------|----------|--------------|------------|--------------|--------------|----------|
| <u>Constituent</u> | Well | Slope | Calc. | Critical | Sig. | <u>N</u> | %NDs | Normality | <u>Xform</u> | <u>Alpha</u> | Method |
| Boron (mg/L) | HGWA-1 (bg) | -0.00007761 | -2 | -43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Boron (mg/L) | HGWA-2 (bg) | 0.001938 | 36 | 43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Boron (mg/L) | HGWA-3 (bg) | -0.0008154 | -20 | -43 | No | 13 | 15.38 | n/a | n/a | 0.01 | NP |
| Boron (mg/L) | HGWA-4 (bg) | -0.00197 | -32 | -43 | No | 13 | 7.692 | n/a | n/a | 0.01 | NP |
| Boron (mg/L) | HGWA-5 (bg) | -0.0005293 | -12 | -43 | No | 13 | 15.38 | n/a | n/a | 0.01 | NP |
| Boron (mg/L) | HGWA-6 (bg) | -0.001592 | -30 | -43 | No | 13 | 7.692 | n/a | n/a | 0.01 | NP |
| Boron (mg/L) | HGWC-14 | 0.3554 | 8 | 43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Boron (mg/L) | HGWC-15 | 0.2388 | 44 | 43 | Yes | 13 | 0 | n/a | n/a | 0.01 | NP |
| Boron (mg/L) | HGWC-16 | 0.2616 | 44 | 43 | Yes | 13 | 0 | n/a | n/a | 0.01 | NP |
| Boron (mg/L) | HGWC-17 | 0.2932 | 24 | 43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Boron (mg/L) | HGWC-18 | -0.06223 | -4 | -43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Calcium (mg/L) | HGWA-1 (bg) | 6.226 | 34 | 43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Calcium (mg/L) | HGWA-2 (bg) | -0.8743 | -12 | -43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Calcium (mg/L) | HGWA-3 (bg) | 2.805 | 26 | 43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Calcium (mg/L) | HGWA-4 (bg) | -5.219 | -16 | -43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Calcium (mg/L) | HGWA-5 (bg) | -0.8044 | -12 | -43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Calcium (mg/L) | HGWA-6 (bg) | 0.1814 | 2 | 43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Calcium (mg/L) | HGWC-14 | -8.589 | -8 | -43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Calcium (mg/L) | HGWC-15 | 21.55 | 44 | 43 | Yes | 13 | 0 | n/a | n/a | 0.01 | NP |
| Calcium (mg/L) | HGWC-16 | 13.92 | 53 | 43 | Yes | 13 | 0 | n/a | n/a | 0.01 | NP |
| Calcium (mg/L) | HGWC-17 | 40.14 | 45 | 43 | Yes | 13 | 0 | n/a | n/a | 0.01 | NP |
| Calcium (mg/L) | HGWC-18 | 25.54 | 30 | 43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Chloride (mg/L) | HGWA-1 (bg) | 0.4947 | 9 | 43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Chloride (mg/L) | HGWA-2 (bg) | -0.05758 | -16 | -43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Chloride (mg/L) | HGWA-3 (bg) | 0 | 5 | 43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Chloride (mg/L) | HGWA-4 (bg) | -0.273 | -43 | -43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Chloride (mg/L) | HGWA-5 (bg) | 0.273 | - - 43 -5 | -43 | No | 13 | 0 | n/a | n/a n/a | 0.01 | NP |
| Chloride (mg/L) | HGWA-6 (bg) | -0.007467 | -9 | -43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Chloride (mg/L) | HGWC-14 | -127.8 | -4 5 | -43 | Yes | 13 | 0 | n/a | n/a | 0.01 | NP |
| Chloride (mg/L) Chloride (mg/L) | HGWC-15 | -21.09 | - 1 8 | - 43 | No | 13 | 0 | n/a | n/a | 0.01 | NP NP |
| Chloride (mg/L) | HGWC-16 | 15.63 | 7 2 | -43 43 | Yes | 13 | 0 | n/a | n/a | 0.01 | NP |
| | HGWC-17 | 25.36 | 52 | 43 | Yes | 13 | 0 | n/a | n/a | 0.01 | NP |
| Chloride (mg/L) Chloride (mg/L) | HGWC-18 | -21.85 | -2 0 | -43 | No | 13 | 0 | n/a | n/a n/a | 0.01 | NP NP |
| | | 0.003862 | - <u>-</u> 20 | 53 | No | 15 | 13.33 | | n/a n/a | 0.01 | NP |
| Fluoride (mg/L) Fluoride (mg/L) | HGWA-1 (bg) HGWA-2 (bg) | 0.003862 | , 19 | 53 | No | 15 | 53.33 | n/a n/a | n/a n/a | 0.01 | NP |
| , - , | HGWA-3 (bg) | 0.03217 | 21 | 53 | | 15 | 26.67 | | | 0.01 | NP |
| Fluoride (mg/L) | | 0.03217 | 33 | 53 | No No | 15 | 46.67 | n/a | n/a | | NP |
| Fluoride (mg/L) | HGWA-4 (bg) | | | 53 | | | | n/a | n/a | 0.01 | |
| Fluoride (mg/L) | HGWA-5 (bg) | 0 | 1 | | No | 15 15 | 13.33 | n/a | n/a | 0.01 | NP |
| Fluoride (mg/L) | HGWA-6 (bg) HGWC-18 | 0.008808 | 20 | 53 | No | 15 15 | 26.67 | n/a | n/a | 0.01 0.01 | NP |
| Fluoride (mg/L) | | 0.05356 | 22 | 53 | No | 15 | 6.667 | n/a /- | n/a | | NP |
| pH (s.u.) | HGWA-1 (bg) | -0.06525 | -40 25 | -53 | No No | 15 | 0 | n/a /- | n/a | 0.01 | NP |
| pH (s.u.) | HGWA-2 (bg) | -0.09743 | -35 | -53 | No | 15 | 0 | n/a | n/a | 0.01 | NP |
| pH (s.u.) | HGWA-3 (bg) | -0.03141 | -14 | -53 -53 | No | 15 15 | 0 | n/a | n/a | 0.01 | NP |
| pH (s.u.) | HGWA-4 (bg) | -0.1626 | -32 | -53 | No | 15 | 0 | n/a | n/a | 0.01 | NP |
| pH (s.u.) | HGWA-5 (bg) | -0.04924 | -38 | -53 | No | 15 | 0 | n/a | n/a | 0.01 | NP |
| pH (s.u.) | HGWA-6 (bg) | -0.03588 | -32 | -53 50 | No | 15 | 0 | n/a | n/a | 0.01 | NP |
| pH (s.u.) | HGWC-14 | 0.04652 | 35 | 53 | No | 15 | 0 | n/a | n/a | 0.01 | NP |
| pH (s.u.) | HGWC-18 | -0.04363 | -35 | -53 | No | 15 | 0 | n/a | n/a | 0.01 | NP |
| Sulfate (mg/L) | HGWA-1 (bg) | 8.418 | 31 | 43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Sulfate (mg/L) | HGWA-2 (bg) | 1.285 | 36 | 43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |

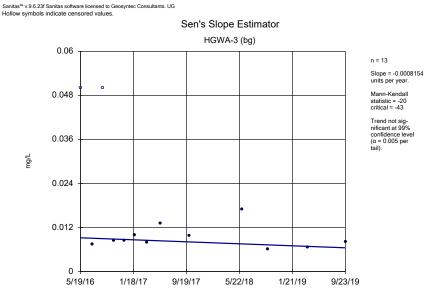
Trend Test (AM 02) - All Results nd AP Client: Georgia Power Data: Hammond AP-2 Printed 12/16.

| | | Hammond AP | Client: Georgia Power | r Data: Har | mmond AP-2 | Printe | ed 12/16/2019 | 9, 5:26 PM | | | |
|-------------------------------|-------------|------------|-----------------------|-----------------|------------|----------|---------------|------------|--------------|--------------|---------------|
| <u>Constituent</u> | Well | Slope | <u>Calc.</u> | <u>Critical</u> | Sig. | <u>N</u> | %NDs | Normality | <u>Xform</u> | <u>Alpha</u> | <u>Method</u> |
| Sulfate (mg/L) | HGWA-3 (bg) | 2.359 | 44 | 43 | Yes | 13 | 0 | n/a | n/a | 0.01 | NP |
| Sulfate (mg/L) | HGWA-4 (bg) | -0.7293 | -25 | -43 | No | 13 | 7.692 | n/a | n/a | 0.01 | NP |
| Sulfate (mg/L) | HGWA-5 (bg) | -0.14 | -9 | -43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Sulfate (mg/L) | HGWA-6 (bg) | 1.213 | 31 | 43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Sulfate (mg/L) | HGWC-14 | 111.2 | 39 | 43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Sulfate (mg/L) | HGWC-15 | 42.15 | 31 | 43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Sulfate (mg/L) | HGWC-16 | 3.986 | 21 | 43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Sulfate (mg/L) | HGWC-17 | 54.62 | 37 | 43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Sulfate (mg/L) | HGWC-18 | 40.85 | 29 | 43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Total Dissolved Solids (mg/L) | HGWA-1 (bg) | 11.04 | 14 | 43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Total Dissolved Solids (mg/L) | HGWA-2 (bg) | -5.334 | -17 | -43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Total Dissolved Solids (mg/L) | HGWA-3 (bg) | 2.517 | 9 | 43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Total Dissolved Solids (mg/L) | HGWA-4 (bg) | -23.09 | -21 | -43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Total Dissolved Solids (mg/L) | HGWA-5 (bg) | -3.858 | -15 | -43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Total Dissolved Solids (mg/L) | HGWA-6 (bg) | 1.905 | 11 | 43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Total Dissolved Solids (mg/L) | HGWC-14 | -280.1 | -41 | -43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Total Dissolved Solids (mg/L) | HGWC-15 | -16.94 | -5 | -43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| Total Dissolved Solids (mg/L) | HGWC-16 | 55.46 | 52 | 43 | Yes | 13 | 0 | n/a | n/a | 0.01 | NP |
| Total Dissolved Solids (mg/L) | HGWC-17 | 102.7 | 57 | 43 | Yes | 13 | 7.692 | n/a | n/a | 0.01 | NP |
| Total Dissolved Solids (mg/L) | HGWC-18 | 20.5 | 11 | 43 | No | 13 | 0 | n/a | n/a | 0.01 | NP |
| | | | | | | | | | | | |

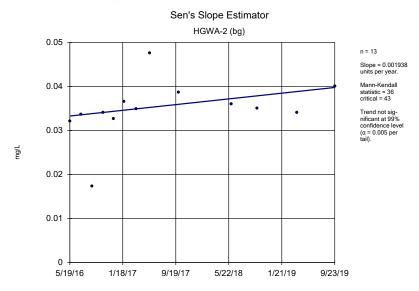


Hammond AP Client: Georgia Power Data: Hammond AP-2





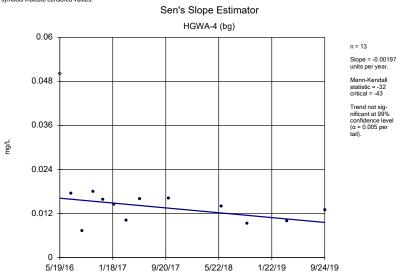
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Hammond AP Client: Georgia Power Data: Hammond AP-2



Constituent: Boron Analysis Run 12/16/2019 5:23 PM

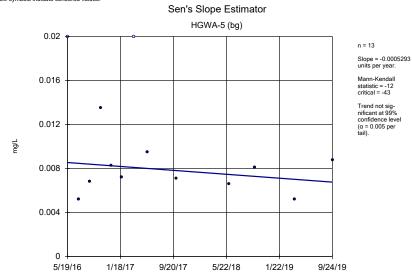
Hammond AP Client: Georgia Power Data: Hammond AP-2

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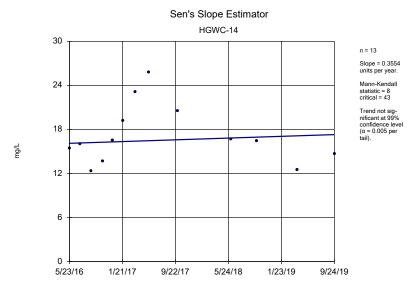
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Hammond AP Client: Georgia Power Data: Hammond AP-2

Hollow symbols indicate censored values.

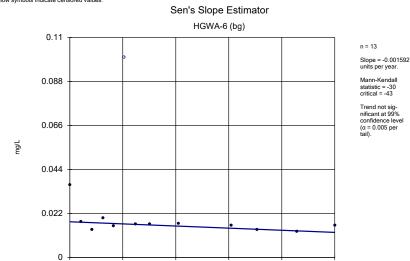


Constituent: Boron Analysis Run 12/16/2019 5:23 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

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Constituent: Boron Analysis Run 12/16/2019 5:23 PM Hammond AP Client: Georgia Power Data: Hammond AP-2 Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG Hollow symbols indicate censored values.



5/23/18

Constituent: Boron Analysis Run 12/16/2019 5:23 PM

Hammond AP Client: Georgia Power Data: Hammond AP-2

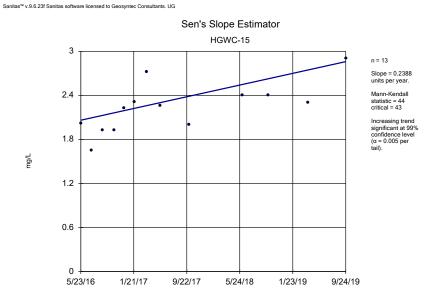
1/22/19

9/24/19

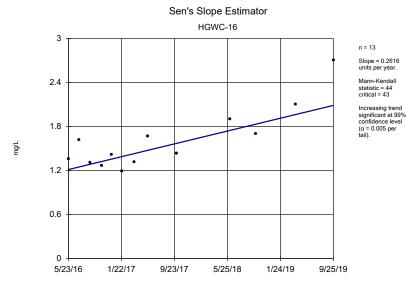
5/20/16

1/19/17

9/20/17

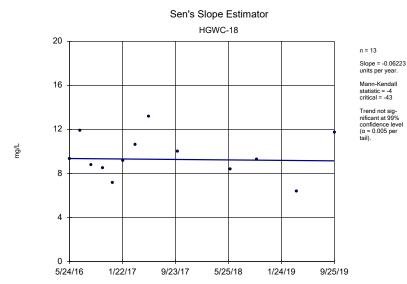


Constituent: Boron Analysis Run 12/16/2019 5:23 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

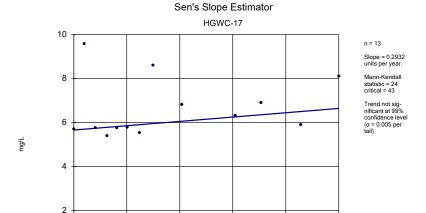


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Hammond AP Client: Georgia Power Data: Hammond AP-2

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Constituent: Boron Analysis Run 12/16/2019 5:24 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2



Constituent: Boron Analysis Run 12/16/2019 5:24 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

5/25/18

1/24/19

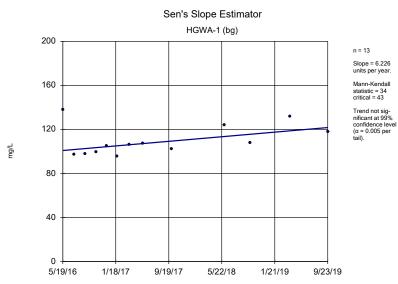
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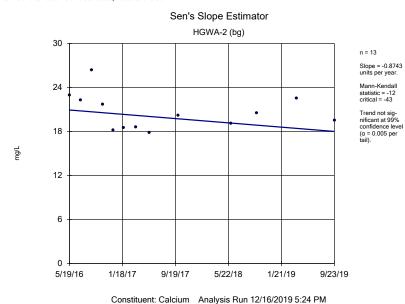
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1/22/17

9/23/17

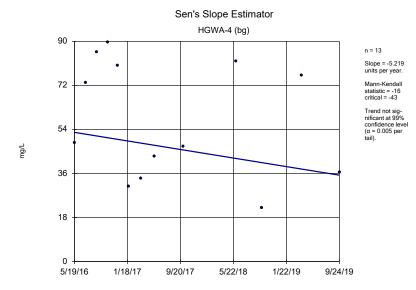


Constituent: Calcium Analysis Run 12/16/2019 5:24 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

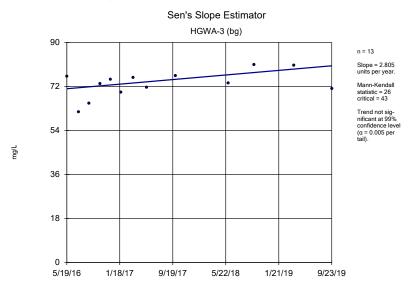


Hammond AP Client: Georgia Power Data: Hammond AP-2

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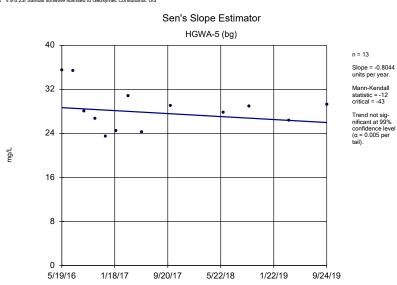
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Hammond AP Client: Georgia Power Data: Hammond AP-2



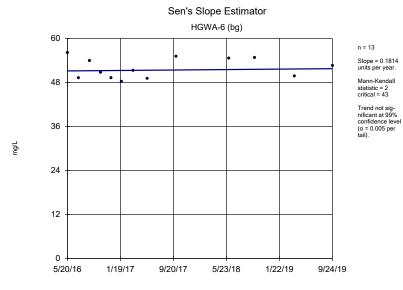
Constituent: Calcium Analysis Run 12/16/2019 5:24 PM

Hammond AP Client: Georgia Power Data: Hammond AP-2

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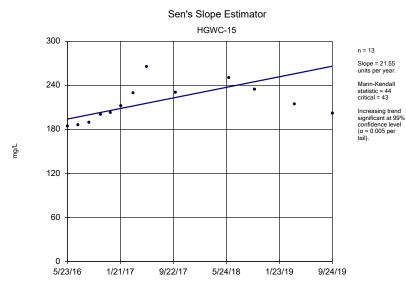


Constituent: Calcium Analysis Run 12/16/2019 5:24 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

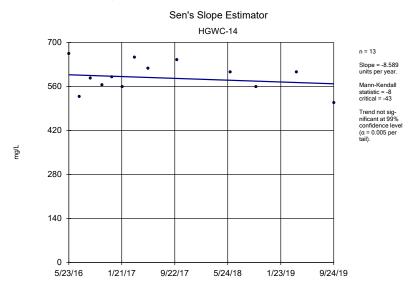


Constituent: Calcium Analysis Run 12/16/2019 5:24 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

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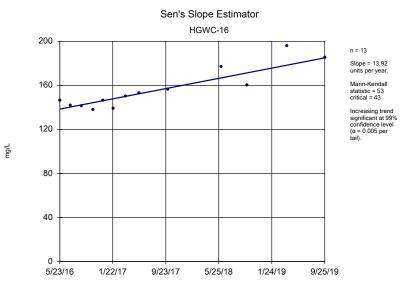
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Hammond AP Client: Georgia Power Data: Hammond AP-2



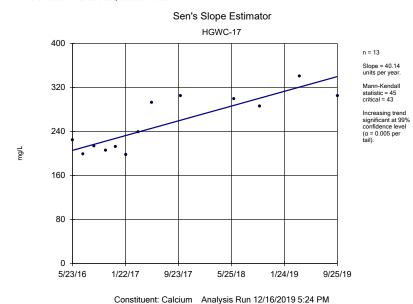
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Hammond AP Client: Georgia Power Data: Hammond AP-2

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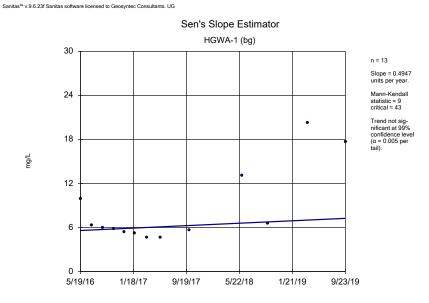


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Hammond AP Client: Georgia Power Data: Hammond AP-2

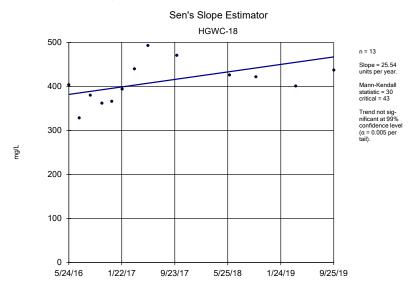


Hammond AP Client: Georgia Power Data: Hammond AP-2



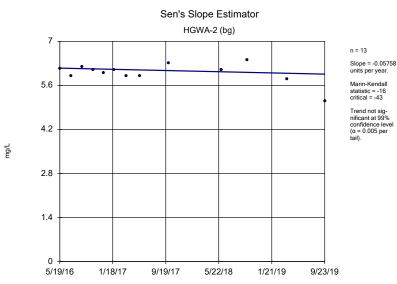


Constituent: Chloride Analysis Run 12/16/2019 5:24 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

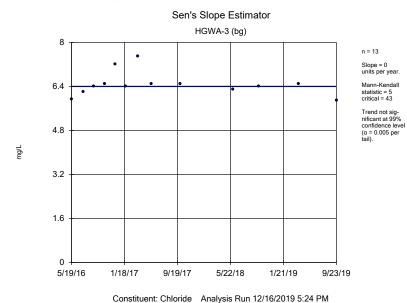


Constituent: Calcium Analysis Run 12/16/2019 5:24 PM

Hammond AP Client: Georgia Power Data: Hammond AP-2

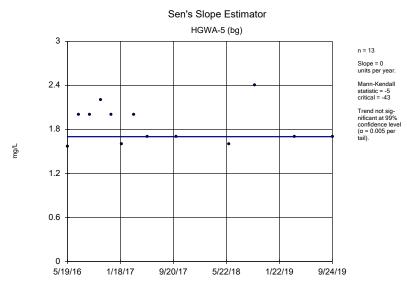


Constituent: Chloride Analysis Run 12/16/2019 5:24 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

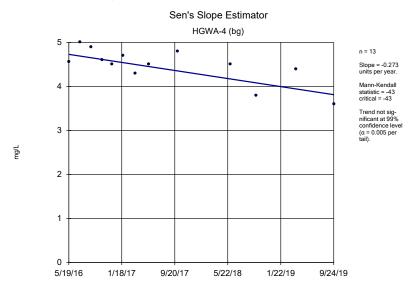


Hammond AP Client: Georgia Power Data: Hammond AP-2

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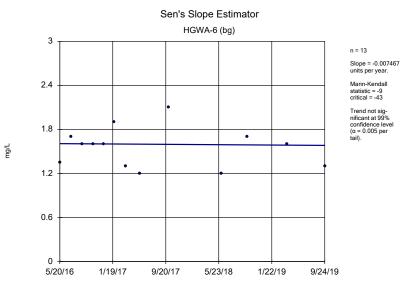


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Hammond AP Client: Georgia Power Data: Hammond AP-2

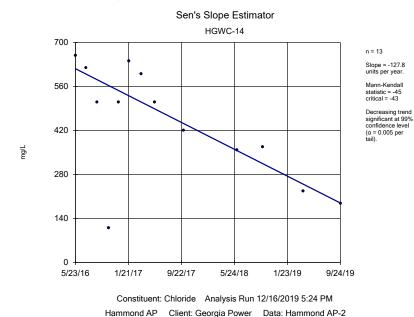


Constituent: Chloride Analysis Run 12/16/2019 5:24 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

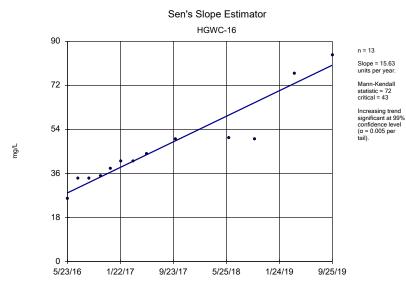
Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG



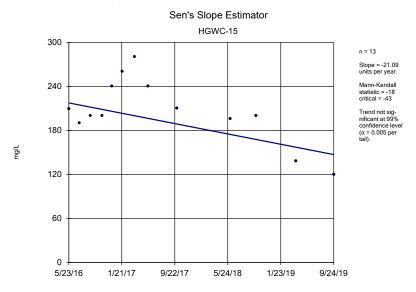
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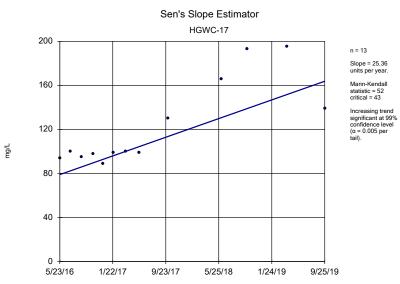


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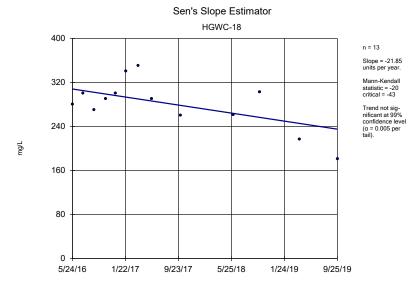


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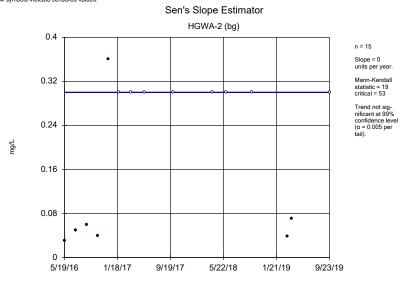


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Hammond AP Client: Georgia Power Data: Hammond AP-2



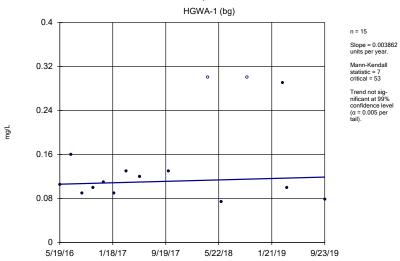
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Sanitas $^{\text{\tiny M}}$ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG Hollow symbols indicate censored values.



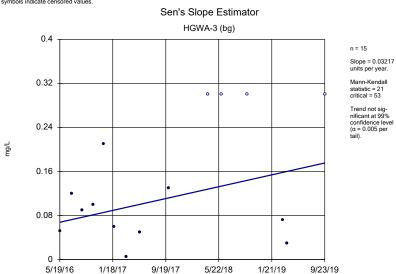
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Sen's Slope Estimator



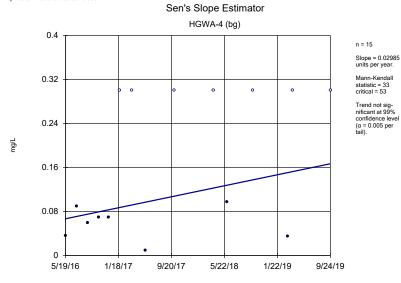
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Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG Hollow symbols indicate censored values.



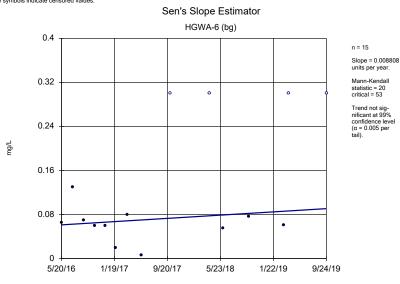
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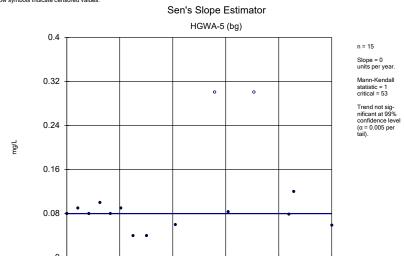


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Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG Hollow symbols indicate censored values.



Constituent: Fluoride Analysis Run 12/16/2019 5:24 PM Hammond AP Client: Georgia Power Data: Hammond AP-2 Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG Hollow symbols indicate censored values.



Constituent: Fluoride Analysis Run 12/16/2019 5:24 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

5/22/18

1/22/19

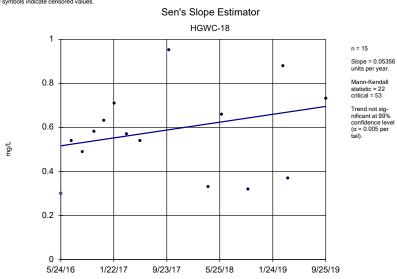
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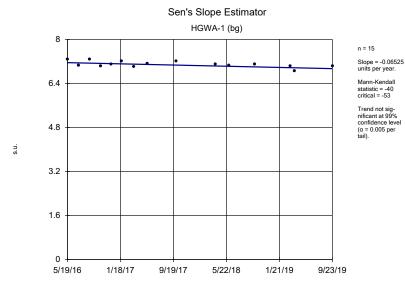
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1/18/17

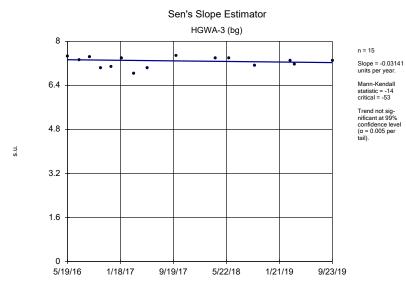
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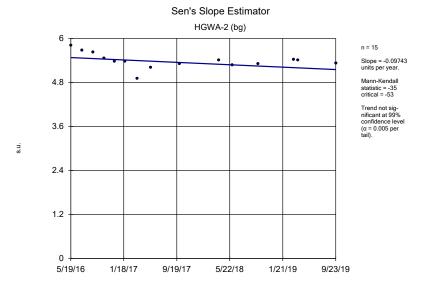
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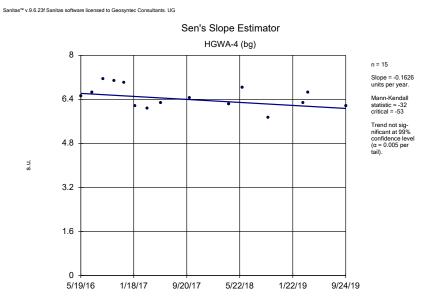


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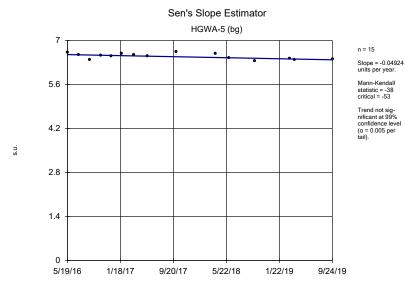


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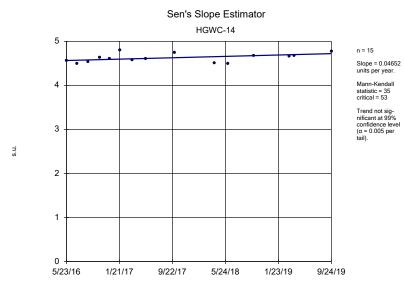
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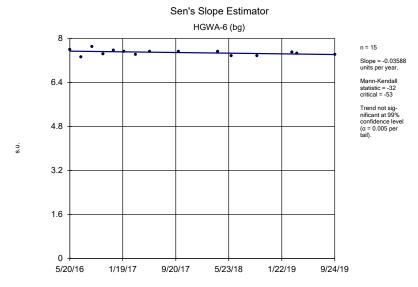
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Hammond AP Client: Georgia Power Data: Hammond AP-2



Constituent: pH Analysis Run 12/16/2019 5:24 PM
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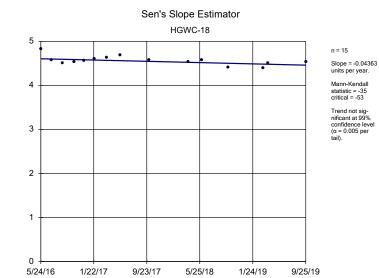
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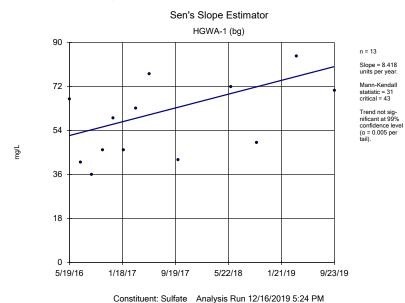
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Hammond AP Client: Georgia Power Data: Hammond AP-2

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Constituent: pH Analysis Run 12/16/2019 5:24 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

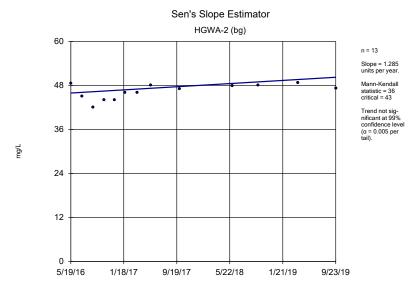


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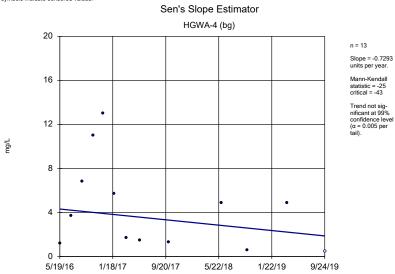
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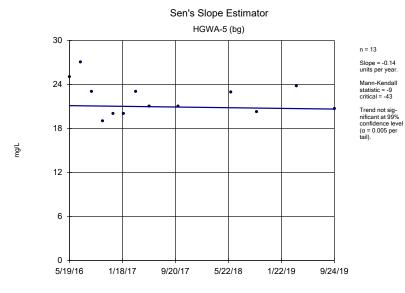
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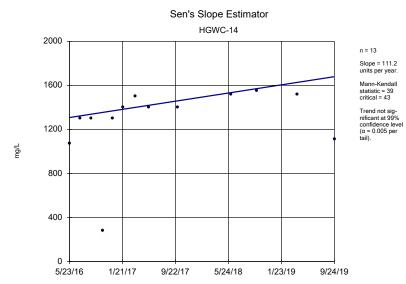


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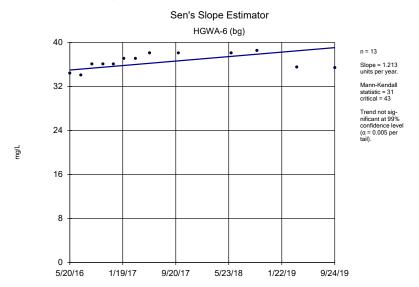


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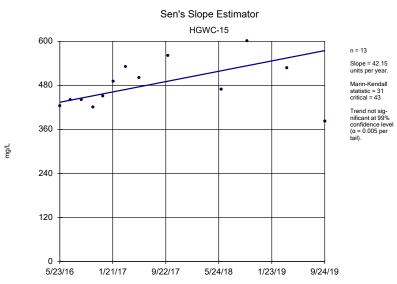


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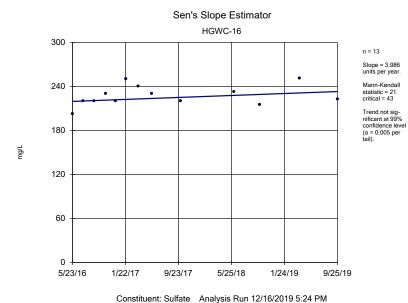


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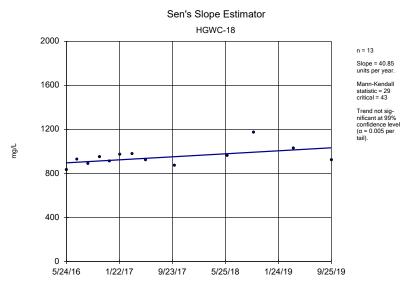


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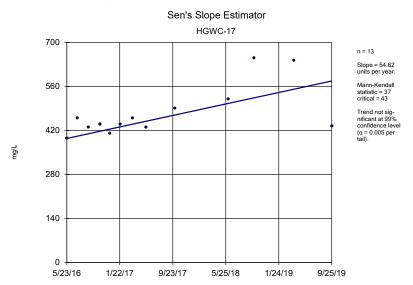


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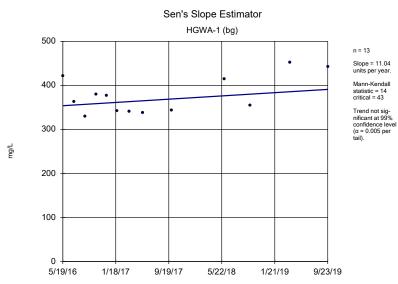


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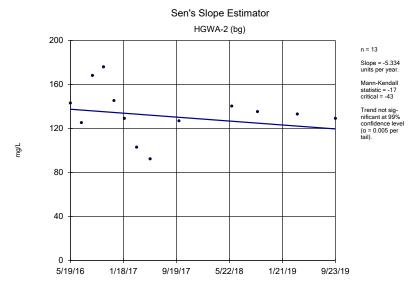


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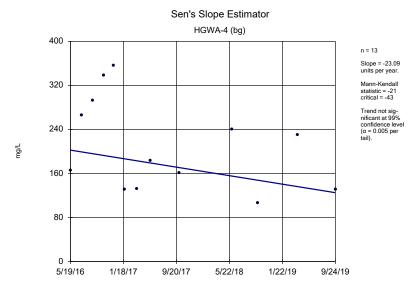
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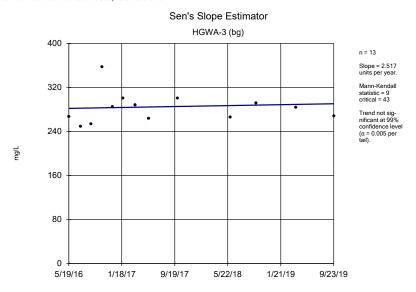
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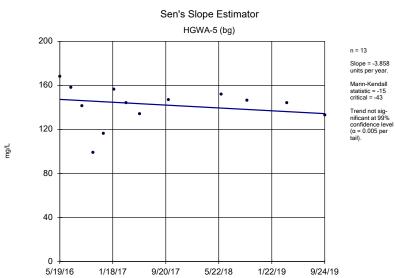
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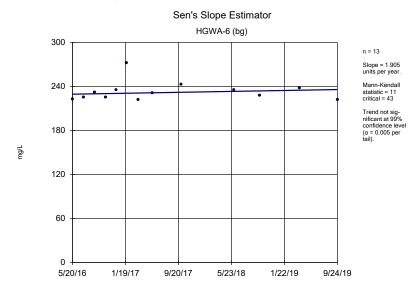
Constituent: Total Dissolved Solids Analysis Run 12/16/2019 5:24 PM
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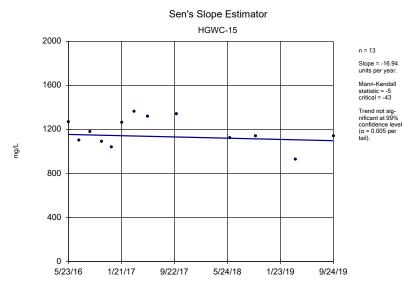
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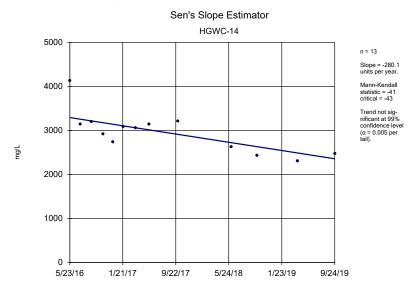
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Hammond AP Client: Georgia Power Data: Hammond AP-2



Constituent: Total Dissolved Solids Analysis Run 12/16/2019 5:24 PM
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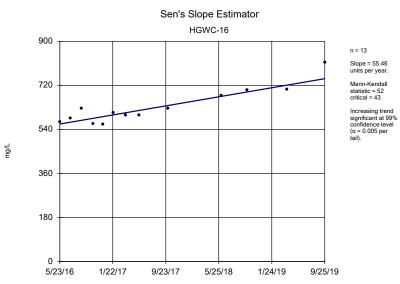


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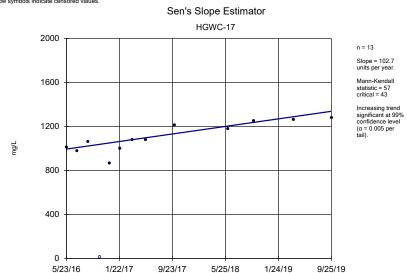
Hammond AP Client: Georgia Power Data: Hammond AP-2



Constituent: Total Dissolved Solids Analysis Run 12/16/2019 5:24 PM
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1/22/17



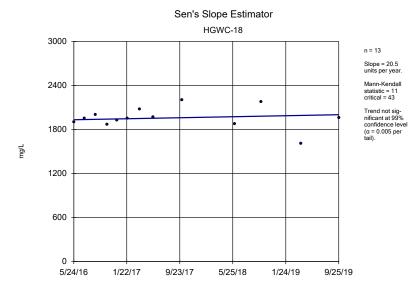
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5/25/18

1/24/19

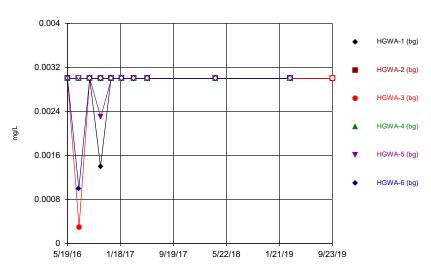
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9/23/17



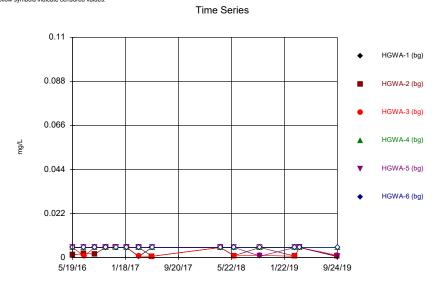
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Time Series



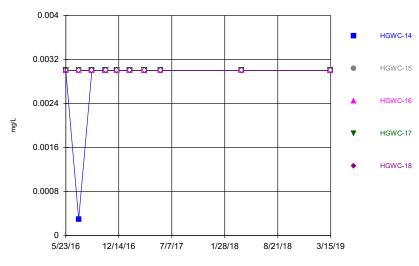
Constituent: Antimony Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

Sanitas $^{\text{\tiny{M}}}$ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG Hollow symbols indicate censored values.



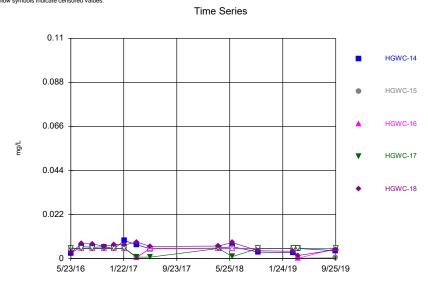
Constituent: Arsenic Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

Time Series



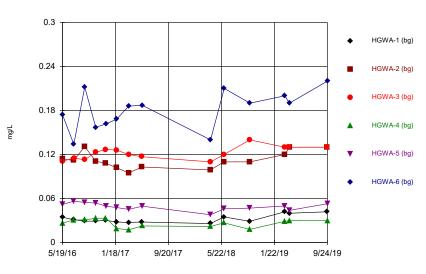
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Hammond AP Client: Georgia Power Data: Hammond AP-2

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG Hollow symbols indicate censored values.



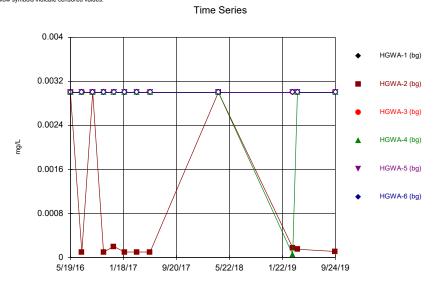
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Hammond AP Client: Georgia Power Data: Hammond AP-2

Time Series



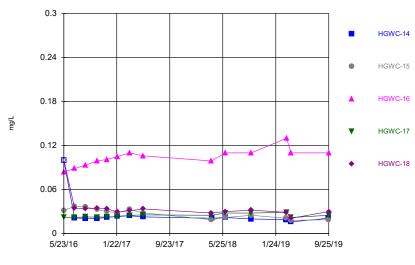
Constituent: Barium Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

Sanitas $^{\text{\tiny{M}}}$ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG Hollow symbols indicate censored values.



Constituent: Beryllium Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

Time Series



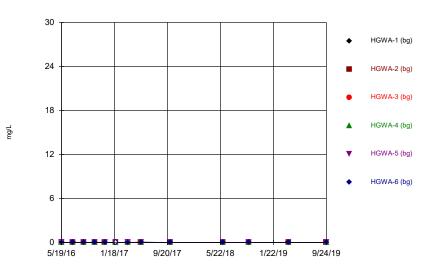
Constituent: Barium Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG Hollow symbols indicate censored values.

Time Series 0.004 HGWC-14 0.0032 HGWC-15 HGWC-16 0.0024 mg/L HGWC-17 0.0016 HGWC-18 0.0008 5/23/16 1/22/17 9/23/17 5/25/18 1/24/19 9/25/19

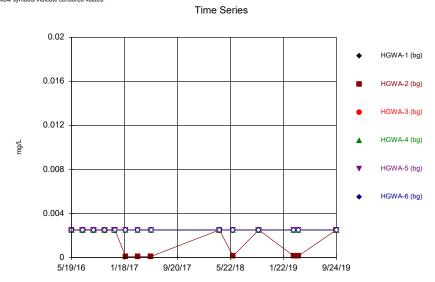
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Hammond AP Client: Georgia Power Data: Hammond AP-2





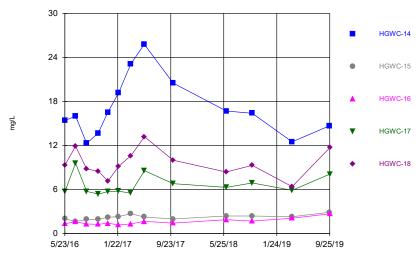
Constituent: Boron Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

Sanitas $^{\text{\tiny M}}$ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG Hollow symbols indicate censored values.



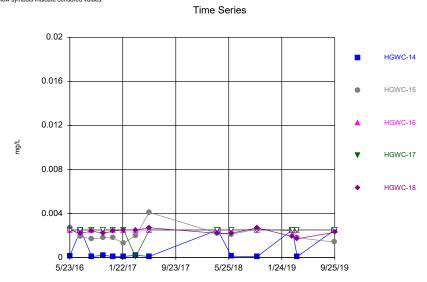
Constituent: Cadmium Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

Time Series



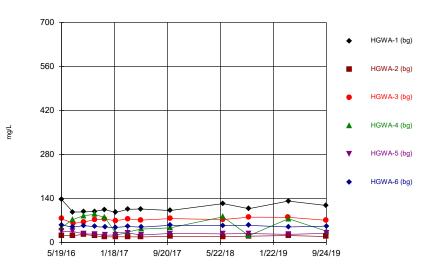
Constituent: Boron Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG Hollow symbols indicate censored values.



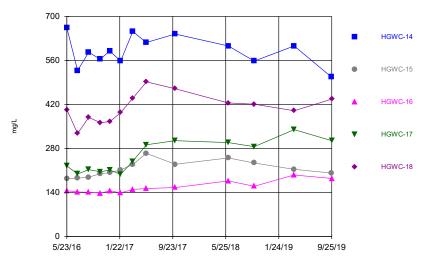
Constituent: Cadmium Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

Time Series



Constituent: Calcium Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

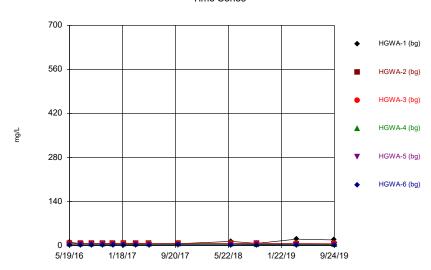
Time Series



Constituent: Calcium Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Time Series

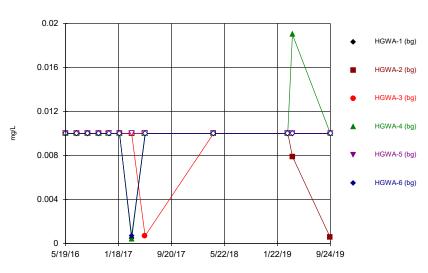


Constituent: Chloride Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

Time Series 700 HGWC-14 560 HGWC-15 HGWC-16 420 mg/L HGWC-17 280 HGWC-18 140 0 5/23/16 1/22/17 9/23/17 5/25/18 1/24/19 9/25/19

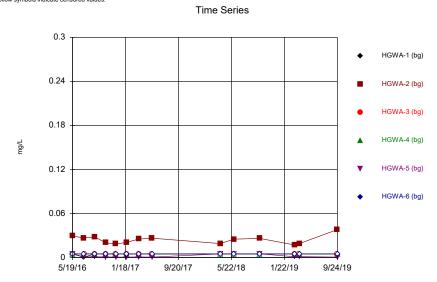
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Hammond AP Client: Georgia Power Data: Hammond AP-2





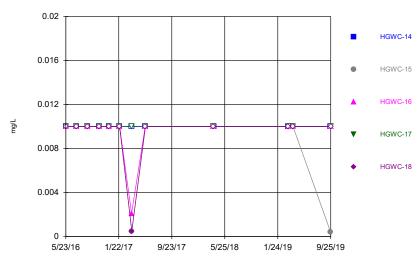
Constituent: Chromium Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

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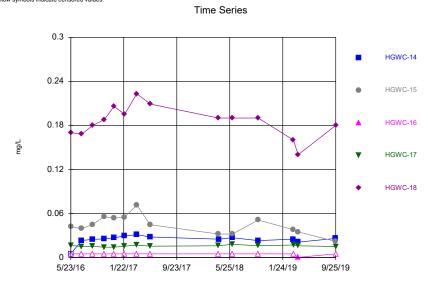
Constituent: Cobalt Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

Time Series

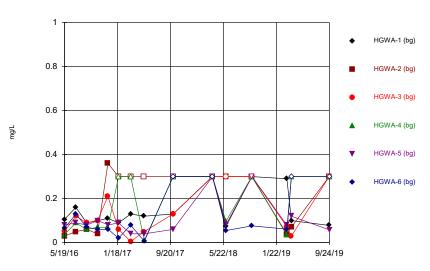


Constituent: Chromium Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

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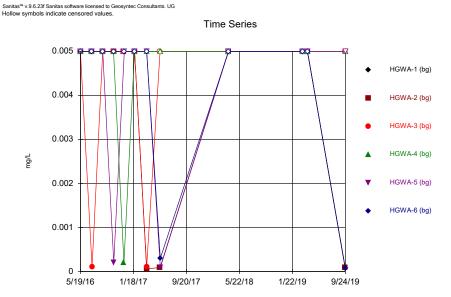


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Hammond AP Client: Georgia Power Data: Hammond AP-2



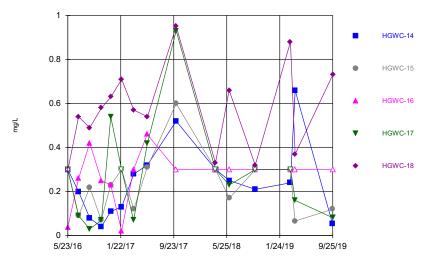
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Hammond AP Client: Georgia Power Data: Hammond AP-2



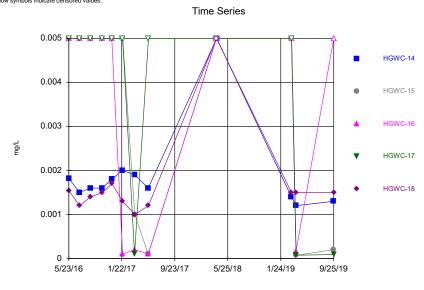
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Hammond AP Client: Georgia Power Data: Hammond AP-2

Time Series

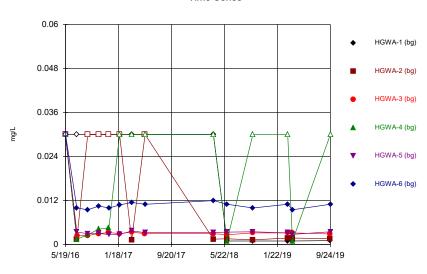


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Hammond AP Client: Georgia Power Data: Hammond AP-2

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG Hollow symbols indicate censored values.

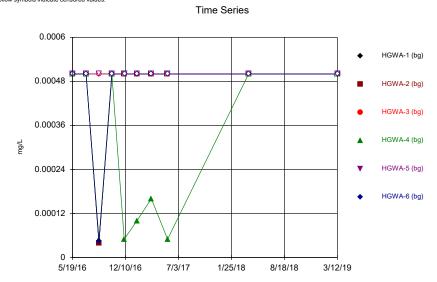


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Hammond AP Client: Georgia Power Data: Hammond AP-2



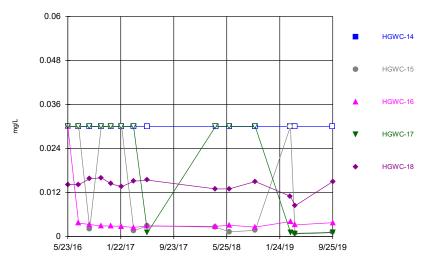
Constituent: Lithium Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

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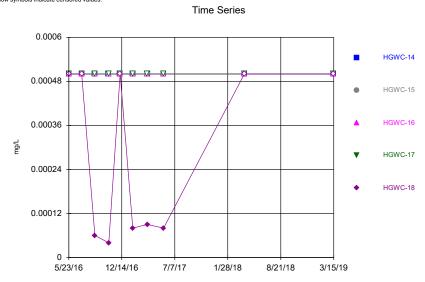
Constituent: Mercury Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

Time Series

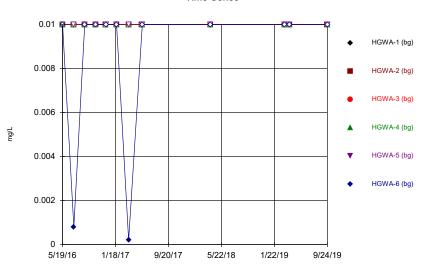


Constituent: Lithium Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

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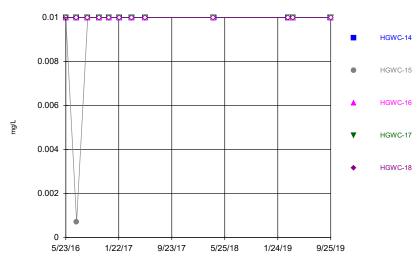


Constituent: Mercury Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2



Constituent: Molybdenum Analysis Run 12/16/2019 6:27 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

Time Series

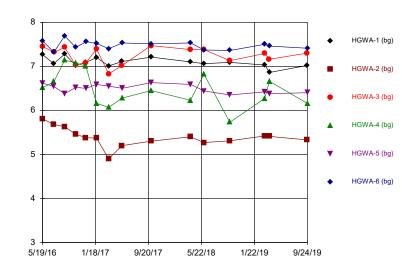


Constituent: Molybdenum Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

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s.u.

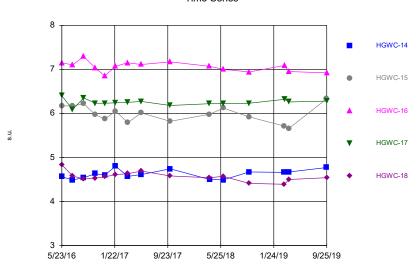
Time Series



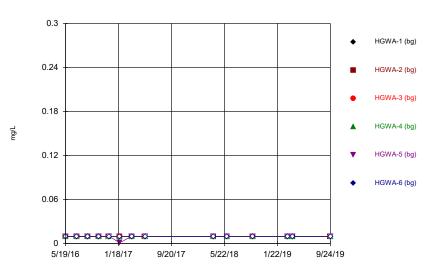
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Hammond AP Client: Georgia Power Data: Hammond AP-2

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Time Series

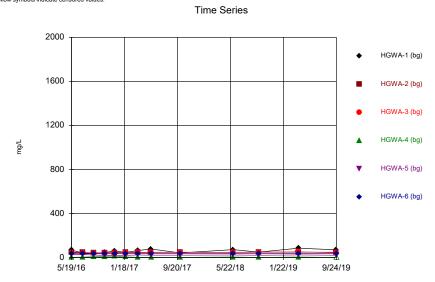


Constituent: pH Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2



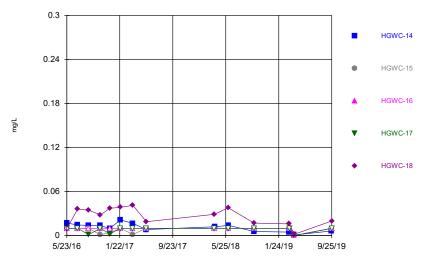
Constituent: Selenium Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

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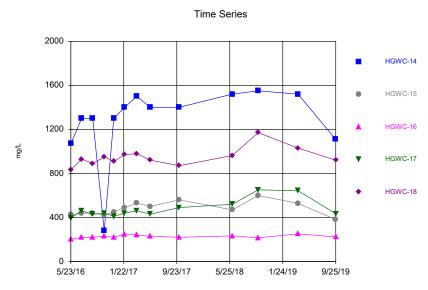
Constituent: Sulfate Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

Time Series

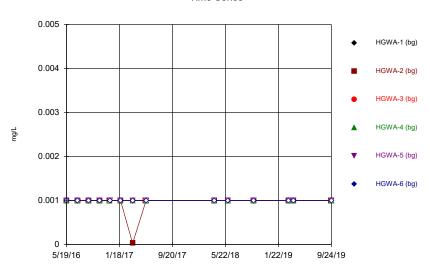


Constituent: Selenium Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

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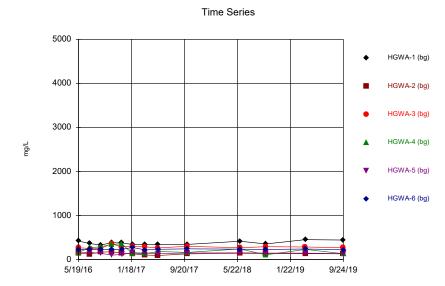


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Hammond AP Client: Georgia Power Data: Hammond AP-2



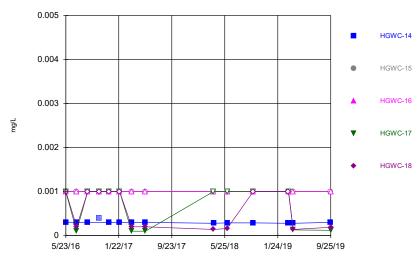
Constituent: Thallium Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

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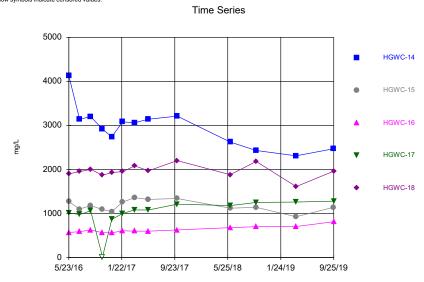
Constituent: Total Dissolved Solids Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

Time Series

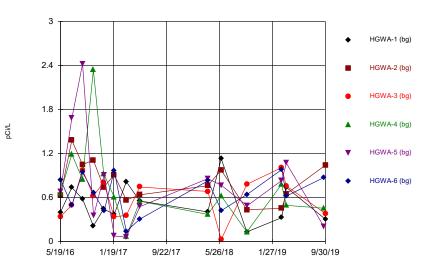


Constituent: Thallium Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG Hollow symbols indicate censored values.

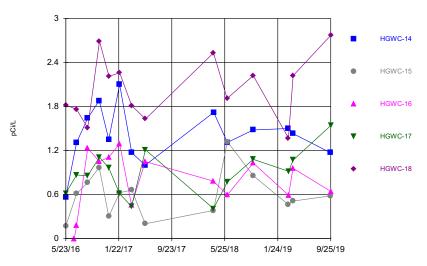


Constituent: Total Dissolved Solids Analysis Run 12/16/2019 6:27 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2



Constituent: Total Radium Analysis Run 12/16/2019 6:27 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

Time Series



Constituent: Total Radium Analysis Run 12/16/2019 6:28 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

Assessment Monitoring Program Statistical Analysis Package Plant Hammond Ash Pond 2 (AP-2)

April 2019 event (AM 01)

GA EPD Based Groundwater Protection Standards Statistical Analysis Package AM 01

Tolerance Limit (EPD)

| | Pla | ant Hammond Client: Georg | jia Power Comp | oany Data: Han | nmond AF | P-2 Pr | inted 7/22/2 | 2019, 2:50 AM | | |
|----------------------|------|---------------------------|----------------|----------------|----------|--------|--------------|---------------|--------------|-----------------|
| Constituent | Well | Upper Lim. | <u>Date</u> | Observ. | Sig. | Bg N | %NDs | Transform | <u>Alpha</u> | Method |
| Antimony (mg/L) | n/a | 0.003 | n/a | n/a | n/a | 60 | 93.33 | n/a | 0.04607 | NP Inter(NDs) |
| Arsenic (mg/L) | n/a | 0.005 | n/a | n/a | n/a | 78 | 82.05 | n/a | 0.0183 | NP Inter(NDs) |
| Barium (mg/L) | n/a | 0.212 | n/a | n/a | n/a | 78 | 0 | n/a | 0.0183 | NP Inter(normal |
| Beryllium (mg/L) | n/a | 0.003 | n/a | n/a | n/a | 66 | 86.36 | n/a | 0.03387 | NP Inter(NDs) |
| Cadmium (mg/L) | n/a | 0.001 | n/a | n/a | n/a | 78 | 92.31 | n/a | 0.0183 | NP Inter(NDs) |
| Chromium (mg/L) | n/a | 0.019 | n/a | n/a | n/a | 66 | 90.91 | n/a | 0.03387 | NP Inter(NDs) |
| Cobalt (mg/L) | n/a | 0.0293 | n/a | n/a | n/a | 78 | 70.51 | n/a | 0.0183 | NP Inter(NDs) |
| Fluoride (mg/L) | n/a | 0.36 | n/a | n/a | n/a | 84 | 27.38 | n/a | 0.01345 | NP Inter(normal |
| Lead (mg/L) | n/a | 0.005 | n/a | n/a | n/a | 66 | 87.88 | n/a | 0.03387 | NP Inter(NDs) |
| Lithium (mg/L) | n/a | 0.05 | n/a | n/a | n/a | 78 | 32.05 | n/a | 0.0183 | NP Inter(normal |
| Mercury (mg/L) | n/a | 0.0005 | n/a | n/a | n/a | 60 | 86.67 | n/a | 0.04607 | NP Inter(NDs) |
| Molybdenum (mg/L) | n/a | 0.01 | n/a | n/a | n/a | 66 | 96.97 | n/a | 0.03387 | NP Inter(NDs) |
| Selenium (mg/L) | n/a | 0.01 | n/a | n/a | n/a | 78 | 98.72 | n/a | 0.0183 | NP Inter(NDs) |
| Thallium (mg/L) | n/a | 0.001 | n/a | n/a | n/a | 78 | 98.72 | n/a | 0.0183 | NP Inter(NDs) |
| Total Radium (pCi/L) | n/a | 2.42 | n/a | n/a | n/a | 78 | 0 | n/a | 0.0183 | NP Inter(normal |

Table F-2 EPD Based Groundwater Protection Standards Plant Hammond - Ash Pond 2 Floyd County, Georgia

| Constituent | CAS | Units | EPA MCL | Statistically Derived Upper Tolerance Limits for Background | GWPS ¹ |
|-------------------------|------------|-------|------------|---|-------------------|
| Antimony | 7440-36-0 | mg/L | 0.006 | 0.003 | 0.006 |
| Arsenic | 7440-38-2 | mg/L | 0.01 | 0.005 | 0.01 |
| Barium | 7440-39-3 | mg/L | 2 | 0.21 | 2 |
| Beryllium | 7440-41-7 | mg/L | 0.004 | 0.003 | 0.004 |
| Cadmium | 7440-43-9 | mg/L | 0.005 | 0.001 | 0.005 |
| Chromium | 7440-47-3 | mg/L | 0.1 | 0.019 | 0.1 |
| Cobalt ² | 7440-48-4 | mg/L | N/A | 0.029 | 0.029 |
| Fluoride | 16984-48-8 | mg/L | 4 | 0.36 | 4 |
| Lead ² | 7439-92-1 | mg/L | N/A | 0.005 | 0.005 |
| Lithium ² | 7439-93-2 | mg/L | N/A | 0.05 | 0.05 |
| Mercury | 7439-97-6 | mg/L | 0.002 | 0.0005 | 0.002 |
| Molybdenum ² | 7439-98-7 | mg/L | N/A | 0.01 | 0.01 |
| Selenium | 7782-49-2 | mg/L | 0.05 | 0.01 | 0.05 |
| Thallium | 7440-28-0 | mg/L | 0.002 | 0.001 | 0.002 |
| Total Radium | 7440-14-4 | pCi/L | 5 | 2.42 | 5 |

Notes:

EPA MCL - U.S. Environmental Protection Agency, Maximum Contaminant Level

GWPS - Groundwater Protection Standards

mg/L - milligram per liter

N/A - Not Available

pCi/L - Picocuries per liter

¹GWPS selected as the greater value between the EPA MCL and the background Upper Tolerance Limit.

²Constituent without established EPA MCL.

Confidence Interval (EPD) - Significant Results

| | PI | ant Hammond C | lient: Georgia Power | r Company D | Data: Har | mmond AF | P-2 Printed | d 7/22/2019, 2:55 AM | | |
|---------------|-------------|---------------|----------------------|-------------|-----------|----------|-------------|----------------------|--------------|--------|
| Constituent | <u>Well</u> | Upper Lim. | Lower Lim. | Compliance | Sig. | <u>N</u> | %NDs | <u>Transform</u> | <u>Alpha</u> | Method |
| Cobalt (mg/L) | HGWC-15 | 0.05419 | 0.03729 | 0.0293 | Yes | 13 | 0 | No | 0.01 | Param. |
| Cobalt (mg/L) | HGWC-18 | 0.2017 | 0.1689 | 0.0293 | Yes | 13 | 0 | No | 0.01 | Param. |

Confidence Interval (EPD) - All Results

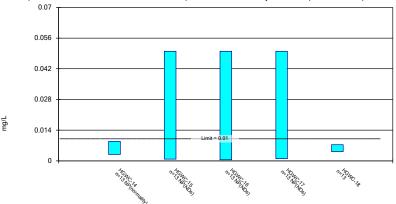
| | P | Plant Hammond (| Client: Georgia Pow | er Company I | Data: Ha | mmond A | P-2 Printe | ed 7/22/2019, 2:55 AM | | |
|-------------------|-------------|-----------------|---------------------|--------------|----------|----------|------------|-----------------------|--------------|----------------|
| Constituent | <u>Well</u> | Upper Lim. | Lower Lim. | Compliance | Sig. | <u>N</u> | %NDs | <u>Transform</u> | <u>Alpha</u> | Method |
| Arsenic (mg/L) | HGWC-14 | 0.0089 | 0.0029 | 0.01 | No | 13 | 15.38 | No | 0.01 | NP (normality) |
| Arsenic (mg/L) | HGWC-15 | 0.05 | 0.0008 | 0.01 | No | 13 | 84.62 | No | 0.01 | NP (NDs) |
| Arsenic (mg/L) | HGWC-16 | 0.05 | 0.0005 | 0.01 | No | 13 | 84.62 | No | 0.01 | NP (NDs) |
| Arsenic (mg/L) | HGWC-17 | 0.05 | 0.00097 | 0.01 | No | 13 | 76.92 | No | 0.01 | NP (NDs) |
| Arsenic (mg/L) | HGWC-18 | 0.007322 | 0.004191 | 0.01 | No | 13 | 0 | No | 0.01 | Param. |
| Barium (mg/L) | HGWC-14 | 0.0244 | 0.019 | 2 | No | 13 | 7.692 | No | 0.01 | NP (normality) |
| Barium (mg/L) | HGWC-15 | 0.03266 | 0.02314 | 2 | No | 13 | 0 | No | 0.01 | Param. |
| Barium (mg/L) | HGWC-16 | 0.1122 | 0.0949 | 2 | No | 13 | 0 | No | 0.01 | Param. |
| Barium (mg/L) | HGWC-17 | 0.02629 | 0.02254 | 2 | No | 13 | 0 | No | 0.01 | Param. |
| Barium (mg/L) | HGWC-18 | 0.0349 | 0.028 | 2 | No | 13 | 7.692 | No | 0.01 | NP (normality) |
| Beryllium (mg/L) | HGWC-14 | 0.0004844 | 0.0002996 | 0.004 | No | 11 | 18.18 | In(x) | 0.01 | Param. |
| Beryllium (mg/L) | HGWC-15 | 0.0015 | 0.0015 | 0.004 | No | 11 | 100 | No | 0.006 | NP (NDs) |
| Beryllium (mg/L) | HGWC-16 | 0.0015 | 0.0015 | 0.004 | No | 11 | 100 | No | 0.006 | NP (NDs) |
| Beryllium (mg/L) | HGWC-17 | 0.0015 | 0.0015 | 0.004 | No | 11 | 100 | No | 0.006 | NP (NDs) |
| Beryllium (mg/L) | HGWC-18 | 0.003553 | 0.002444 | 0.004 | No | 11 | 9.091 | No | 0.01 | Param. |
| Cadmium (mg/L) | HGWC-14 | 0.0005 | 0.000079 | 0.005 | No | 13 | 23.08 | No | 0.01 | NP (normality) |
| Cadmium (mg/L) | HGWC-15 | 0.0027 | 0.001671 | 0.005 | No | 13 | 0 | No | 0.01 | Param. |
| Cadmium (mg/L) | HGWC-16 | 0.0005 | 0.0005 | 0.005 | No | 13 | 100 | No | 0.01 | NP (NDs) |
| Cadmium (mg/L) | HGWC-17 | 0.0005 | 0.00007 | 0.005 | No | 13 | 92.31 | No | 0.01 | NP (NDs) |
| Cadmium (mg/L) | HGWC-18 | 0.00253 | 0.001886 | 0.005 | No | 13 | 7.692 | x^2 | 0.01 | Param. |
| Chromium (mg/L) | HGWC-14 | 0.005 | 0.005 | 0.1 | No | 11 | 100 | No | 0.006 | NP (NDs) |
| Chromium (mg/L) | HGWC-15 | 0.005 | 0.0005 | 0.1 | No | 11 | 90.91 | No | 0.006 | NP (NDs) |
| Chromium (mg/L) | HGWC-16 | 0.005 | 0.0021 | 0.1 | No | 11 | 90.91 | No | 0.006 | NP (NDs) |
| Chromium (mg/L) | HGWC-17 | 0.005 | 0.005 | 0.1 | No | 11 | 100 | No | 0.006 | NP (NDs) |
| Chromium (mg/L) | HGWC-18 | 0.005 | 0.0005 | 0.1 | No | 11 | 90.91 | No | 0.006 | NP (NDs) |
| Cobalt (mg/L) | HGWC-14 | 0.02817 | 0.02128 | 0.0293 | No | 13 | 7.692 | x^2 | 0.01 | Param. |
| Cobalt (mg/L) | HGWC-15 | 0.05419 | 0.03729 | 0.0293 | Yes | 13 | 0 | No | 0.01 | Param. |
| Cobalt (mg/L) | HGWC-16 | 0.005 | 0.00028 | 0.0293 | No | 13 | 92.31 | No | 0.01 | NP (NDs) |
| Cobalt (mg/L) | HGWC-17 | 0.01667 | 0.01495 | 0.0293 | No | 13 | 0 | No | 0.01 | Param. |
| Cobalt (mg/L) | HGWC-18 | 0.2017 | 0.1689 | 0.0293 | Yes | 13 | 0 | No | 0.01 | Param. |
| Fluoride (mg/L) | HGWC-14 | 0.3591 | 0.1181 | 4 | No | 14 | 14.29 | No | 0.01 | Param. |
| Fluoride (mg/L) | HGWC-15 | 0.2536 | 0.09359 | 4 | No | 14 | 35.71 | sqrt(x) | 0.01 | Param. |
| Fluoride (mg/L) | HGWC-16 | 0.3166 | 0.1228 | 4 | No | 14 | 42.86 | No | 0.01 | Param. |
| Fluoride (mg/L) | HGWC-17 | 0.3197 | 0.05704 | 4 | No | 14 | 35.71 | sqrt(x) | 0.01 | Param. |
| Fluoride (mg/L) | HGWC-18 | 0.7051 | 0.3978 | 4 | No | 14 | 7.143 | No | 0.01 | Param. |
| Lead (mg/L) | HGWC-14 | 0.002009 | 0.001431 | 0.005 | No | 11 | 9.091 | No | 0.01 | Param. |
| Lead (mg/L) | HGWC-15 | 0.0025 | 0.000072 | 0.005 | No | 11 | 72.73 | No | 0.006 | NP (NDs) |
| Lead (mg/L) | HGWC-16 | 0.0025 | 0.0001 | 0.005 | No | 11 | 63.64 | No | 0.006 | NP (NDs) |
| Lead (mg/L) | HGWC-17 | 0.0025 | 0.000076 | 0.005 | No | 11 | 81.82 | No | 0.006 | NP (NDs) |
| Lead (mg/L) | HGWC-18 | 0.00181 | 0.001161 | 0.005 | No | 11 | 9.091 | No | 0.01 | Param. |
| Lithium (mg/L) | HGWC-14 | 0.025 | 0.025 | 0.05 | No | 13 | 100 | No | 0.01 | NP (NDs) |
| Lithium (mg/L) | HGWC-15 | 0.025 | 0.0013 | 0.05 | No | 13 | 46.15 | No | 0.01 | NP (normality) |
| Lithium (mg/L) | HGWC-16 | 0.0041 | 0.0026 | 0.05 | No | 13 | 7.692 | No | 0.01 | NP (normality) |
| Lithium (mg/L) | HGWC-17 | 0.025 | 0.0011 | 0.05 | No | 13 | 76.92 | No | 0.01 | NP (NDs) |
| Lithium (mg/L) | HGWC-18 | 0.01534 | 0.0122 | 0.05 | No | 13 | 0 | No | 0.01 | Param. |
| Molybdenum (mg/L) | HGWC-14 | 0.005 | 0.005 | 0.01 | No | 11 | 100 | No | 0.006 | NP (NDs) |
| Molybdenum (mg/L) | HGWC-15 | 0.005 | 0.0007 | 0.01 | No | 11 | 90.91 | No | 0.006 | NP (NDs) |
| Molybdenum (mg/L) | HGWC-16 | 0.005 | 0.005 | 0.01 | No | 11 | 100 | No | 0.006 | NP (NDs) |
| Molybdenum (mg/L) | HGWC-17 | 0.005 | 0.005 | 0.01 | No | 11 | 100 | No | 0.006 | NP (NDs) |
| Molybdenum (mg/L) | HGWC-18 | 0.005 | 0.005 | 0.01 | No | 11 | 100 | No | 0.006 | NP (NDs) |

Confidence Interval (EPD) - All Results

| | | Plant Hammond | Client: Georgia Pov | ver Company | Data: Ha | mmond . | AP-2 Print | ed 7/22/2019, 2:55 AM | | |
|----------------------|-------------|---------------|---------------------|-------------|----------|----------|------------|-----------------------|--------------|----------|
| Constituent | <u>Well</u> | Upper Lim. | Lower Lim. | Compliance | Sig. | <u>N</u> | %NDs | <u>Transform</u> | <u>Alpha</u> | Method |
| Selenium (mg/L) | HGWC-14 | 0.01594 | 0.007526 | 0.05 | No | 13 | 0 | No | 0.01 | Param. |
| Selenium (mg/L) | HGWC-15 | 0.005 | 0.0012 | 0.05 | No | 13 | 69.23 | No | 0.01 | NP (NDs) |
| Selenium (mg/L) | HGWC-16 | 0.005 | 0.000089 | 0.05 | No | 13 | 92.31 | No | 0.01 | NP (NDs) |
| Selenium (mg/L) | HGWC-17 | 0.005 | 0.0014 | 0.05 | No | 13 | 76.92 | No | 0.01 | NP (NDs) |
| Selenium (mg/L) | HGWC-18 | 0.03616 | 0.01644 | 0.05 | No | 13 | 7.692 | No | 0.01 | Param. |
| Thallium (mg/L) | HGWC-14 | 0.0003012 | 0.0002864 | 0.002 | No | 12 | 0 | No | 0.01 | Param. |
| Thallium (mg/L) | HGWC-15 | 0.0005 | 0.0005 | 0.002 | No | 13 | 100 | No | 0.01 | NP (NDs) |
| Thallium (mg/L) | HGWC-16 | 0.0005 | 0.0005 | 0.002 | No | 13 | 100 | No | 0.01 | NP (NDs) |
| Thallium (mg/L) | HGWC-17 | 0.0005 | 0.0001 | 0.002 | No | 13 | 69.23 | No | 0.01 | NP (NDs) |
| Thallium (mg/L) | HGWC-18 | 0.0005 | 0.00016 | 0.002 | No | 13 | 53.85 | No | 0.01 | NP (NDs) |
| Total Radium (pCi/L) | HGWC-14 | 1.709 | 1.131 | 5 | No | 13 | 0 | No | 0.01 | Param. |
| Total Radium (pCi/L) | HGWC-15 | 0.8442 | 0.3627 | 5 | No | 13 | 0 | No | 0.01 | Param. |
| Total Radium (pCi/L) | HGWC-16 | 1.094 | 0.4942 | 5 | No | 13 | 0 | No | 0.01 | Param. |
| Total Radium (pCi/L) | HGWC-17 | 1.032 | 0.6486 | 5 | No | 13 | 0 | No | 0.01 | Param. |
| Total Radium (pCi/L) | HGWC-18 | 2.289 | 1.702 | 5 | No | 13 | 0 | No | 0.01 | Param. |

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



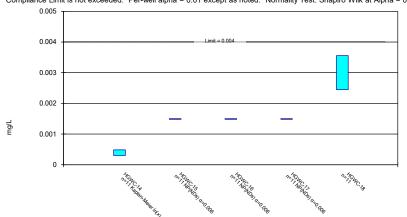
Constituent: Arsenic Analysis Run 7/22/2019 2:54 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

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Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.

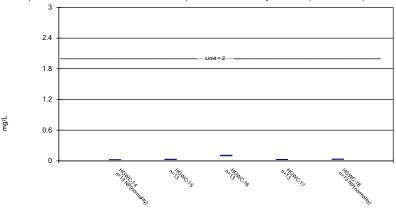


Constituent: Beryllium Analysis Run 7/22/2019 2:54 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



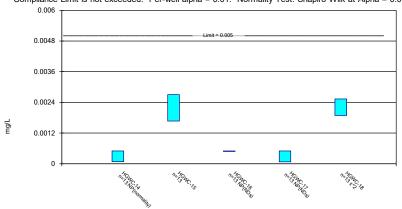
Constituent: Barium Analysis Run 7/22/2019 2:54 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

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Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Arsenic (mg/L) Analysis Run 7/22/2019 2:55 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|-------------|-------------|------------|-------------|-------------|
| 5/23/2016 | 0.00268 (J) | <0.1 | <0.1 | <0.1 | |
| 5/24/2016 | | | | | 0.00294 (J) |
| 7/12/2016 | 0.0059 | <0.1 | <0.1 | <0.1 | 0.0074 |
| 9/1/2016 | 0.0056 | <0.1 | <0.1 | <0.1 | 0.0073 |
| 10/24/2016 | 0.0058 | <0.1 | | | |
| 10/25/2016 | | | <0.1 | <0.1 | 0.006 |
| 12/7/2016 | <0.1 | <0.1 | <0.1 | <0.1 | |
| 12/8/2016 | | | | | 0.007 |
| 1/26/2017 | 0.0089 | <0.1 | <0.1 | <0.1 | 0.0068 |
| 3/22/2017 | | | 0.0005 (J) | 0.0007 (J) | |
| 3/23/2017 | 0.0069 | 0.0008 (J) | | | 0.0082 |
| 5/24/2017 | 0.0048 (J) | <0.1 | <0.1 | | |
| 5/25/2017 | | | | 0.0007 (J) | 0.006 |
| 4/3/2018 | | <0.1 | <0.1 | <0.1 | 0.0062 |
| 4/4/2018 | 0.0052 | | | | |
| 6/5/2018 | | | | | 0.008 |
| 6/6/2018 | 0.0059 | <0.1 | <0.1 | 0.00097 (J) | |
| 10/3/2018 | 0.0032 (J) | <0.1 | <0.1 | <0.1 | 0.0039 (J) |
| 3/14/2019 | 0.0029 (J) | <0.1 | | | 0.0036 (J) |
| 3/15/2019 | | | <0.1 | <0.1 | |
| 4/4/2019 | | 0.00017 (J) | 0.0001 (J) | | |
| 4/5/2019 | <0.1 | | | <0.1 | 0.0015 (J) |
| Mean | 0.01214 | 0.04238 | 0.04235 | 0.03864 | 0.005757 |
| Std. Dev. | 0.01689 | 0.0186 | 0.01866 | 0.02158 | 0.002105 |
| Upper Lim. | 0.0089 | 0.05 | 0.05 | 0.05 | 0.007322 |
| Lower Lim. | 0.0029 | 0.0008 | 0.0005 | 0.00097 | 0.004191 |
| | | | | | |

Constituent: Barium (mg/L) Analysis Run 7/22/2019 2:55 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|---------|------------|---------|------------|---------|
| 5/23/2016 | <0.2 | 0.0315 (J) | 0.0841 | 0.0222 (J) | |
| 5/24/2016 | | | | | <0.2 |
| 7/12/2016 | 0.0214 | 0.0372 | 0.0886 | 0.0221 | 0.0346 |
| 9/1/2016 | 0.0208 | 0.0364 | 0.0934 | 0.0227 | 0.0336 |
| 10/24/2016 | 0.0208 | 0.0326 | | | |
| 10/25/2016 | | | 0.0991 | 0.0225 | 0.0349 |
| 12/7/2016 | 0.022 | 0.0301 | 0.101 | 0.0227 | |
| 12/8/2016 | | | | | 0.0339 |
| 1/26/2017 | 0.0238 | 0.0287 | 0.105 | 0.0229 | 0.0293 |
| 3/22/2017 | | | 0.11 | 0.0248 | |
| 3/23/2017 | 0.0244 | 0.0329 | | | 0.0313 |
| 5/24/2017 | 0.0228 | 0.0283 | 0.106 | | |
| 5/25/2017 | | | | 0.0255 | 0.0336 |
| 4/3/2018 | | 0.019 | 0.099 | 0.025 | 0.028 |
| 4/4/2018 | 0.021 | | | | |
| 6/5/2018 | | | | | 0.03 |
| 6/6/2018 | 0.022 | 0.022 | 0.11 | 0.028 | |
| 10/3/2018 | 0.02 | 0.025 | 0.11 | 0.028 | 0.032 |
| 3/14/2019 | 0.019 | 0.021 | | | 0.029 |
| 3/15/2019 | | | 0.13 | 0.029 | |
| 4/4/2019 | | 0.018 | 0.11 | | |
| 4/5/2019 | 0.016 | | | 0.022 | 0.021 |
| Mean | 0.02723 | 0.0279 | 0.1036 | 0.02442 | 0.03625 |
| Std. Dev. | 0.02197 | 0.006406 | 0.01164 | 0.002522 | 0.01952 |
| Upper Lim. | 0.0244 | 0.03266 | 0.1122 | 0.02629 | 0.0349 |
| Lower Lim. | 0.019 | 0.02314 | 0.0949 | 0.02254 | 0.028 |
| | | | | | |

Constituent: Beryllium (mg/L) Analysis Run 7/22/2019 2:56 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

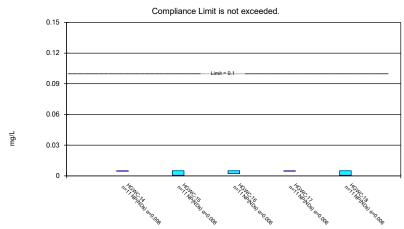
| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|-------------|---------|---------|---------|-------------|
| 5/23/2016 | <0.003 | <0.003 | <0.003 | <0.003 | |
| 5/24/2016 | | | | | 0.00278 (J) |
| 7/12/2016 | 0.0005 (J) | <0.003 | <0.003 | <0.003 | 0.0032 |
| 9/1/2016 | 0.0005 (J) | <0.003 | <0.003 | <0.003 | 0.0034 |
| 10/24/2016 | 0.0005 (J) | <0.003 | | | |
| 10/25/2016 | | | <0.003 | <0.003 | 0.0034 |
| 12/7/2016 | 0.0006 (J) | <0.003 | <0.003 | <0.003 | |
| 12/8/2016 | | | | | 0.0033 |
| 1/26/2017 | 0.0005 (J) | <0.003 | <0.003 | <0.003 | 0.0034 |
| 3/22/2017 | | | <0.003 | <0.003 | |
| 3/23/2017 | 0.0006 (J) | <0.003 | | | 0.0036 |
| 5/24/2017 | 0.0005 (J) | <0.003 | <0.003 | | |
| 5/25/2017 | | | | <0.003 | 0.0036 |
| 4/3/2018 | | <0.003 | <0.003 | <0.003 | <0.003 |
| 4/4/2018 | <0.003 | | | | |
| 3/14/2019 | 0.00043 (J) | <0.003 | | | 0.0026 (J) |
| 3/15/2019 | | | <0.003 | <0.003 | |
| 4/4/2019 | | <0.003 | <0.003 | | |
| 4/5/2019 | 0.00027 (J) | | | <0.003 | 0.0022 (J) |
| Mean | 0.0006727 | 0.0015 | 0.0015 | 0.0015 | 0.002998 |
| Std. Dev. | 0.0004183 | 0 | 0 | 0 | 0.0006655 |
| Upper Lim. | 0.0004844 | 0.0015 | 0.0015 | 0.0015 | 0.003553 |
| Lower Lim. | 0.0002996 | 0.0015 | 0.0015 | 0.0015 | 0.002444 |
| | | | | | |

Constituent: Cadmium (mg/L) Analysis Run 7/22/2019 2:56 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|--------------|-------------|---------|-----------|-----------|
| 5/23/2016 | 0.000139 (J) | 0.00271 (J) | <0.001 | <0.001 | |
| 5/24/2016 | | | | | <0.001 |
| 7/12/2016 | <0.001 | 0.0019 | <0.001 | <0.001 | 0.0022 |
| 9/1/2016 | 0.0001 (J) | 0.0017 | <0.001 | <0.001 | 0.0024 |
| 10/24/2016 | 0.0002 (J) | 0.0018 | | | |
| 10/25/2016 | | | <0.001 | <0.001 | 0.0022 |
| 12/7/2016 | 0.0001 (J) | 0.0018 | <0.001 | <0.001 | |
| 12/8/2016 | | | | | 0.0024 |
| 1/26/2017 | 0.0001 (J) | 0.0013 | <0.001 | <0.001 | 0.0025 |
| 3/22/2017 | | | <0.001 | 7E-05 (J) | |
| 3/23/2017 | 0.0002 (J) | 0.002 | | | 0.0025 |
| 5/24/2017 | 0.0001 (J) | 0.0041 | <0.001 | | |
| 5/25/2017 | | | | <0.001 | 0.0027 |
| 4/3/2018 | | 0.0022 | <0.001 | <0.001 | 0.0022 |
| 4/4/2018 | <0.001 | | | | |
| 6/5/2018 | | | | | 0.0022 |
| 6/6/2018 | 0.00012 (J) | 0.0021 | <0.001 | <0.001 | |
| 10/3/2018 | 0.0001 (J) | 0.0026 | <0.001 | <0.001 | 0.0027 |
| 3/14/2019 | <0.001 | 0.0024 | | | 0.0019 |
| 3/15/2019 | | | <0.001 | <0.001 | |
| 4/4/2019 | | 0.0018 | <0.001 | | |
| 4/5/2019 | 7.9E-05 (J) | | | <0.001 | 0.0017 |
| Mean | 0.0002106 | 0.002185 | 0.0005 | 0.0004669 | 0.002162 |
| Std. Dev. | 0.0001691 | 0.0006921 | 0 | 0.0001193 | 0.0005752 |
| Upper Lim. | 0.0005 | 0.0027 | 0.0005 | 0.0005 | 0.00253 |
| Lower Lim. | 7.9E-05 | 0.001671 | 0.0005 | 7E-05 | 0.001886 |
| | | | | | |

Non-Parametric Confidence Interval



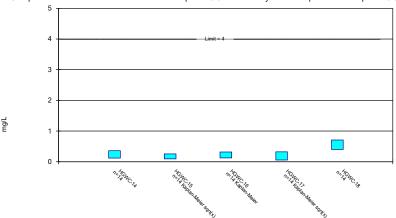
Constituent: Chromium Analysis Run 7/22/2019 2:54 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

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Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.

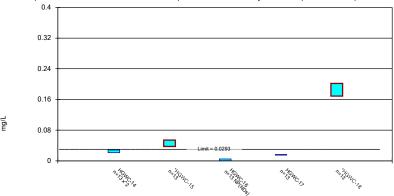


Constituent: Fluoride Analysis Run 7/22/2019 2:54 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



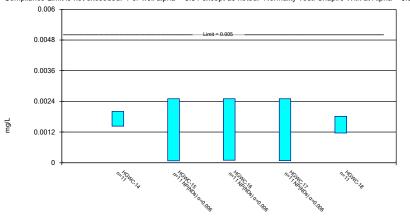
Constituent: Cobalt Analysis Run 7/22/2019 2:54 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

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Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Chromium (mg/L) Analysis Run 7/22/2019 2:56 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|---------|------------|------------|---------|------------|
| 5/23/2016 | <0.01 | <0.01 | <0.01 | <0.01 | |
| 5/24/2016 | | | | | <0.01 |
| 7/12/2016 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| 9/1/2016 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| 10/24/2016 | <0.01 | <0.01 | | | |
| 10/25/2016 | | | <0.01 | <0.01 | <0.01 |
| 12/7/2016 | <0.01 | <0.01 | <0.01 | <0.01 | |
| 12/8/2016 | | | | | <0.01 |
| 1/26/2017 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| 3/22/2017 | | | 0.0021 (J) | <0.01 | |
| 3/23/2017 | <0.01 | 0.0005 (J) | | | 0.0005 (J) |
| 5/24/2017 | <0.01 | <0.01 | <0.01 | | |
| 5/25/2017 | | | | <0.01 | <0.01 |
| 4/3/2018 | | <0.01 | <0.01 | <0.01 | <0.01 |
| 4/4/2018 | <0.01 | | | | |
| 3/14/2019 | <0.01 | <0.01 | | | <0.01 |
| 3/15/2019 | | | <0.01 | <0.01 | |
| 4/4/2019 | | <0.01 | <0.01 | | |
| 4/5/2019 | <0.01 | | | <0.01 | <0.01 |
| Mean | 0.005 | 0.004591 | 0.004736 | 0.005 | 0.004591 |
| Std. Dev. | 0 | 0.001357 | 0.0008744 | 0 | 0.001357 |
| Upper Lim. | 0.005 | 0.005 | 0.005 | 0.005 | 0.005 |
| Lower Lim. | 0.005 | 0.0005 | 0.0021 | 0.005 | 0.0005 |

Constituent: Cobalt (mg/L) Analysis Run 7/22/2019 2:56 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|----------|------------|-------------|----------|----------|
| 5/23/2016 | <0.01 | 0.0419 (J) | <0.01 | 0.0167 | |
| 5/24/2016 | | | | | 0.17 (J) |
| 7/12/2016 | 0.0232 | 0.0393 | <0.01 | 0.0148 | 0.168 |
| 9/1/2016 | 0.0248 | 0.045 | <0.01 | 0.0151 | 0.18 |
| 10/24/2016 | 0.0253 | 0.0557 | | | |
| 10/25/2016 | | | <0.01 | 0.0141 | 0.188 |
| 12/7/2016 | 0.0269 | 0.0536 | <0.01 | 0.0141 | |
| 12/8/2016 | | | | | 0.206 |
| 1/26/2017 | 0.0294 | 0.055 | <0.01 | 0.0154 | 0.195 |
| 3/22/2017 | | | <0.01 | 0.0169 | |
| 3/23/2017 | 0.0311 | 0.0715 | | | 0.223 |
| 5/24/2017 | 0.0279 | 0.0446 | <0.01 | | |
| 5/25/2017 | | | | 0.0154 | 0.209 |
| 4/3/2018 | | 0.032 | <0.01 | 0.016 | 0.19 |
| 4/4/2018 | 0.025 | | | | |
| 6/5/2018 | | | | | 0.19 |
| 6/6/2018 | 0.027 | 0.032 | <0.01 | 0.018 | |
| 10/3/2018 | 0.023 | 0.051 | <0.01 | 0.016 | 0.19 |
| 3/14/2019 | 0.025 | 0.038 | | | 0.16 |
| 3/15/2019 | | | <0.01 | 0.017 | |
| 4/4/2019 | | 0.035 | 0.00028 (J) | | |
| 4/5/2019 | 0.021 | | | 0.016 | 0.14 |
| Mean | 0.0242 | 0.04574 | 0.004637 | 0.01581 | 0.1853 |
| Std. Dev. | 0.006375 | 0.01136 | 0.001309 | 0.001155 | 0.02205 |
| Upper Lim. | 0.02817 | 0.05419 | 0.005 | 0.01667 | 0.2017 |
| Lower Lim. | 0.02128 | 0.03729 | 0.00028 | 0.01495 | 0.1689 |
| | | | | | |

Constituent: Fluoride (mg/L) Analysis Run 7/22/2019 2:56 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

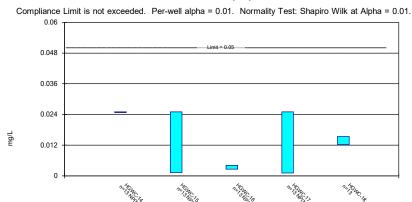
| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|----------|-----------|-----------|----------|---------|
| 5/23/2016 | <0.3 | <0.3 | 0.038 (J) | <0.3 | |
| 5/24/2016 | | | | | <0.3 |
| 7/12/2016 | 0.2 (J) | 0.09 (J) | 0.26 (J) | 0.09 (J) | 0.54 |
| 9/1/2016 | 0.08 (J) | 0.22 (J) | 0.42 | 0.03 (J) | 0.49 |
| 10/24/2016 | 0.04 (J) | 0.07 (J) | | | |
| 10/25/2016 | | | 0.25 (J) | 0.07 (J) | 0.58 |
| 12/7/2016 | 0.11 (J) | 0.23 (J) | 0.23 (J) | 0.54 | |
| 12/8/2016 | | | | | 0.63 |
| 1/26/2017 | 0.13 (J) | <0.3 | 0.02 (J) | <0.3 | 0.71 |
| 3/22/2017 | | | 0.3 | 0.07 (J) | |
| 3/23/2017 | 0.28 (J) | 0.12 (J) | | | 0.57 |
| 5/24/2017 | 0.32 | 0.31 | 0.46 | | |
| 5/25/2017 | | | | 0.42 | 0.54 |
| 10/4/2017 | 0.52 | 0.6 | <0.3 | 0.93 | 0.95 |
| 4/3/2018 | | <0.3 | <0.3 | <0.3 | 0.33 |
| 4/4/2018 | <0.3 | | | | |
| 6/5/2018 | | | | | 0.66 |
| 6/6/2018 | 0.25 (J) | 0.17 (J) | <0.3 | 0.23 (J) | |
| 10/3/2018 | 0.21 (J) | <0.3 | <0.3 | <0.3 | 0.32 |
| 3/14/2019 | 0.24 (J) | <0.3 | | | 0.88 |
| 3/15/2019 | | | <0.3 | <0.3 | |
| 4/4/2019 | | 0.066 (J) | <0.3 | | |
| 4/5/2019 | 0.66 | | | 0.16 (J) | 0.37 |
| Mean | 0.2386 | 0.1876 | 0.2056 | 0.235 | 0.5514 |
| Std. Dev. | 0.1701 | 0.1353 | 0.1259 | 0.2433 | 0.2169 |
| Upper Lim. | 0.3591 | 0.2536 | 0.3166 | 0.3197 | 0.7051 |
| Lower Lim. | 0.1181 | 0.09359 | 0.1228 | 0.05704 | 0.3978 |
| | | | | | |

Constituent: Lead (mg/L) Analysis Run 7/22/2019 2:56 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|-------------|-------------|-------------|-------------|-------------|
| 5/23/2016 | 0.00182 (J) | <0.005 | <0.005 | <0.005 | |
| 5/24/2016 | | | | | 0.00154 (J) |
| 7/12/2016 | 0.0015 (J) | <0.005 | <0.005 | <0.005 | 0.0012 (J) |
| 9/1/2016 | 0.0016 (J) | <0.005 | <0.005 | <0.005 | 0.0014 (J) |
| 10/24/2016 | 0.0016 (J) | <0.005 | | | |
| 10/25/2016 | | | <0.005 | <0.005 | 0.0015 (J) |
| 12/7/2016 | 0.0018 (J) | <0.005 | <0.005 | <0.005 | |
| 12/8/2016 | | | | | 0.0017 (J) |
| 1/26/2017 | 0.002 (J) | <0.005 | 0.0001 (J) | <0.005 | 0.0013 (J) |
| 3/22/2017 | | | 0.0002 (J) | 0.0001 (J) | |
| 3/23/2017 | 0.0019 (J) | 0.001 (J) | | | 0.001 (J) |
| 5/24/2017 | 0.0016 (J) | 0.0001 (J) | 0.0001 (J) | | |
| 5/25/2017 | | | | <0.005 | 0.0012 (J) |
| 4/3/2018 | | <0.005 | <0.005 | <0.005 | <0.005 |
| 4/4/2018 | <0.005 | | | | |
| 3/14/2019 | 0.0014 (J) | <0.005 | | | 0.0015 (J) |
| 3/15/2019 | | | <0.005 | <0.005 | |
| 4/4/2019 | | 7.2E-05 (J) | 0.00016 (J) | | |
| 4/5/2019 | 0.0012 (J) | | | 7.6E-05 (J) | 0.0015 (J) |
| Mean | 0.00172 | 0.001925 | 0.001642 | 0.002061 | 0.001485 |
| Std. Dev. | 0.0003464 | 0.001013 | 0.001191 | 0.0009757 | 0.0003898 |
| Upper Lim. | 0.002009 | 0.0025 | 0.0025 | 0.0025 | 0.00181 |
| Lower Lim. | 0.001431 | 7.2E-05 | 0.0001 | 7.6E-05 | 0.001161 |
| | | | | | |

Parametric and Non-Parametric (NP) Confidence Interval

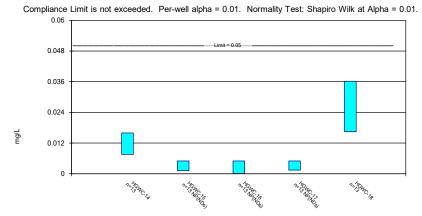


Constituent: Lithium Analysis Run 7/22/2019 2:54 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

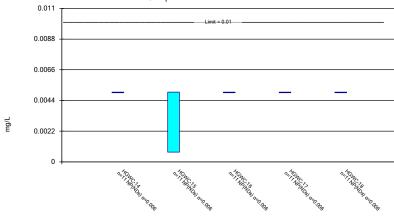
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Parametric and Non-Parametric (NP) Confidence Interval



Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



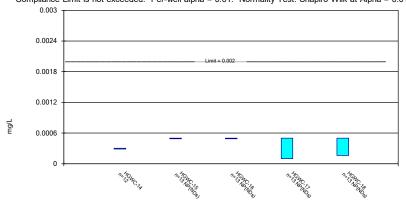
Constituent: Molybdenum Analysis Run 7/22/2019 2:54 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

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Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Lithium (mg/L) Analysis Run 7/22/2019 2:56 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|---------|------------|------------|-------------|------------|
| 5/23/2016 | <0.05 | <0.05 | <0.05 | <0.05 | |
| 5/24/2016 | | | | | 0.0142 (J) |
| 7/12/2016 | <0.05 | <0.05 | 0.0037 (J) | <0.05 | 0.0141 (J) |
| 9/1/2016 | <0.05 | 0.0021 (J) | 0.0033 (J) | <0.05 | 0.0158 (J) |
| 10/24/2016 | <0.05 | <0.05 | | | |
| 10/25/2016 | | | 0.0029 (J) | <0.05 | 0.016 (J) |
| 12/7/2016 | <0.05 | <0.05 | 0.0029 (J) | <0.05 | |
| 12/8/2016 | | | | | 0.0144 (J) |
| 1/26/2017 | <0.05 | <0.05 | 0.0028 (J) | <0.05 | 0.0136 (J) |
| 3/22/2017 | | | 0.0025 (J) | <0.05 | |
| 3/23/2017 | <0.05 | 0.0016 (J) | | | 0.0151 (J) |
| 5/24/2017 | <0.05 | 0.0029 (J) | 0.0029 (J) | | |
| 5/25/2017 | | | | 0.0011 (J) | 0.0154 (J) |
| 4/3/2018 | | 0.0026 (J) | 0.0028 (J) | <0.05 | 0.013 (J) |
| 4/4/2018 | <0.05 | | | | |
| 6/5/2018 | | | | | 0.013 (J) |
| 6/6/2018 | <0.05 | 0.0013 (J) | 0.0031 (J) | <0.05 | |
| 10/3/2018 | <0.05 | 0.0017 (J) | 0.0026 (J) | <0.05 | 0.015 (J) |
| 3/14/2019 | <0.05 | <0.05 | | | 0.011 (J) |
| 3/15/2019 | | | 0.0041 (J) | 0.0011 (J) | |
| 4/4/2019 | | 0.0009 (J) | 0.0032 (J) | | |
| 4/5/2019 | <0.05 | | | 0.00074 (J) | 0.0084 (J) |
| Mean | 0.025 | 0.01255 | 0.004754 | 0.01946 | 0.01377 |
| Std. Dev. | 0 | 0.01201 | 0.006099 | 0.01053 | 0.00211 |
| Upper Lim. | 0.025 | 0.025 | 0.0041 | 0.025 | 0.01534 |
| Lower Lim. | 0.025 | 0.0013 | 0.0026 | 0.0011 | 0.0122 |
| | | | | | |

Constituent: Molybdenum (mg/L) Analysis Run 7/22/2019 2:56 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|---------|------------|---------|---------|---------|
| 5/23/2016 | <0.01 | <0.01 | <0.01 | <0.01 | |
| 5/24/2016 | | | | | <0.01 |
| 7/12/2016 | <0.01 | 0.0007 (J) | <0.01 | <0.01 | <0.01 |
| 9/1/2016 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| 10/24/2016 | <0.01 | <0.01 | | | |
| 10/25/2016 | | | <0.01 | <0.01 | <0.01 |
| 12/7/2016 | <0.01 | <0.01 | <0.01 | <0.01 | |
| 12/8/2016 | | | | | <0.01 |
| 1/26/2017 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| 3/22/2017 | | | <0.01 | <0.01 | |
| 3/23/2017 | <0.01 | <0.01 | | | <0.01 |
| 5/24/2017 | <0.01 | <0.01 | <0.01 | | |
| 5/25/2017 | | | | <0.01 | <0.01 |
| 4/3/2018 | | <0.01 | <0.01 | <0.01 | <0.01 |
| 4/4/2018 | <0.01 | | | | |
| 3/14/2019 | <0.01 | <0.01 | | | <0.01 |
| 3/15/2019 | | | <0.01 | <0.01 | |
| 4/4/2019 | | <0.01 | <0.01 | | |
| 4/5/2019 | <0.01 | | | <0.01 | <0.01 |
| Mean | 0.005 | 0.004609 | 0.005 | 0.005 | 0.005 |
| Std. Dev. | 0 | 0.001296 | 0 | 0 | 0 |
| Upper Lim. | 0.005 | 0.005 | 0.005 | 0.005 | 0.005 |
| Lower Lim. | 0.005 | 0.0007 | 0.005 | 0.005 | 0.005 |
| | | | | | |

Constituent: Selenium (mg/L) Analysis Run 7/22/2019 2:56 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|-------------|-------------|-------------|-------------|------------|
| 5/23/2016 | 0.017 | <0.01 | <0.01 | <0.01 | |
| 5/24/2016 | | | | | <0.01 |
| 7/12/2016 | 0.0146 | <0.01 | <0.01 | <0.01 | 0.036 |
| 9/1/2016 | 0.0137 | <0.01 | <0.01 | 0.0014 (J) | 0.0347 |
| 10/24/2016 | 0.0135 | 0.0012 (J) | | | |
| 10/25/2016 | | | <0.01 | <0.01 | 0.0282 |
| 12/7/2016 | 0.01 (J) | 0.0041 (J) | <0.01 | 0.0023 (J) | |
| 12/8/2016 | | | | | 0.0373 |
| 1/26/2017 | 0.0214 | <0.01 | <0.01 | <0.01 | 0.0385 |
| 3/22/2017 | | | <0.01 | <0.01 | |
| 3/23/2017 | 0.0167 | 0.0016 (J) | | | 0.0414 |
| 5/24/2017 | 0.0083 (J) | <0.01 | <0.01 | | |
| 5/25/2017 | | | | <0.01 | 0.019 |
| 4/3/2018 | | <0.01 | <0.01 | <0.01 | 0.029 |
| 4/4/2018 | 0.012 | | | | |
| 6/5/2018 | | | | | 0.038 |
| 6/6/2018 | 0.014 | <0.01 | <0.01 | <0.01 | |
| 10/3/2018 | 0.0056 (J) | <0.01 | <0.01 | <0.01 | 0.017 |
| 3/14/2019 | 0.0048 (J) | <0.01 | | | 0.016 |
| 3/15/2019 | | | <0.01 | <0.01 | |
| 4/4/2019 | | 0.00021 (J) | 8.9E-05 (J) | | |
| 4/5/2019 | 0.00091 (J) | | | 9.3E-05 (J) | 0.0018 (J) |
| Mean | 0.01173 | 0.004008 | 0.004622 | 0.004138 | 0.0263 |
| Std. Dev. | 0.005656 | 0.001755 | 0.001362 | 0.0017 | 0.01326 |
| Upper Lim. | 0.01594 | 0.005 | 0.005 | 0.005 | 0.03616 |
| Lower Lim. | 0.007526 | 0.0012 | 8.9E-05 | 0.0014 | 0.01644 |
| | | | | | |

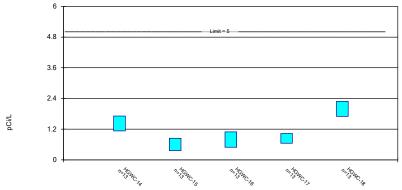
Constituent: Thallium (mg/L) Analysis Run 7/22/2019 2:56 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|--------------|---------|---------|-------------|-------------|
| 5/23/2016 | 0.000306 (J) | <0.001 | <0.001 | <0.001 | |
| 5/24/2016 | | | | | <0.001 |
| 7/12/2016 | 0.0003 (J) | <0.001 | <0.001 | 0.0001 (J) | 0.0002 (J) |
| 9/1/2016 | 0.0003 (J) | <0.001 | <0.001 | <0.001 | <0.001 |
| 10/24/2016 | 0.0004 (o) | <0.001 | | | |
| 10/25/2016 | | | <0.001 | <0.001 | <0.001 |
| 12/7/2016 | 0.0003 (J) | <0.001 | <0.001 | <0.001 | |
| 12/8/2016 | | | | | <0.001 |
| 1/26/2017 | 0.0003 (J) | <0.001 | <0.001 | <0.001 | <0.001 |
| 3/22/2017 | | | <0.001 | 0.0001 (J) | |
| 3/23/2017 | 0.0003 (J) | <0.001 | | | 0.0002 (J) |
| 5/24/2017 | 0.0003 (J) | <0.001 | <0.001 | | |
| 5/25/2017 | | | | 0.0001 (J) | 0.0002 (J) |
| 4/3/2018 | | <0.001 | <0.001 | <0.001 | 0.00014 (J) |
| 4/4/2018 | 0.00028 (J) | | | | |
| 6/5/2018 | | | | | 0.00016 (J) |
| 6/6/2018 | 0.00029 (J) | <0.001 | <0.001 | <0.001 | |
| 10/3/2018 | 0.00029 (J) | <0.001 | <0.001 | <0.001 | <0.001 |
| 3/14/2019 | 0.00028 (J) | <0.001 | | | <0.001 |
| 3/15/2019 | | | <0.001 | <0.001 | |
| 4/4/2019 | | <0.001 | <0.001 | | |
| 4/5/2019 | 0.00028 (J) | | | 0.00013 (J) | 0.00014 (J) |
| Mean | 0.0002938 | 0.0005 | 0.0005 | 0.0003792 | 0.0003492 |
| Std. Dev. | 9.437E-06 | 0 | 0 | 0.0001887 | 0.0001706 |
| Upper Lim. | 0.0003012 | 0.0005 | 0.0005 | 0.0005 | 0.0005 |
| Lower Lim. | 0.0002864 | 0.0005 | 0.0005 | 0.0001 | 0.00016 |
| | | | | | |

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Total Radium Analysis Run 7/22/2019 2:54 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

Constituent: Total Radium (pCi/L) Analysis Run 7/22/2019 2:56 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|-----------|-----------|-----------|-----------|----------|
| 5/23/2016 | 0.568 (U) | 0.171 (U) | | 0.618 (U) | |
| 5/24/2016 | | | | | 1.82 |
| 7/1/2016 | | | 0 (U) | | |
| 7/12/2016 | 1.31 | 0.611 (U) | 0.182 (U) | 0.867 | 1.76 |
| 9/1/2016 | 1.64 | 0.766 (U) | 1.23 | 0.857 (U) | 1.51 |
| 10/24/2016 | 1.88 | 0.969 | | | |
| 10/25/2016 | | | 1.05 (U) | 1.11 (U) | 2.69 |
| 12/7/2016 | 1.35 | 0.302 (U) | 1.11 (U) | 0.964 (U) | |
| 12/8/2016 | | | | | 2.21 |
| 1/26/2017 | 2.1 | 0.626 (U) | 1.29 (U) | 0.612 (U) | 2.26 |
| 3/22/2017 | | | 0.453 (U) | 0.437 (U) | |
| 3/23/2017 | 1.17 | 0.662 (U) | | | 1.81 |
| 5/24/2017 | 1 (U) | 0.202 (U) | 1.05 (U) | | |
| 5/25/2017 | | | | 1.21 (U) | 1.63 |
| 4/3/2018 | | 0.384 (U) | 0.783 (U) | 0.409 (U) | 2.53 |
| 4/4/2018 | 1.72 | | | | |
| 6/5/2018 | | | | | 1.91 |
| 6/6/2018 | 1.31 (U) | 1.32 (U) | 0.595 (U) | 0.772 (U) | |
| 10/3/2018 | 1.48 | 0.858 (U) | 1.03 (U) | 1.08 (U) | 2.22 |
| 3/14/2019 | 1.5 | 0.462 (U) | | | 1.37 (U) |
| 3/15/2019 | | | 0.591 (U) | 0.917 (U) | |
| 4/4/2019 | | 0.512 (U) | 0.96 (U) | | |
| 4/5/2019 | 1.43 (U) | | | 1.07 (U) | 2.22 |
| Mean | 1.42 | 0.6035 | 0.7942 | 0.8402 | 1.995 |
| Std. Dev. | 0.3891 | 0.3238 | 0.4034 | 0.2577 | 0.3951 |
| Upper Lim. | 1.709 | 0.8442 | 1.094 | 1.032 | 2.289 |
| Lower Lim. | 1.131 | 0.3627 | 0.4942 | 0.6486 | 1.702 |
| | | | | | |

USEPA Based Groundwater Protection Standards Statistical Analysis Package AM 01

Tolerance Limit (USEPA) : Georgia Power Company Data: Hammond AP-2 Printed 7/22/2019. 3:16 AM

| Plant Hammond Client: Ge | eorgia Power Comp | any Data: Har | mmond AF | P-2 Pr | inted 7/22/2 | 2019, 3:16 AM | | |
|--------------------------|--|-----------------------|---|--|--|--|--|---|
| <u>Upper Lim.</u> | <u>Date</u> | Observ. | Sig. | Bg N | %NDs | <u>Transform</u> | <u>Alpha</u> | Method |
| 0.003 | n/a | n/a | n/a | 60 | 93.33 | n/a | 0.04607 | NP Inter(NDs) |
| 0.005 | n/a | n/a | n/a | 78 | 82.05 | n/a | 0.0183 | NP Inter(NDs) |
| 0.212 | n/a | n/a | n/a | 78 | 0 | n/a | 0.0183 | NP Inter(normal |
| 0.003 | n/a | n/a | n/a | 66 | 86.36 | n/a | 0.03387 | NP Inter(NDs) |
| 0.001 | n/a | n/a | n/a | 78 | 92.31 | n/a | 0.0183 | NP Inter(NDs) |
| 0.019 | n/a | n/a | n/a | 66 | 90.91 | n/a | 0.03387 | NP Inter(NDs) |
| 0.0293 | n/a | n/a | n/a | 78 | 70.51 | n/a | 0.0183 | NP Inter(NDs) |
| 0.36 | n/a | n/a | n/a | 84 | 27.38 | n/a | 0.01345 | NP Inter(normal |
| 0.005 | n/a | n/a | n/a | 66 | 87.88 | n/a | 0.03387 | NP Inter(NDs) |
| 0.05 | n/a | n/a | n/a | 78 | 32.05 | n/a | 0.0183 | NP Inter(normal |
| 0.0005 | n/a | n/a | n/a | 60 | 86.67 | n/a | 0.04607 | NP Inter(NDs) |
| 0.01 | n/a | n/a | n/a | 66 | 96.97 | n/a | 0.03387 | NP Inter(NDs) |
| 0.01 | n/a | n/a | n/a | 78 | 98.72 | n/a | 0.0183 | NP Inter(NDs) |
| 0.001 | n/a | n/a | n/a | 78 | 98.72 | n/a | 0.0183 | NP Inter(NDs) |
| 2.42 | n/a | n/a | n/a | 78 | 0 | n/a | 0.0183 | NP Inter(normal |
| | Upper Lim. 0.003 0.005 0.212 0.003 0.001 0.019 0.0293 0.36 0.005 0.005 0.005 0.001 0.011 0.011 | Upper Lim. Date 0.003 | Upper Lim. Date Observ. 0.003 n/a n/a 0.005 n/a n/a 0.212 n/a n/a 0.003 n/a n/a 0.001 n/a n/a 0.019 n/a n/a 0.0293 n/a n/a 0.366 n/a n/a 0.005 n/a n/a 0.005 n/a n/a 0.0005 n/a n/a 0.01 n/a n/a 0.01 n/a n/a 0.001 n/a n/a | Upper Lim. Date Observ. Sig. 0.003 n/a n/a n/a 0.005 n/a n/a n/a 0.212 n/a n/a n/a 0.003 n/a n/a n/a 0.001 n/a n/a n/a 0.019 n/a n/a n/a 0.0293 n/a n/a n/a 0.366 n/a n/a n/a 0.005 n/a n/a n/a 0.005 n/a n/a n/a 0.0005 n/a n/a n/a 0.01 n/a n/a n/a 0.01 n/a n/a n/a 0.001 n/a n/a n/a 0.001 n/a n/a n/a | Upper Lim. Date Observ. Sig. Bg N 0.003 n/a n/a n/a 60 0.005 n/a n/a n/a 78 0.212 n/a n/a n/a 78 0.003 n/a n/a n/a 66 0.001 n/a n/a n/a 78 0.019 n/a n/a n/a 66 0.0293 n/a n/a n/a n/a 78 0.36 n/a n/a n/a n/a 66 0.05 n/a n/a n/a n/a 78 0.005 n/a n/a n/a n/a 78 0.0005 n/a n/a n/a n/a 66 0.01 n/a n/a n/a n/a 78 0.01 n/a n/a n/a n/a 78 0.01 n/a n/a n/a n/a 78 | Upper Lim. Date Observ. Sig. Bg N %NDs 0.003 n/a n/a n/a 60 93.33 0.005 n/a n/a n/a 78 82.05 0.212 n/a n/a n/a 78 0 0.003 n/a n/a n/a 66 86.36 0.001 n/a n/a n/a 78 92.31 0.019 n/a n/a n/a 66 90.91 0.0293 n/a n/a n/a 78 70.51 0.36 n/a n/a n/a n/a 84 27.38 0.005 n/a n/a n/a n/a 87.88 0.05 n/a n/a n/a n/a 78 32.05 0.0005 n/a n/a n/a n/a 66 96.97 0.01 n/a n/a n/a n/a 66 96.97 0.01 <td>Upper Lim. Date Observ. Sig. Bg N %NDs Transform 0.003 n/a n/a n/a n/a 60 93.33 n/a 0.005 n/a n/a n/a n/a 78 82.05 n/a 0.212 n/a n/a n/a n/a 78 0 n/a 0.003 n/a n/a n/a n/a 66 86.36 n/a 0.001 n/a n/a n/a n/a 78 92.31 n/a 0.001 n/a n/a n/a n/a 66 90.91 n/a 0.019 n/a n/a n/a n/a 78 70.51 n/a 0.0293 n/a n/a n/a n/a 78 70.51 n/a 0.005 n/a n/a n/a n/a 84 27.38 n/a 0.05 n/a n/a n/a n/a 78 32.</td> <td>Upper Lim. Date Observ. Sig. Bg N %NDs Transform Alpha 0.003 n/a n/a n/a 60 93.33 n/a 0.04607 0.005 n/a n/a n/a 78 82.05 n/a 0.0183 0.212 n/a n/a n/a 78 0 n/a 0.0183 0.003 n/a n/a n/a n/a 66 86.36 n/a 0.03387 0.001 n/a n/a n/a 78 92.31 n/a 0.0183 0.019 n/a n/a n/a 66 90.91 n/a 0.0183 0.019 n/a n/a n/a 78 70.51 n/a 0.0183 0.0293 n/a n/a n/a 78 70.51 n/a 0.0183 0.36 n/a n/a n/a 84 27.38 n/a 0.0183 0.05 n/a n/a</td> | Upper Lim. Date Observ. Sig. Bg N %NDs Transform 0.003 n/a n/a n/a n/a 60 93.33 n/a 0.005 n/a n/a n/a n/a 78 82.05 n/a 0.212 n/a n/a n/a n/a 78 0 n/a 0.003 n/a n/a n/a n/a 66 86.36 n/a 0.001 n/a n/a n/a n/a 78 92.31 n/a 0.001 n/a n/a n/a n/a 66 90.91 n/a 0.019 n/a n/a n/a n/a 78 70.51 n/a 0.0293 n/a n/a n/a n/a 78 70.51 n/a 0.005 n/a n/a n/a n/a 84 27.38 n/a 0.05 n/a n/a n/a n/a 78 32. | Upper Lim. Date Observ. Sig. Bg N %NDs Transform Alpha 0.003 n/a n/a n/a 60 93.33 n/a 0.04607 0.005 n/a n/a n/a 78 82.05 n/a 0.0183 0.212 n/a n/a n/a 78 0 n/a 0.0183 0.003 n/a n/a n/a n/a 66 86.36 n/a 0.03387 0.001 n/a n/a n/a 78 92.31 n/a 0.0183 0.019 n/a n/a n/a 66 90.91 n/a 0.0183 0.019 n/a n/a n/a 78 70.51 n/a 0.0183 0.0293 n/a n/a n/a 78 70.51 n/a 0.0183 0.36 n/a n/a n/a 84 27.38 n/a 0.0183 0.05 n/a n/a |

Table F-2 USEPA Based Groundwater Protection Standards Plant Hammond - Ash Pond 2 Floyd County, Georgia

| Constituent | CAS | Units | EPA MCL | Statistically Derived Upper Tolerance Limits for Background | GWPS ¹ |
|-------------------------|------------|-------|------------|---|-------------------|
| Antimony | 7440-36-0 | mg/L | 0.006 | 0.003 | 0.006 |
| Arsenic | 7440-38-2 | mg/L | 0.01 | 0.005 | 0.01 |
| Barium | 7440-39-3 | mg/L | 2 | 0.21 | 2 |
| Beryllium | 7440-41-7 | mg/L | 0.004 | 0.003 | 0.004 |
| Cadmium | 7440-43-9 | mg/L | 0.005 | 0.001 | 0.005 |
| Chromium | 7440-47-3 | mg/L | 0.1 | 0.019 | 0.1 |
| Cobalt ² | 7440-48-4 | mg/L | 0.006 | 0.029 | 0.029 |
| Fluoride | 16984-48-8 | mg/L | 4 | 0.36 | 4 |
| Lead ³ | 7439-92-1 | mg/L | 0.015 | 0.005 | 0.015 |
| Lithium ² | 7439-93-2 | mg/L | 0.04 | 0.025 | 0.04 |
| Mercury | 7439-97-6 | mg/L | 0.002 | 0.0005 | 0.002 |
| Molybdenum ² | 7439-98-7 | mg/L | 0.1 | 0.01 | 0.1 |
| Selenium | 7782-49-2 | mg/L | 0.05 | 0.01 | 0.05 |
| Thallium | 7440-28-0 | mg/L | 0.002 | 0.001 | 0.002 |
| Total Radium | 7440-14-4 | pCi/L | 5 | 2.42 | 5 |

Notes:

EPA MCL - U.S. Environmental Protection Agency, Maximum Contaminant Level

GWPS - Groundwater Protection Standards

mg/L - milligram per liter

N/A - Not Available

pCi/L - Picocuries per liter

¹GWPS selected as the greater value between the EPA MCL and the background Upper Tolerance Limit.

²Regional Screening Level applied for constituent per CCR Rule Ammendment, July 30, 2018.

³Currently, there is no EPA MCL established for lead. The value listed is the established EPA Action Level for drinking water.

Confidence Interval (USEPA) - Significant Results

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2 Printed 7/22/2019, 3:24 AM

| | | | = | · - | | | | | | |
|---------------|-------------|------------|------------|------------|------|----------|-------------|------------------|--------------|--------|
| Constituent | <u>Well</u> | Upper Lim. | Lower Lim. | Compliance | Sig. | <u>N</u> | <u>%NDs</u> | <u>Transform</u> | <u>Alpha</u> | Method |
| Cobalt (mg/L) | HGWC-15 | 0.05419 | 0.03729 | 0.0293 | Yes | 13 | 0 | No | 0.01 | Param. |
| Cobalt (mg/L) | HGWC-18 | 0.2017 | 0.1689 | 0.0293 | Yes | 13 | 0 | No | 0.01 | Param. |

Confidence Interval (USEPA) - All Results

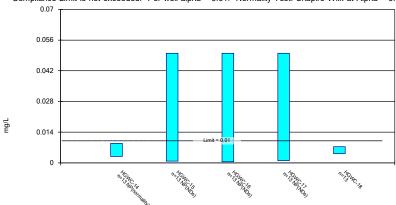
| | F | Plant Hammond | Client: Georgia Po | wer Company | Data: Ha | mmond A | AP-2 Print | ed 7/22/2019, 3:24 AM | | |
|-------------------|---------|---------------|--------------------|-------------|----------|----------|------------|-----------------------|--------------|----------------|
| Constituent | Well | Upper Lim. | Lower Lim. | Compliance | Sig. | <u>N</u> | %NDs | Transform | <u>Alpha</u> | Method |
| Arsenic (mg/L) | HGWC-14 | 0.0089 | 0.0029 | 0.01 | No | 13 | 15.38 | No | 0.01 | NP (normality) |
| Arsenic (mg/L) | HGWC-15 | 0.05 | 0.0008 | 0.01 | No | 13 | 84.62 | No | 0.01 | NP (NDs) |
| Arsenic (mg/L) | HGWC-16 | 0.05 | 0.0005 | 0.01 | No | 13 | 84.62 | No | 0.01 | NP (NDs) |
| Arsenic (mg/L) | HGWC-17 | 0.05 | 0.00097 | 0.01 | No | 13 | 76.92 | No | 0.01 | NP (NDs) |
| Arsenic (mg/L) | HGWC-18 | 0.007322 | 0.004191 | 0.01 | No | 13 | 0 | No | 0.01 | Param. |
| Barium (mg/L) | HGWC-14 | 0.0244 | 0.019 | 2 | No | 13 | 7.692 | No | 0.01 | NP (normality) |
| Barium (mg/L) | HGWC-15 | 0.03266 | 0.02314 | 2 | No | 13 | 0 | No | 0.01 | Param. |
| Barium (mg/L) | HGWC-16 | 0.1122 | 0.0949 | 2 | No | 13 | 0 | No | 0.01 | Param. |
| Barium (mg/L) | HGWC-17 | 0.02629 | 0.02254 | 2 | No | 13 | 0 | No | 0.01 | Param. |
| Barium (mg/L) | HGWC-18 | 0.0349 | 0.028 | 2 | No | 13 | 7.692 | No | 0.01 | NP (normality) |
| Beryllium (mg/L) | HGWC-14 | 0.0004844 | 0.0002996 | 0.004 | No | 11 | 18.18 | ln(x) | 0.01 | Param. |
| Beryllium (mg/L) | HGWC-15 | 0.0015 | 0.0015 | 0.004 | No | 11 | 100 | No | 0.006 | NP (NDs) |
| Beryllium (mg/L) | HGWC-16 | 0.0015 | 0.0015 | 0.004 | No | 11 | 100 | No | 0.006 | NP (NDs) |
| Beryllium (mg/L) | HGWC-17 | 0.0015 | 0.0015 | 0.004 | No | 11 | 100 | No | 0.006 | NP (NDs) |
| Beryllium (mg/L) | HGWC-18 | 0.003553 | 0.002444 | 0.004 | No | 11 | 9.091 | No | 0.01 | Param. |
| Cadmium (mg/L) | HGWC-14 | 0.0005 | 0.000079 | 0.005 | No | 13 | 23.08 | No | 0.01 | NP (normality) |
| Cadmium (mg/L) | HGWC-15 | 0.0027 | 0.001671 | 0.005 | No | 13 | 0 | No | 0.01 | Param. |
| Cadmium (mg/L) | HGWC-16 | 0.0005 | 0.0005 | 0.005 | No | 13 | 100 | No | 0.01 | NP (NDs) |
| Cadmium (mg/L) | HGWC-17 | 0.0005 | 0.00007 | 0.005 | No | 13 | 92.31 | No | 0.01 | NP (NDs) |
| Cadmium (mg/L) | HGWC-18 | 0.00253 | 0.001886 | 0.005 | No | 13 | 7.692 | x^2 | 0.01 | Param. |
| Chromium (mg/L) | HGWC-14 | 0.005 | 0.005 | 0.1 | No | 11 | 100 | No | 0.006 | NP (NDs) |
| Chromium (mg/L) | HGWC-15 | 0.005 | 0.0005 | 0.1 | No | 11 | 90.91 | No | 0.006 | NP (NDs) |
| Chromium (mg/L) | HGWC-16 | 0.005 | 0.0021 | 0.1 | No | 11 | 90.91 | No | 0.006 | NP (NDs) |
| Chromium (mg/L) | HGWC-17 | 0.005 | 0.005 | 0.1 | No | 11 | 100 | No | 0.006 | NP (NDs) |
| Chromium (mg/L) | HGWC-18 | 0.005 | 0.0005 | 0.1 | No | 11 | 90.91 | No | 0.006 | NP (NDs) |
| Cobalt (mg/L) | HGWC-14 | 0.02817 | 0.02128 | 0.0293 | No | 13 | 7.692 | x^2 | 0.01 | Param. |
| Cobalt (mg/L) | HGWC-15 | 0.05419 | 0.03729 | 0.0293 | Yes | 13 | 0 | No | 0.01 | Param. |
| Cobalt (mg/L) | HGWC-16 | 0.005 | 0.00028 | 0.0293 | No | 13 | 92.31 | No | 0.01 | NP (NDs) |
| Cobalt (mg/L) | HGWC-17 | 0.01667 | 0.01495 | 0.0293 | No | 13 | 0 | No | 0.01 | Param. |
| Cobalt (mg/L) | HGWC-18 | 0.2017 | 0.1689 | 0.0293 | Yes | 13 | 0 | No | 0.01 | Param. |
| Fluoride (mg/L) | HGWC-14 | 0.3591 | 0.1181 | 4 | No | 14 | 14.29 | No | 0.01 | Param. |
| Fluoride (mg/L) | HGWC-15 | 0.2536 | 0.09359 | 4 | No | 14 | 35.71 | sqrt(x) | 0.01 | Param. |
| Fluoride (mg/L) | HGWC-16 | 0.3166 | 0.1228 | 4 | No | 14 | 42.86 | No | 0.01 | Param. |
| Fluoride (mg/L) | HGWC-17 | 0.3197 | 0.05704 | 4 | No | 14 | 35.71 | sqrt(x) | 0.01 | Param. |
| Fluoride (mg/L) | HGWC-18 | 0.7051 | 0.3978 | 4 | No | 14 | 7.143 | No | 0.01 | Param. |
| Lead (mg/L) | HGWC-14 | 0.002009 | 0.001431 | 0.015 | No | 11 | 9.091 | No | 0.01 | Param. |
| Lead (mg/L) | HGWC-15 | 0.0025 | 0.000072 | 0.015 | No | 11 | 72.73 | No | 0.006 | NP (NDs) |
| Lead (mg/L) | HGWC-16 | 0.0025 | 0.0001 | 0.015 | No | 11 | 63.64 | No | 0.006 | NP (NDs) |
| Lead (mg/L) | HGWC-17 | 0.0025 | 0.000076 | 0.015 | No | 11 | 81.82 | No | 0.006 | NP (NDs) |
| Lead (mg/L) | HGWC-18 | 0.00181 | 0.001161 | 0.015 | No | 11 | 9.091 | No | 0.01 | Param. |
| Lithium (mg/L) | HGWC-14 | 0.0125 | 0.0125 | 0.04 | No | 13 | 100 | No | 0.01 | NP (NDs) |
| Lithium (mg/L) | HGWC-15 | 0.0125 | 0.0013 | 0.04 | No | 13 | 46.15 | No | 0.01 | NP (normality) |
| Lithium (mg/L) | HGWC-16 | 0.0041 | 0.0026 | 0.04 | No | 13 | 7.692 | No | 0.01 | NP (normality) |
| Lithium (mg/L) | HGWC-17 | 0.0125 | 0.0011 | 0.04 | No | 13 | 76.92 | No | 0.01 | NP (NDs) |
| Lithium (mg/L) | HGWC-18 | 0.01534 | 0.0122 | 0.04 | No | 13 | 0 | No | 0.01 | Param. |
| Molybdenum (mg/L) | HGWC-14 | 0.005 | 0.005 | 0.1 | No | 11 | 100 | No | 0.006 | NP (NDs) |
| Molybdenum (mg/L) | HGWC-15 | 0.005 | 0.0007 | 0.1 | No | 11 | 90.91 | No | 0.006 | NP (NDs) |
| Molybdenum (mg/L) | HGWC-16 | 0.005 | 0.005 | 0.1 | No | 11 | 100 | No | 0.006 | NP (NDs) |
| Molybdenum (mg/L) | HGWC-17 | 0.005 | 0.005 | 0.1 | No | 11 | 100 | No | 0.006 | NP (NDs) |
| Molybdenum (mg/L) | HGWC-18 | 0.005 | 0.005 | 0.1 | No | 11 | 100 | No | 0.006 | NP (NDs) |
| | | | | | | | | | | • |

Confidence Interval (USEPA) - All Results

| | | Plant Hammond | Client: Georgia Po | wer Company | Data: Ha | mmond | AP-2 Prin | ted 7/22/2019, 3:24 AM | | |
|----------------------|---------|---------------|--------------------|-------------|----------|----------|-----------|------------------------|--------------|----------|
| Constituent | Well | Upper Lim. | Lower Lim. | Compliance | Sig. | <u>N</u> | %NDs | <u>Transform</u> | <u>Alpha</u> | Method |
| Selenium (mg/L) | HGWC-14 | 0.01594 | 0.007526 | 0.05 | No | 13 | 0 | No | 0.01 | Param. |
| Selenium (mg/L) | HGWC-15 | 0.005 | 0.0012 | 0.05 | No | 13 | 69.23 | No | 0.01 | NP (NDs) |
| Selenium (mg/L) | HGWC-16 | 0.005 | 0.000089 | 0.05 | No | 13 | 92.31 | No | 0.01 | NP (NDs) |
| Selenium (mg/L) | HGWC-17 | 0.005 | 0.0014 | 0.05 | No | 13 | 76.92 | No | 0.01 | NP (NDs) |
| Selenium (mg/L) | HGWC-18 | 0.03616 | 0.01644 | 0.05 | No | 13 | 7.692 | No | 0.01 | Param. |
| Thallium (mg/L) | HGWC-14 | 0.0003012 | 0.0002864 | 0.002 | No | 12 | 0 | No | 0.01 | Param. |
| Thallium (mg/L) | HGWC-15 | 0.0005 | 0.0005 | 0.002 | No | 13 | 100 | No | 0.01 | NP (NDs) |
| Thallium (mg/L) | HGWC-16 | 0.0005 | 0.0005 | 0.002 | No | 13 | 100 | No | 0.01 | NP (NDs) |
| Thallium (mg/L) | HGWC-17 | 0.0005 | 0.0001 | 0.002 | No | 13 | 69.23 | No | 0.01 | NP (NDs) |
| Thallium (mg/L) | HGWC-18 | 0.0005 | 0.00016 | 0.002 | No | 13 | 53.85 | No | 0.01 | NP (NDs) |
| Total Radium (pCi/L) | HGWC-14 | 1.709 | 1.131 | 5 | No | 13 | 0 | No | 0.01 | Param. |
| Total Radium (pCi/L) | HGWC-15 | 0.8442 | 0.3627 | 5 | No | 13 | 0 | No | 0.01 | Param. |
| Total Radium (pCi/L) | HGWC-16 | 1.094 | 0.4942 | 5 | No | 13 | 0 | No | 0.01 | Param. |
| Total Radium (pCi/L) | HGWC-17 | 1.032 | 0.6486 | 5 | No | 13 | 0 | No | 0.01 | Param. |
| Total Radium (pCi/L) | HGWC-18 | 2.289 | 1.702 | 5 | No | 13 | 0 | No | 0.01 | Param. |

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



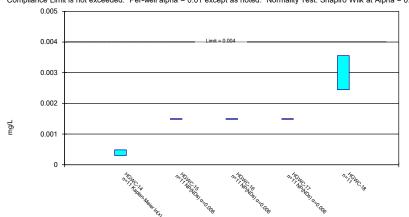
Constituent: Arsenic Analysis Run 7/22/2019 3:22 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

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Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.

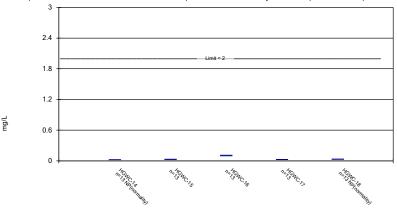


Constituent: Beryllium Analysis Run 7/22/2019 3:22 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



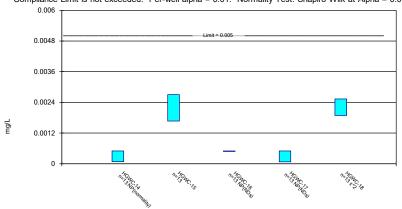
Constituent: Barium Analysis Run 7/22/2019 3:22 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

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Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Arsenic (mg/L) Analysis Run 7/22/2019 3:24 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|-------------|-------------|------------|-------------|-------------|
| 5/23/2016 | 0.00268 (J) | <0.1 | <0.1 | <0.1 | |
| 5/24/2016 | | | | | 0.00294 (J) |
| 7/12/2016 | 0.0059 | <0.1 | <0.1 | <0.1 | 0.0074 |
| 9/1/2016 | 0.0056 | <0.1 | <0.1 | <0.1 | 0.0073 |
| 10/24/2016 | 0.0058 | <0.1 | | | |
| 10/25/2016 | | | <0.1 | <0.1 | 0.006 |
| 12/7/2016 | <0.1 | <0.1 | <0.1 | <0.1 | |
| 12/8/2016 | | | | | 0.007 |
| 1/26/2017 | 0.0089 | <0.1 | <0.1 | <0.1 | 0.0068 |
| 3/22/2017 | | | 0.0005 (J) | 0.0007 (J) | |
| 3/23/2017 | 0.0069 | 0.0008 (J) | | | 0.0082 |
| 5/24/2017 | 0.0048 (J) | <0.1 | <0.1 | | |
| 5/25/2017 | | | | 0.0007 (J) | 0.006 |
| 4/3/2018 | | <0.1 | <0.1 | <0.1 | 0.0062 |
| 4/4/2018 | 0.0052 | | | | |
| 6/5/2018 | | | | | 0.008 |
| 6/6/2018 | 0.0059 | <0.1 | <0.1 | 0.00097 (J) | |
| 10/3/2018 | 0.0032 (J) | <0.1 | <0.1 | <0.1 | 0.0039 (J) |
| 3/14/2019 | 0.0029 (J) | <0.1 | | | 0.0036 (J) |
| 3/15/2019 | | | <0.1 | <0.1 | |
| 4/4/2019 | | 0.00017 (J) | 0.0001 (J) | | |
| 4/5/2019 | <0.1 | | | <0.1 | 0.0015 (J) |
| Mean | 0.01214 | 0.04238 | 0.04235 | 0.03864 | 0.005757 |
| Std. Dev. | 0.01689 | 0.0186 | 0.01866 | 0.02158 | 0.002105 |
| Upper Lim. | 0.0089 | 0.05 | 0.05 | 0.05 | 0.007322 |
| Lower Lim. | 0.0029 | 0.0008 | 0.0005 | 0.00097 | 0.004191 |
| | | | | | |

Constituent: Barium (mg/L) Analysis Run 7/22/2019 3:24 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|---------|------------|---------|------------|---------|
| 5/23/2016 | <0.2 | 0.0315 (J) | 0.0841 | 0.0222 (J) | |
| 5/24/2016 | | | | | <0.2 |
| 7/12/2016 | 0.0214 | 0.0372 | 0.0886 | 0.0221 | 0.0346 |
| 9/1/2016 | 0.0208 | 0.0364 | 0.0934 | 0.0227 | 0.0336 |
| 10/24/2016 | 0.0208 | 0.0326 | | | |
| 10/25/2016 | | | 0.0991 | 0.0225 | 0.0349 |
| 12/7/2016 | 0.022 | 0.0301 | 0.101 | 0.0227 | |
| 12/8/2016 | | | | | 0.0339 |
| 1/26/2017 | 0.0238 | 0.0287 | 0.105 | 0.0229 | 0.0293 |
| 3/22/2017 | | | 0.11 | 0.0248 | |
| 3/23/2017 | 0.0244 | 0.0329 | | | 0.0313 |
| 5/24/2017 | 0.0228 | 0.0283 | 0.106 | | |
| 5/25/2017 | | | | 0.0255 | 0.0336 |
| 4/3/2018 | | 0.019 | 0.099 | 0.025 | 0.028 |
| 4/4/2018 | 0.021 | | | | |
| 6/5/2018 | | | | | 0.03 |
| 6/6/2018 | 0.022 | 0.022 | 0.11 | 0.028 | |
| 10/3/2018 | 0.02 | 0.025 | 0.11 | 0.028 | 0.032 |
| 3/14/2019 | 0.019 | 0.021 | | | 0.029 |
| 3/15/2019 | | | 0.13 | 0.029 | |
| 4/4/2019 | | 0.018 | 0.11 | | |
| 4/5/2019 | 0.016 | | | 0.022 | 0.021 |
| Mean | 0.02723 | 0.0279 | 0.1036 | 0.02442 | 0.03625 |
| Std. Dev. | 0.02197 | 0.006406 | 0.01164 | 0.002522 | 0.01952 |
| Upper Lim. | 0.0244 | 0.03266 | 0.1122 | 0.02629 | 0.0349 |
| Lower Lim. | 0.019 | 0.02314 | 0.0949 | 0.02254 | 0.028 |
| | | | | | |

Constituent: Beryllium (mg/L) Analysis Run 7/22/2019 3:24 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

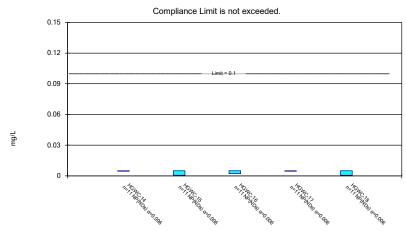
| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|-------------|---------|---------|---------|-------------|
| 5/23/2016 | <0.003 | <0.003 | <0.003 | <0.003 | |
| 5/24/2016 | | | | | 0.00278 (J) |
| 7/12/2016 | 0.0005 (J) | <0.003 | <0.003 | <0.003 | 0.0032 |
| 9/1/2016 | 0.0005 (J) | <0.003 | <0.003 | <0.003 | 0.0034 |
| 10/24/2016 | 0.0005 (J) | <0.003 | | | |
| 10/25/2016 | | | <0.003 | <0.003 | 0.0034 |
| 12/7/2016 | 0.0006 (J) | <0.003 | <0.003 | <0.003 | |
| 12/8/2016 | | | | | 0.0033 |
| 1/26/2017 | 0.0005 (J) | <0.003 | <0.003 | <0.003 | 0.0034 |
| 3/22/2017 | | | <0.003 | <0.003 | |
| 3/23/2017 | 0.0006 (J) | <0.003 | | | 0.0036 |
| 5/24/2017 | 0.0005 (J) | <0.003 | <0.003 | | |
| 5/25/2017 | | | | <0.003 | 0.0036 |
| 4/3/2018 | | <0.003 | <0.003 | <0.003 | <0.003 |
| 4/4/2018 | <0.003 | | | | |
| 3/14/2019 | 0.00043 (J) | <0.003 | | | 0.0026 (J) |
| 3/15/2019 | | | <0.003 | <0.003 | |
| 4/4/2019 | | <0.003 | <0.003 | | |
| 4/5/2019 | 0.00027 (J) | | | <0.003 | 0.0022 (J) |
| Mean | 0.0006727 | 0.0015 | 0.0015 | 0.0015 | 0.002998 |
| Std. Dev. | 0.0004183 | 0 | 0 | 0 | 0.0006655 |
| Upper Lim. | 0.0004844 | 0.0015 | 0.0015 | 0.0015 | 0.003553 |
| Lower Lim. | 0.0002996 | 0.0015 | 0.0015 | 0.0015 | 0.002444 |

Constituent: Cadmium (mg/L) Analysis Run 7/22/2019 3:24 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|--------------|-------------|---------|-----------|-----------|
| 5/23/2016 | 0.000139 (J) | 0.00271 (J) | <0.001 | <0.001 | |
| 5/24/2016 | | | | | <0.001 |
| 7/12/2016 | <0.001 | 0.0019 | <0.001 | <0.001 | 0.0022 |
| 9/1/2016 | 0.0001 (J) | 0.0017 | <0.001 | <0.001 | 0.0024 |
| 10/24/2016 | 0.0002 (J) | 0.0018 | | | |
| 10/25/2016 | | | <0.001 | <0.001 | 0.0022 |
| 12/7/2016 | 0.0001 (J) | 0.0018 | <0.001 | <0.001 | |
| 12/8/2016 | | | | | 0.0024 |
| 1/26/2017 | 0.0001 (J) | 0.0013 | <0.001 | <0.001 | 0.0025 |
| 3/22/2017 | | | <0.001 | 7E-05 (J) | |
| 3/23/2017 | 0.0002 (J) | 0.002 | | | 0.0025 |
| 5/24/2017 | 0.0001 (J) | 0.0041 | <0.001 | | |
| 5/25/2017 | | | | <0.001 | 0.0027 |
| 4/3/2018 | | 0.0022 | <0.001 | <0.001 | 0.0022 |
| 4/4/2018 | <0.001 | | | | |
| 6/5/2018 | | | | | 0.0022 |
| 6/6/2018 | 0.00012 (J) | 0.0021 | <0.001 | <0.001 | |
| 10/3/2018 | 0.0001 (J) | 0.0026 | <0.001 | <0.001 | 0.0027 |
| 3/14/2019 | <0.001 | 0.0024 | | | 0.0019 |
| 3/15/2019 | | | <0.001 | <0.001 | |
| 4/4/2019 | | 0.0018 | <0.001 | | |
| 4/5/2019 | 7.9E-05 (J) | | | <0.001 | 0.0017 |
| Mean | 0.0002106 | 0.002185 | 0.0005 | 0.0004669 | 0.002162 |
| Std. Dev. | 0.0001691 | 0.0006921 | 0 | 0.0001193 | 0.0005752 |
| Upper Lim. | 0.0005 | 0.0027 | 0.0005 | 0.0005 | 0.00253 |
| Lower Lim. | 7.9E-05 | 0.001671 | 0.0005 | 7E-05 | 0.001886 |
| | | | | | |

Non-Parametric Confidence Interval



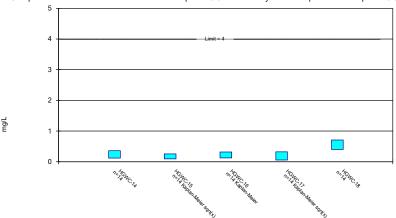
Constituent: Chromium Analysis Run 7/22/2019 3:23 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

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Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.

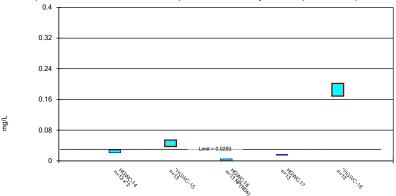


Constituent: Fluoride Analysis Run 7/22/2019 3:23 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



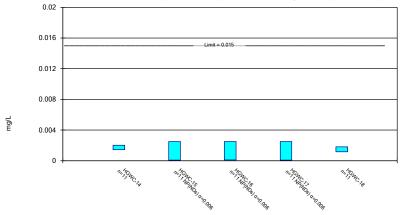
Constituent: Cobalt Analysis Run 7/22/2019 3:23 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

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Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Chromium (mg/L) Analysis Run 7/22/2019 3:24 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|---------|------------|------------|---------|------------|
| 5/23/2016 | <0.01 | <0.01 | <0.01 | <0.01 | |
| 5/24/2016 | | | | | <0.01 |
| 7/12/2016 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| 9/1/2016 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| 10/24/2016 | <0.01 | <0.01 | | | |
| 10/25/2016 | | | <0.01 | <0.01 | <0.01 |
| 12/7/2016 | <0.01 | <0.01 | <0.01 | <0.01 | |
| 12/8/2016 | | | | | <0.01 |
| 1/26/2017 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| 3/22/2017 | | | 0.0021 (J) | <0.01 | |
| 3/23/2017 | <0.01 | 0.0005 (J) | | | 0.0005 (J) |
| 5/24/2017 | <0.01 | <0.01 | <0.01 | | |
| 5/25/2017 | | | | <0.01 | <0.01 |
| 4/3/2018 | | <0.01 | <0.01 | <0.01 | <0.01 |
| 4/4/2018 | <0.01 | | | | |
| 3/14/2019 | <0.01 | <0.01 | | | <0.01 |
| 3/15/2019 | | | <0.01 | <0.01 | |
| 4/4/2019 | | <0.01 | <0.01 | | |
| 4/5/2019 | <0.01 | | | <0.01 | <0.01 |
| Mean | 0.005 | 0.004591 | 0.004736 | 0.005 | 0.004591 |
| Std. Dev. | 0 | 0.001357 | 0.0008744 | 0 | 0.001357 |
| Upper Lim. | 0.005 | 0.005 | 0.005 | 0.005 | 0.005 |
| Lower Lim. | 0.005 | 0.0005 | 0.0021 | 0.005 | 0.0005 |
| | | | | | |

Constituent: Cobalt (mg/L) Analysis Run 7/22/2019 3:24 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|----------|------------|-------------|----------|----------|
| 5/23/2016 | <0.01 | 0.0419 (J) | <0.01 | 0.0167 | |
| 5/24/2016 | | | | | 0.17 (J) |
| 7/12/2016 | 0.0232 | 0.0393 | <0.01 | 0.0148 | 0.168 |
| 9/1/2016 | 0.0248 | 0.045 | <0.01 | 0.0151 | 0.18 |
| 10/24/2016 | 0.0253 | 0.0557 | | | |
| 10/25/2016 | | | <0.01 | 0.0141 | 0.188 |
| 12/7/2016 | 0.0269 | 0.0536 | <0.01 | 0.0141 | |
| 12/8/2016 | | | | | 0.206 |
| 1/26/2017 | 0.0294 | 0.055 | <0.01 | 0.0154 | 0.195 |
| 3/22/2017 | | | <0.01 | 0.0169 | |
| 3/23/2017 | 0.0311 | 0.0715 | | | 0.223 |
| 5/24/2017 | 0.0279 | 0.0446 | <0.01 | | |
| 5/25/2017 | | | | 0.0154 | 0.209 |
| 4/3/2018 | | 0.032 | <0.01 | 0.016 | 0.19 |
| 4/4/2018 | 0.025 | | | | |
| 6/5/2018 | | | | | 0.19 |
| 6/6/2018 | 0.027 | 0.032 | <0.01 | 0.018 | |
| 10/3/2018 | 0.023 | 0.051 | <0.01 | 0.016 | 0.19 |
| 3/14/2019 | 0.025 | 0.038 | | | 0.16 |
| 3/15/2019 | | | <0.01 | 0.017 | |
| 4/4/2019 | | 0.035 | 0.00028 (J) | | |
| 4/5/2019 | 0.021 | | | 0.016 | 0.14 |
| Mean | 0.0242 | 0.04574 | 0.004637 | 0.01581 | 0.1853 |
| Std. Dev. | 0.006375 | 0.01136 | 0.001309 | 0.001155 | 0.02205 |
| Upper Lim. | 0.02817 | 0.05419 | 0.005 | 0.01667 | 0.2017 |
| Lower Lim. | 0.02128 | 0.03729 | 0.00028 | 0.01495 | 0.1689 |
| | | | | | |

Constituent: Fluoride (mg/L) Analysis Run 7/22/2019 3:24 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

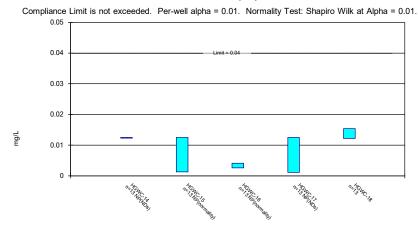
| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|----------|-----------|-----------|----------|---------|
| 5/23/2016 | <0.3 | <0.3 | 0.038 (J) | <0.3 | |
| 5/24/2016 | | | | | <0.3 |
| 7/12/2016 | 0.2 (J) | 0.09 (J) | 0.26 (J) | 0.09 (J) | 0.54 |
| 9/1/2016 | 0.08 (J) | 0.22 (J) | 0.42 | 0.03 (J) | 0.49 |
| 10/24/2016 | 0.04 (J) | 0.07 (J) | | | |
| 10/25/2016 | | | 0.25 (J) | 0.07 (J) | 0.58 |
| 12/7/2016 | 0.11 (J) | 0.23 (J) | 0.23 (J) | 0.54 | |
| 12/8/2016 | | | | | 0.63 |
| 1/26/2017 | 0.13 (J) | <0.3 | 0.02 (J) | <0.3 | 0.71 |
| 3/22/2017 | | | 0.3 | 0.07 (J) | |
| 3/23/2017 | 0.28 (J) | 0.12 (J) | | | 0.57 |
| 5/24/2017 | 0.32 | 0.31 | 0.46 | | |
| 5/25/2017 | | | | 0.42 | 0.54 |
| 10/4/2017 | 0.52 | 0.6 | <0.3 | 0.93 | 0.95 |
| 4/3/2018 | | <0.3 | <0.3 | <0.3 | 0.33 |
| 4/4/2018 | <0.3 | | | | |
| 6/5/2018 | | | | | 0.66 |
| 6/6/2018 | 0.25 (J) | 0.17 (J) | <0.3 | 0.23 (J) | |
| 10/3/2018 | 0.21 (J) | <0.3 | <0.3 | <0.3 | 0.32 |
| 3/14/2019 | 0.24 (J) | <0.3 | | | 0.88 |
| 3/15/2019 | | | <0.3 | <0.3 | |
| 4/4/2019 | | 0.066 (J) | <0.3 | | |
| 4/5/2019 | 0.66 | | | 0.16 (J) | 0.37 |
| Mean | 0.2386 | 0.1876 | 0.2056 | 0.235 | 0.5514 |
| Std. Dev. | 0.1701 | 0.1353 | 0.1259 | 0.2433 | 0.2169 |
| Upper Lim. | 0.3591 | 0.2536 | 0.3166 | 0.3197 | 0.7051 |
| Lower Lim. | 0.1181 | 0.09359 | 0.1228 | 0.05704 | 0.3978 |
| | | | | | |

Constituent: Lead (mg/L) Analysis Run 7/22/2019 3:24 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|-------------|-------------|-------------|-------------|-------------|
| 5/23/2016 | 0.00182 (J) | <0.005 | <0.005 | <0.005 | |
| 5/24/2016 | | | | | 0.00154 (J) |
| 7/12/2016 | 0.0015 (J) | <0.005 | <0.005 | <0.005 | 0.0012 (J) |
| 9/1/2016 | 0.0016 (J) | <0.005 | <0.005 | <0.005 | 0.0014 (J) |
| 10/24/2016 | 0.0016 (J) | <0.005 | | | |
| 10/25/2016 | | | <0.005 | <0.005 | 0.0015 (J) |
| 12/7/2016 | 0.0018 (J) | <0.005 | <0.005 | <0.005 | |
| 12/8/2016 | | | | | 0.0017 (J) |
| 1/26/2017 | 0.002 (J) | <0.005 | 0.0001 (J) | <0.005 | 0.0013 (J) |
| 3/22/2017 | | | 0.0002 (J) | 0.0001 (J) | |
| 3/23/2017 | 0.0019 (J) | 0.001 (J) | | | 0.001 (J) |
| 5/24/2017 | 0.0016 (J) | 0.0001 (J) | 0.0001 (J) | | |
| 5/25/2017 | | | | <0.005 | 0.0012 (J) |
| 4/3/2018 | | <0.005 | <0.005 | <0.005 | <0.005 |
| 4/4/2018 | <0.005 | | | | |
| 3/14/2019 | 0.0014 (J) | <0.005 | | | 0.0015 (J) |
| 3/15/2019 | | | <0.005 | <0.005 | |
| 4/4/2019 | | 7.2E-05 (J) | 0.00016 (J) | | |
| 4/5/2019 | 0.0012 (J) | | | 7.6E-05 (J) | 0.0015 (J) |
| Mean | 0.00172 | 0.001925 | 0.001642 | 0.002061 | 0.001485 |
| Std. Dev. | 0.0003464 | 0.001013 | 0.001191 | 0.0009757 | 0.0003898 |
| Upper Lim. | 0.002009 | 0.0025 | 0.0025 | 0.0025 | 0.00181 |
| Lower Lim. | 0.001431 | 7.2E-05 | 0.0001 | 7.6E-05 | 0.001161 |

Parametric and Non-Parametric (NP) Confidence Interval

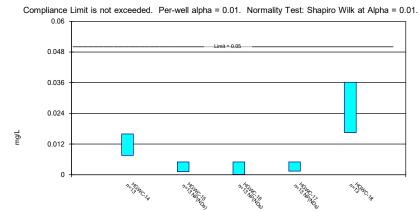


Constituent: Lithium Analysis Run 7/22/2019 3:23 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

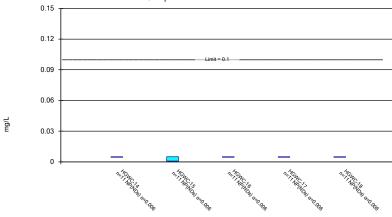
Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

Parametric and Non-Parametric (NP) Confidence Interval



Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



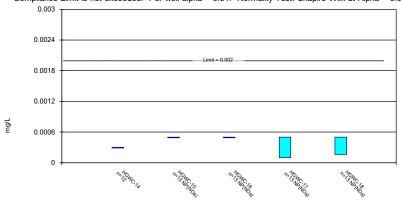
Constituent: Molybdenum Analysis Run 7/22/2019 3:23 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

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Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Lithium (mg/L) Analysis Run 7/22/2019 3:24 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|---------|------------|------------|-------------|------------|
| 5/23/2016 | <0.025 | <0.025 | <0.025 | <0.025 | |
| 5/24/2016 | | | | | 0.0142 (J) |
| 7/12/2016 | <0.025 | <0.025 | 0.0037 (J) | <0.025 | 0.0141 (J) |
| 9/1/2016 | <0.025 | 0.0021 (J) | 0.0033 (J) | <0.025 | 0.0158 (J) |
| 10/24/2016 | <0.025 | <0.025 | | | |
| 10/25/2016 | | | 0.0029 (J) | <0.025 | 0.016 (J) |
| 12/7/2016 | <0.025 | <0.025 | 0.0029 (J) | <0.025 | |
| 12/8/2016 | | | | | 0.0144 (J) |
| 1/26/2017 | <0.025 | <0.025 | 0.0028 (J) | <0.025 | 0.0136 (J) |
| 3/22/2017 | | | 0.0025 (J) | <0.025 | |
| 3/23/2017 | <0.025 | 0.0016 (J) | | | 0.0151 (J) |
| 5/24/2017 | <0.025 | 0.0029 (J) | 0.0029 (J) | | |
| 5/25/2017 | | | | 0.0011 (J) | 0.0154 (J) |
| 4/3/2018 | | 0.0026 (J) | 0.0028 (J) | <0.025 | 0.013 (J) |
| 4/4/2018 | <0.025 | | | | |
| 6/5/2018 | | | | | 0.013 (J) |
| 6/6/2018 | <0.025 | 0.0013 (J) | 0.0031 (J) | <0.025 | |
| 10/3/2018 | <0.025 | 0.0017 (J) | 0.0026 (J) | <0.025 | 0.015 (J) |
| 3/14/2019 | <0.025 | <0.025 | | | 0.011 (J) |
| 3/15/2019 | | | 0.0041 (J) | 0.0011 (J) | |
| 4/4/2019 | | 0.0009 (J) | 0.0032 (J) | | |
| 4/5/2019 | <0.025 | | | 0.00074 (J) | 0.0084 (J) |
| Mean | 0.0125 | 0.006777 | 0.003792 | 0.009842 | 0.01377 |
| Std. Dev. | 0 | 0.005538 | 0.002653 | 0.005053 | 0.00211 |
| Upper Lim. | 0.0125 | 0.0125 | 0.0041 | 0.0125 | 0.01534 |
| Lower Lim. | 0.0125 | 0.0013 | 0.0026 | 0.0011 | 0.0122 |
| | | | | | |

Constituent: Molybdenum (mg/L) Analysis Run 7/22/2019 3:24 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|---------|------------|---------|---------|---------|
| 5/23/2016 | <0.01 | <0.01 | <0.01 | <0.01 | |
| 5/24/2016 | | | | | <0.01 |
| 7/12/2016 | <0.01 | 0.0007 (J) | <0.01 | <0.01 | <0.01 |
| 9/1/2016 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| 10/24/2016 | <0.01 | <0.01 | | | |
| 10/25/2016 | | | <0.01 | <0.01 | <0.01 |
| 12/7/2016 | <0.01 | <0.01 | <0.01 | <0.01 | |
| 12/8/2016 | | | | | <0.01 |
| 1/26/2017 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| 3/22/2017 | | | <0.01 | <0.01 | |
| 3/23/2017 | <0.01 | <0.01 | | | <0.01 |
| 5/24/2017 | <0.01 | <0.01 | <0.01 | | |
| 5/25/2017 | | | | <0.01 | <0.01 |
| 4/3/2018 | | <0.01 | <0.01 | <0.01 | <0.01 |
| 4/4/2018 | <0.01 | | | | |
| 3/14/2019 | <0.01 | <0.01 | | | <0.01 |
| 3/15/2019 | | | <0.01 | <0.01 | |
| 4/4/2019 | | <0.01 | <0.01 | | |
| 4/5/2019 | <0.01 | | | <0.01 | <0.01 |
| Mean | 0.005 | 0.004609 | 0.005 | 0.005 | 0.005 |
| Std. Dev. | 0 | 0.001296 | 0 | 0 | 0 |
| Upper Lim. | 0.005 | 0.005 | 0.005 | 0.005 | 0.005 |
| Lower Lim. | 0.005 | 0.0007 | 0.005 | 0.005 | 0.005 |
| | | | | | |

Constituent: Selenium (mg/L) Analysis Run 7/22/2019 3:24 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|-------------|-------------|-------------|-------------|------------|
| 5/23/2016 | 0.017 | <0.01 | <0.01 | <0.01 | |
| 5/24/2016 | | | | | <0.01 |
| 7/12/2016 | 0.0146 | <0.01 | <0.01 | <0.01 | 0.036 |
| 9/1/2016 | 0.0137 | <0.01 | <0.01 | 0.0014 (J) | 0.0347 |
| 10/24/2016 | 0.0135 | 0.0012 (J) | | | |
| 10/25/2016 | | | <0.01 | <0.01 | 0.0282 |
| 12/7/2016 | 0.01 (J) | 0.0041 (J) | <0.01 | 0.0023 (J) | |
| 12/8/2016 | | | | | 0.0373 |
| 1/26/2017 | 0.0214 | <0.01 | <0.01 | <0.01 | 0.0385 |
| 3/22/2017 | | | <0.01 | <0.01 | |
| 3/23/2017 | 0.0167 | 0.0016 (J) | | | 0.0414 |
| 5/24/2017 | 0.0083 (J) | <0.01 | <0.01 | | |
| 5/25/2017 | | | | <0.01 | 0.019 |
| 4/3/2018 | | <0.01 | <0.01 | <0.01 | 0.029 |
| 4/4/2018 | 0.012 | | | | |
| 6/5/2018 | | | | | 0.038 |
| 6/6/2018 | 0.014 | <0.01 | <0.01 | <0.01 | |
| 10/3/2018 | 0.0056 (J) | <0.01 | <0.01 | <0.01 | 0.017 |
| 3/14/2019 | 0.0048 (J) | <0.01 | | | 0.016 |
| 3/15/2019 | | | <0.01 | <0.01 | |
| 4/4/2019 | | 0.00021 (J) | 8.9E-05 (J) | | |
| 4/5/2019 | 0.00091 (J) | | | 9.3E-05 (J) | 0.0018 (J) |
| Mean | 0.01173 | 0.004008 | 0.004622 | 0.004138 | 0.0263 |
| Std. Dev. | 0.005656 | 0.001755 | 0.001362 | 0.0017 | 0.01326 |
| Upper Lim. | 0.01594 | 0.005 | 0.005 | 0.005 | 0.03616 |
| Lower Lim. | 0.007526 | 0.0012 | 8.9E-05 | 0.0014 | 0.01644 |
| | | | | | |

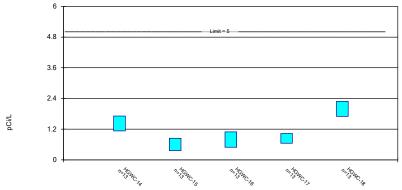
Constituent: Thallium (mg/L) Analysis Run 7/22/2019 3:24 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|--------------|---------|---------|-------------|-------------|
| 5/23/2016 | 0.000306 (J) | <0.001 | <0.001 | <0.001 | |
| 5/24/2016 | | | | | <0.001 |
| 7/12/2016 | 0.0003 (J) | <0.001 | <0.001 | 0.0001 (J) | 0.0002 (J) |
| 9/1/2016 | 0.0003 (J) | <0.001 | <0.001 | <0.001 | <0.001 |
| 10/24/2016 | 0.0004 (o) | <0.001 | | | |
| 10/25/2016 | | | <0.001 | <0.001 | <0.001 |
| 12/7/2016 | 0.0003 (J) | <0.001 | <0.001 | <0.001 | |
| 12/8/2016 | | | | | <0.001 |
| 1/26/2017 | 0.0003 (J) | <0.001 | <0.001 | <0.001 | <0.001 |
| 3/22/2017 | | | <0.001 | 0.0001 (J) | |
| 3/23/2017 | 0.0003 (J) | <0.001 | | | 0.0002 (J) |
| 5/24/2017 | 0.0003 (J) | <0.001 | <0.001 | | |
| 5/25/2017 | | | | 0.0001 (J) | 0.0002 (J) |
| 4/3/2018 | | <0.001 | <0.001 | <0.001 | 0.00014 (J) |
| 4/4/2018 | 0.00028 (J) | | | | |
| 6/5/2018 | | | | | 0.00016 (J) |
| 6/6/2018 | 0.00029 (J) | <0.001 | <0.001 | <0.001 | |
| 10/3/2018 | 0.00029 (J) | <0.001 | <0.001 | <0.001 | <0.001 |
| 3/14/2019 | 0.00028 (J) | <0.001 | | | <0.001 |
| 3/15/2019 | | | <0.001 | <0.001 | |
| 4/4/2019 | | <0.001 | <0.001 | | |
| 4/5/2019 | 0.00028 (J) | | | 0.00013 (J) | 0.00014 (J) |
| Mean | 0.0002938 | 0.0005 | 0.0005 | 0.0003792 | 0.0003492 |
| Std. Dev. | 9.437E-06 | 0 | 0 | 0.0001887 | 0.0001706 |
| Upper Lim. | 0.0003012 | 0.0005 | 0.0005 | 0.0005 | 0.0005 |
| Lower Lim. | 0.0002864 | 0.0005 | 0.0005 | 0.0001 | 0.00016 |
| | | | | | |

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Total Radium Analysis Run 7/22/2019 3:23 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

Constituent: Total Radium (pCi/L) Analysis Run 7/22/2019 3:24 AM

Plant Hammond Client: Georgia Power Company Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|-----------|-----------|-----------|-----------|----------|
| 5/23/2016 | 0.568 (U) | 0.171 (U) | | 0.618 (U) | |
| 5/24/2016 | | | | | 1.82 |
| 7/1/2016 | | | 0 (U) | | |
| 7/12/2016 | 1.31 | 0.611 (U) | 0.182 (U) | 0.867 | 1.76 |
| 9/1/2016 | 1.64 | 0.766 (U) | 1.23 | 0.857 (U) | 1.51 |
| 10/24/2016 | 1.88 | 0.969 | | | |
| 10/25/2016 | | | 1.05 (U) | 1.11 (U) | 2.69 |
| 12/7/2016 | 1.35 | 0.302 (U) | 1.11 (U) | 0.964 (U) | |
| 12/8/2016 | | | | | 2.21 |
| 1/26/2017 | 2.1 | 0.626 (U) | 1.29 (U) | 0.612 (U) | 2.26 |
| 3/22/2017 | | | 0.453 (U) | 0.437 (U) | |
| 3/23/2017 | 1.17 | 0.662 (U) | | | 1.81 |
| 5/24/2017 | 1 (U) | 0.202 (U) | 1.05 (U) | | |
| 5/25/2017 | | | | 1.21 (U) | 1.63 |
| 4/3/2018 | | 0.384 (U) | 0.783 (U) | 0.409 (U) | 2.53 |
| 4/4/2018 | 1.72 | | | | |
| 6/5/2018 | | | | | 1.91 |
| 6/6/2018 | 1.31 (U) | 1.32 (U) | 0.595 (U) | 0.772 (U) | |
| 10/3/2018 | 1.48 | 0.858 (U) | 1.03 (U) | 1.08 (U) | 2.22 |
| 3/14/2019 | 1.5 | 0.462 (U) | | | 1.37 (U) |
| 3/15/2019 | | | 0.591 (U) | 0.917 (U) | |
| 4/4/2019 | | 0.512 (U) | 0.96 (U) | | |
| 4/5/2019 | 1.43 (U) | | | 1.07 (U) | 2.22 |
| Mean | 1.42 | 0.6035 | 0.7942 | 0.8402 | 1.995 |
| Std. Dev. | 0.3891 | 0.3238 | 0.4034 | 0.2577 | 0.3951 |
| Upper Lim. | 1.709 | 0.8442 | 1.094 | 1.032 | 2.289 |
| Lower Lim. | 1.131 | 0.3627 | 0.4942 | 0.6486 | 1.702 |
| | | | | | |

September 2019 event (AM 02)

GA EPD Based Groundwater Protection Standards Statistical Analysis Package AM 02

Tolerance Limit (USEPA)

| | | Hammond AP Cli | ent: Georgia Pow | er Data: Hamı | mond AF | P-2 Pri | nted 12/16/20 | 019, 5:31 PM | | |
|----------------------|-------------|----------------|------------------|---------------|---------|---------|---------------|------------------|--------------|---------------------|
| Constituent | <u>Well</u> | Upper Lim. | <u>Date</u> | Observ. | Sig. | Bg N | %NDs | <u>Transform</u> | <u>Alpha</u> | <u>Method</u> |
| Antimony (mg/L) | n/a | 0.003 | n/a | n/a | n/a | 63 | 93.65 | n/a | 0.0395 | NP Inter(NDs) |
| Arsenic (mg/L) | n/a | 0.005 | n/a | n/a | n/a | 84 | 78.57 | n/a | 0.01345 | NP Inter(NDs) |
| Barium (mg/L) | n/a | 0.22 | n/a | n/a | n/a | 84 | 0 | n/a | 0.01345 | NP Inter(normality) |
| Beryllium (mg/L) | n/a | 0.003 | n/a | n/a | n/a | 72 | 86.11 | n/a | 0.02489 | NP Inter(NDs) |
| Cadmium (mg/L) | n/a | 0.0025 | n/a | n/a | n/a | 84 | 92.86 | n/a | 0.01345 | NP Inter(NDs) |
| Chromium (mg/L) | n/a | 0.019 | n/a | n/a | n/a | 72 | 90.28 | n/a | 0.02489 | NP Inter(NDs) |
| Cobalt (mg/L) | n/a | 0.038 | n/a | n/a | n/a | 84 | 70.24 | n/a | 0.01345 | NP Inter(NDs) |
| Fluoride (mg/L) | n/a | 0.36 | n/a | n/a | n/a | 90 | 30 | n/a | 0.009888 | NP Inter(normality) |
| Lead (mg/L) | n/a | 0.005 | n/a | n/a | n/a | 72 | 84.72 | n/a | 0.02489 | NP Inter(NDs) |
| Lithium (mg/L) | n/a | 0.03 | n/a | n/a | n/a | 84 | 30.95 | n/a | 0.01345 | NP Inter(normality) |
| Mercury (mg/L) | n/a | 0.0005 | n/a | n/a | n/a | 60 | 86.67 | n/a | 0.04607 | NP Inter(NDs) |
| Molybdenum (mg/L) | n/a | 0.01 | n/a | n/a | n/a | 72 | 97.22 | n/a | 0.02489 | NP Inter(NDs) |
| Selenium (mg/L) | n/a | 0.01 | n/a | n/a | n/a | 84 | 98.81 | n/a | 0.01345 | NP Inter(NDs) |
| Thallium (mg/L) | n/a | 0.001 | n/a | n/a | n/a | 84 | 98.81 | n/a | 0.01345 | NP Inter(NDs) |
| Total Radium (pCi/L) | n/a | 2.42 | n/a | n/a | n/a | 84 | 0 | n/a | 0.01345 | NP Inter(normality) |

Table F-2 EPD Based Groundwater Protection Standards Plant Hammond - Ash Pond 2 Floyd County, Georgia

| Constituent | CAS | Units | EPA MCL | Statistically Derived Upper Tolerance Limits for Background | GWPS ¹ |
|-------------------------|------------|-------|------------|---|-------------------|
| Antimony | 7440-36-0 | mg/L | 0.006 | 0.003 | 0.006 |
| Arsenic | 7440-38-2 | mg/L | 0.01 | 0.005 | 0.01 |
| Barium | 7440-39-3 | mg/L | 2 | 0.22 | 2 |
| Beryllium | 7440-41-7 | mg/L | 0.004 | 0.003 | 0.004 |
| Cadmium | 7440-43-9 | mg/L | 0.005 | 0.003 | 0.005 |
| Chromium (III+VI) | 7440-47-3 | mg/L | 0.1 | 0.019 | 0.1 |
| Cobalt ² | 7440-48-4 | mg/L | N/A | 0.038 | 0.038 |
| Fluoride | 16984-48-8 | mg/L | 4 | 0.36 | 4 |
| Lead ² | 7439-92-1 | mg/L | N/A | 0.005 | 0.005 |
| Lithium ² | 7439-93-2 | mg/L | N/A | 0.03 | 0.03 |
| Mercury | 7439-97-6 | mg/L | 0.002 | 0.0005 | 0.002 |
| Molybdenum ² | 7439-98-7 | mg/L | N/A | 0.01 | 0.01 |
| Selenium | 7782-49-2 | mg/L | 0.05 | 0.01 | 0.05 |
| Thallium | 7440-28-0 | mg/L | 0.002 | 0.001 | 0.002 |
| Total Radium | 7440-14-4 | pCi/L | 5 | 2.42 | 5 |

Notes:

EPA MCL - U.S. Environmental Protection Agency, Maximum Contaminant Level

GWPS - Groundwater Protection Standards

mg/L - milligram per liter

N/A - Not Available

pCi/L - Picocuries per liter

¹GWPS selected as the greater value between the EPA MCL and the background Upper Tolerance Limit.

²Constituent without established EPA MCL.

Confidence Interval (EPD) - Significant Results

Hammond AP Client: Georgia Power Data: Hammond AP-2 Printed 12/16/2019, 5:38 PM

Constituent <u>Well</u> Upper Lim. Lower Lim. Sig. N %NDs <u>Transform</u> Method Compliance <u>Alpha</u> HGWC-18 0.038 Yes 14 No Cobalt (mg/L) 0.2 0.1699 0 0.01 Param.

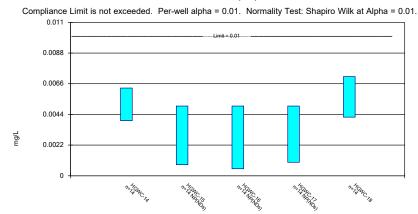
Confidence Interval (EPD) - All Results

| | | Hammond AP | Client: Georgia P | Power Data: H | ammond | AP-2 | Printed 12/16 | 5/2019, 5:38 PM | | |
|------------------|-------------|------------|-------------------|---------------|--------|----------|---------------|------------------|--------------|----------------|
| Constituent | <u>Well</u> | Upper Lim. | Lower Lim. | Compliance | Sig. | <u>N</u> | %NDs | <u>Transform</u> | <u>Alpha</u> | <u>Method</u> |
| Arsenic (mg/L) | HGWC-14 | 0.006292 | 0.003948 | 0.01 | No | 14 | 14.29 | No | 0.01 | Param. |
| Arsenic (mg/L) | HGWC-15 | 0.005 | 0.0008 | 0.01 | No | 14 | 78.57 | No | 0.01 | NP (NDs) |
| Arsenic (mg/L) | HGWC-16 | 0.005 | 0.0005 | 0.01 | No | 14 | 85.71 | No | 0.01 | NP (NDs) |
| Arsenic (mg/L) | HGWC-17 | 0.005 | 0.00097 | 0.01 | No | 14 | 78.57 | No | 0.01 | NP (NDs) |
| Arsenic (mg/L) | HGWC-18 | 0.007116 | 0.004204 | 0.01 | No | 14 | 0 | No | 0.01 | Param. |
| Barium (mg/L) | HGWC-14 | 0.0238 | 0.02 | 2 | No | 14 | 7.143 | No | 0.01 | NP (normality) |
| Barium (mg/L) | HGWC-15 | 0.03194 | 0.02259 | 2 | No | 14 | 0 | No | 0.01 | Param. |
| Barium (mg/L) | HGWC-16 | 0.112 | 0.096 | 2 | No | 14 | 0 | No | 0.01 | Param. |
| Barium (mg/L) | HGWC-17 | 0.02618 | 0.02274 | 2 | No | 14 | 0 | No | 0.01 | Param. |
| Barium (mg/L) | HGWC-18 | 0.0346 | 0.029 | 2 | No | 14 | 7.143 | No | 0.01 | NP (normality) |
| Beryllium (mg/L) | HGWC-14 | 0.003 | 0.00043 | 0.004 | No | 12 | 16.67 | No | 0.01 | NP (normality) |
| Beryllium (mg/L) | HGWC-15 | 0.003 | 0.003 | 0.004 | No | 12 | 100 | No | 0.01 | NP (NDs) |
| Beryllium (mg/L) | HGWC-16 | 0.003 | 0.003 | 0.004 | No | 12 | 100 | No | 0.01 | NP (NDs) |
| Beryllium (mg/L) | HGWC-17 | 0.003 | 0.003 | 0.004 | No | 12 | 100 | No | 0.01 | NP (NDs) |
| Beryllium (mg/L) | HGWC-18 | 0.003465 | 0.002799 | 0.004 | No | 12 | 8.333 | No | 0.01 | Param. |
| Cadmium (mg/L) | HGWC-14 | 0.0025 | 0.0001 | 0.005 | No | 14 | 28.57 | No | 0.01 | NP (normality) |
| Cadmium (mg/L) | HGWC-15 | 0.002623 | 0.001635 | 0.005 | No | 14 | 0 | No | 0.01 | Param. |
| Cadmium (mg/L) | HGWC-16 | 0.0025 | 0.0025 | 0.005 | No | 14 | 100 | No | 0.01 | NP (NDs) |
| Cadmium (mg/L) | HGWC-17 | 0.0025 | 0.00007 | 0.005 | No | 14 | 92.86 | No | 0.01 | NP (NDs) |
| Cadmium (mg/L) | HGWC-18 | 0.002512 | 0.002116 | 0.005 | No | 14 | 7.143 | No | 0.01 | Param. |
| Chromium (mg/L) | HGWC-14 | 0.01 | 0.01 | 0.1 | No | 12 | 100 | No | 0.01 | NP (NDs) |
| Chromium (mg/L) | HGWC-15 | 0.01 | 0.0005 | 0.1 | No | 12 | 83.33 | No | 0.01 | NP (NDs) |
| Chromium (mg/L) | HGWC-16 | 0.01 | 0.0021 | 0.1 | No | 12 | 91.67 | No | 0.01 | NP (NDs) |
| Chromium (mg/L) | HGWC-17 | 0.01 | 0.01 | 0.1 | No | 12 | 100 | No | 0.01 | NP (NDs) |
| Chromium (mg/L) | HGWC-18 | 0.01 | 0.0005 | 0.1 | No | 12 | 91.67 | No | 0.01 | NP (NDs) |
| Cobalt (mg/L) | HGWC-14 | 0.02798 | 0.0217 | 0.038 | No | 14 | 7.143 | x^2 | 0.01 | Param. |
| Cobalt (mg/L) | HGWC-15 | 0.05299 | 0.0351 | 0.038 | No | 14 | 0 | No | 0.01 | Param. |
| Cobalt (mg/L) | HGWC-16 | 0.005 | 0.00028 | 0.038 | No | 14 | 92.86 | No | 0.01 | NP (NDs) |
| Cobalt (mg/L) | HGWC-17 | 0.01655 | 0.01495 | 0.038 | No | 14 | 0 | No | 0.01 | Param. |
| Cobalt (mg/L) | HGWC-18 | 0.2 | 0.1699 | 0.038 | Yes | 14 | 0 | No | 0.01 | Param. |
| Fluoride (mg/L) | HGWC-14 | 0.361 | 0.1314 | 4 | No | 15 | 13.33 | No | 0.01 | Param. |
| Fluoride (mg/L) | HGWC-15 | 0.2656 | 0.08135 | 4 | No | 15 | 33.33 | No | 0.01 | Param. |
| Fluoride (mg/L) | HGWC-16 | 0.3256 | 0.1585 | 4 | No | 15 | 46.67 | x^2 | 0.01 | Param. |
| Fluoride (mg/L) | HGWC-17 | 0.2972 | 0.05861 | 4 | No | 15 | 33.33 | sqrt(x) | 0.01 | Param. |
| Fluoride (mg/L) | HGWC-18 | 0.7062 | 0.4404 | 4 | No | 15 | 6.667 | No | 0.01 | Param. |
| Lead (mg/L) | HGWC-14 | 0.002 | 0.0013 | 0.005 | No | 12 | 8.333 | No | 0.01 | NP (normality) |
| Lead (mg/L) | HGWC-15 | 0.005 | 0.0001 | 0.005 | No | 12 | 66.67 | No | 0.01 | NP (NDs) |
| Lead (mg/L) | HGWC-16 | 0.005 | 0.0001 | 0.005 | No | 12 | 66.67 | No | 0.01 | NP (NDs) |
| Lead (mg/L) | HGWC-17 | 0.005 | 0.000089 | 0.005 | No | 12 | 75 | No | 0.01 | NP (NDs) |
| Lead (mg/L) | HGWC-18 | 0.0017 | 0.0012 | 0.005 | No | 12 | 8.333 | No | 0.01 | NP (normality) |
| Lithium (mg/L) | HGWC-14 | 0.03 | 0.03 | 0.03 | No | 14 | 100 | No | 0.01 | NP (NDs) |
| Lithium (mg/L) | HGWC-15 | 0.03 | 0.0013 | 0.03 | No | 14 | 42.86 | No | 0.01 | NP (normality) |
| Lithium (mg/L) | HGWC-16 | 0.0038 | 0.0026 | 0.03 | No | 14 | 7.143 | No | 0.01 | NP (normality) |
| Lithium (mg/L) | HGWC-17 | 0.03 | 0.0011 | 0.03 | No | 14 | 71.43 | No | 0.01 | NP (NDs) |
| Lithium (mg/L) | HGWC-18 | 0.01531 | 0.0124 | 0.03 | No | 14 | 0 | No | 0.01 | Param. |
| Mercury (mg/L) | HGWC-14 | 0.0005 | 0.0005 | 0.002 | No | 10 | 100 | No | 0.011 | NP (NDs) |
| Mercury (mg/L) | HGWC-15 | 0.0005 | 0.0005 | 0.002 | No | 10 | 100 | No | 0.011 | NP (NDs) |
| Mercury (mg/L) | HGWC-16 | 0.0005 | 0.0005 | 0.002 | No | 10 | 100 | No | 0.011 | NP (NDs) |
| Mercury (mg/L) | HGWC-17 | 0.0005 | 0.0005 | 0.002 | No | 10 | 100 | No | 0.011 | NP (NDs) |
| Mercury (mg/L) | HGWC-18 | 0.0005 | 0.00006 | 0.002 | No | 10 | 50 | No | 0.011 | NP (normality) |
| | | | | | | | | | | |

Confidence Interval (EPD) - All Results

| | | Hammond AP | Client: Georgia Po | ower Data: Ha | ammond | AP-2 | Printed 12/16 | 5/2019, 5:38 PM | | |
|----------------------|-------------|------------|--------------------|---------------|--------|----------|---------------|------------------|--------------|----------------|
| Constituent | <u>Well</u> | Upper Lim. | Lower Lim. | Compliance | Sig. | <u>N</u> | %NDs | <u>Transform</u> | <u>Alpha</u> | <u>Method</u> |
| Molybdenum (mg/L) | HGWC-14 | 0.01 | 0.01 | 0.01 | No | 12 | 100 | No | 0.01 | NP (NDs) |
| Molybdenum (mg/L) | HGWC-15 | 0.01 | 0.0007 | 0.01 | No | 12 | 91.67 | No | 0.01 | NP (NDs) |
| Molybdenum (mg/L) | HGWC-16 | 0.01 | 0.01 | 0.01 | No | 12 | 100 | No | 0.01 | NP (NDs) |
| Molybdenum (mg/L) | HGWC-17 | 0.01 | 0.01 | 0.01 | No | 12 | 100 | No | 0.01 | NP (NDs) |
| Molybdenum (mg/L) | HGWC-18 | 0.01 | 0.01 | 0.01 | No | 12 | 100 | No | 0.01 | NP (NDs) |
| Selenium (mg/L) | HGWC-14 | 0.01533 | 0.007371 | 0.05 | No | 14 | 0 | No | 0.01 | Param. |
| Selenium (mg/L) | HGWC-15 | 0.01 | 0.0016 | 0.05 | No | 14 | 71.43 | No | 0.01 | NP (NDs) |
| Selenium (mg/L) | HGWC-16 | 0.01 | 0.000089 | 0.05 | No | 14 | 92.86 | No | 0.01 | NP (NDs) |
| Selenium (mg/L) | HGWC-17 | 0.01 | 0.0023 | 0.05 | No | 14 | 78.57 | No | 0.01 | NP (NDs) |
| Selenium (mg/L) | HGWC-18 | 0.03491 | 0.01751 | 0.05 | No | 14 | 7.143 | No | 0.01 | Param. |
| Thallium (mg/L) | HGWC-14 | 0.000306 | 0.00028 | 0.002 | No | 13 | 0 | No | 0.01 | NP (normality) |
| Thallium (mg/L) | HGWC-15 | 0.001 | 0.001 | 0.002 | No | 14 | 100 | No | 0.01 | NP (NDs) |
| Thallium (mg/L) | HGWC-16 | 0.001 | 0.001 | 0.002 | No | 14 | 100 | No | 0.01 | NP (NDs) |
| Thallium (mg/L) | HGWC-17 | 0.001 | 0.0001 | 0.002 | No | 14 | 64.29 | No | 0.01 | NP (NDs) |
| Thallium (mg/L) | HGWC-18 | 0.001 | 0.00016 | 0.002 | No | 14 | 50 | No | 0.01 | NP (normality) |
| Total Radium (pCi/L) | HGWC-14 | 1.671 | 1.133 | 5 | No | 14 | 0 | No | 0.01 | Param. |
| Total Radium (pCi/L) | HGWC-15 | 0.8223 | 0.3816 | 5 | No | 14 | 0 | No | 0.01 | Param. |
| Total Radium (pCi/L) | HGWC-16 | 1.059 | 0.5074 | 5 | No | 14 | 0 | No | 0.01 | Param. |
| Total Radium (pCi/L) | HGWC-17 | 1.11 | 0.6705 | 5 | No | 14 | 0 | No | 0.01 | Param. |
| Total Radium (pCi/L) | HGWC-18 | 2.357 | 1.744 | 5 | No | 14 | 0 | No | 0.01 | Param. |

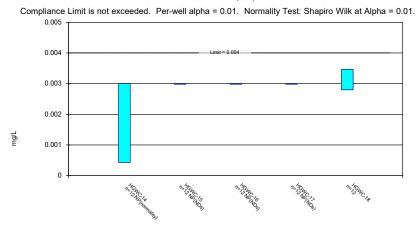
Parametric and Non-Parametric (NP) Confidence Interval



Constituent: Arsenic Analysis Run 12/16/2019 5:35 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

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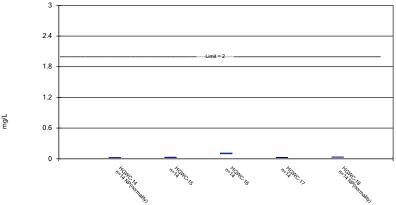
Parametric and Non-Parametric (NP) Confidence Interval



Constituent: Beryllium Analysis Run 12/16/2019 5:36 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.

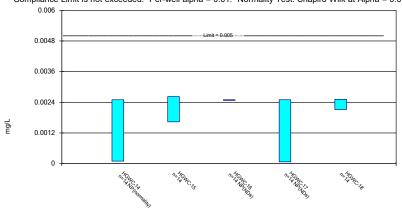


Constituent: Barium Analysis Run 12/16/2019 5:36 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

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Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Arsenic (mg/L) Analysis Run 12/16/2019 5:38 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|-------------|-------------|------------|-------------|-------------|
| 5/23/2016 | 0.00268 (J) | <0.005 | <0.005 | <0.005 | |
| 5/24/2016 | | | | | 0.00294 (J) |
| 7/12/2016 | 0.0059 | <0.005 | <0.005 | <0.005 | 0.0074 |
| 9/1/2016 | 0.0056 | <0.005 | <0.005 | <0.005 | 0.0073 |
| 10/24/2016 | 0.0058 | <0.005 | | | |
| 10/25/2016 | | | <0.005 | <0.005 | 0.006 |
| 12/7/2016 | <0.005 | <0.005 | <0.005 | <0.005 | |
| 12/8/2016 | | | | | 0.007 |
| 1/26/2017 | 0.0089 | <0.005 | <0.005 | <0.005 | 0.0068 |
| 3/22/2017 | | | 0.0005 (J) | 0.0007 (J) | |
| 3/23/2017 | 0.0069 | 0.0008 (J) | | | 0.0082 |
| 5/24/2017 | 0.0048 (J) | <0.005 | <0.005 | | |
| 5/25/2017 | | | | 0.0007 (J) | 0.006 |
| 4/3/2018 | | <0.005 | <0.005 | <0.005 | 0.0062 |
| 4/4/2018 | 0.0052 | | | | |
| 6/5/2018 | | | | | 0.008 |
| 6/6/2018 | 0.0059 | <0.005 | <0.005 | 0.00097 (J) | |
| 10/3/2018 | 0.0032 (J) | <0.005 | <0.005 | <0.005 | 0.0039 (J) |
| 3/14/2019 | 0.0029 (J) | <0.005 | | | 0.0036 (J) |
| 3/15/2019 | | | <0.005 | <0.005 | |
| 4/4/2019 | | 0.00017 (J) | 0.0001 (J) | | |
| 4/5/2019 | <0.005 | | | <0.005 | 0.0015 (J) |
| 9/24/2019 | 0.0039 (J) | 0.00037 (J) | | | |
| 9/25/2019 | | | <0.005 | <0.005 | 0.0044 (J) |
| Mean | 0.00512 | 0.004024 | 0.004329 | 0.004098 | 0.00566 |
| Std. Dev. | 0.001654 | 0.001943 | 0.001709 | 0.001794 | 0.002055 |
| Upper Lim. | 0.006292 | 0.005 | 0.005 | 0.005 | 0.007116 |
| Lower Lim. | 0.003948 | 0.0008 | 0.0005 | 0.00097 | 0.004204 |
| | | | | | |

Constituent: Barium (mg/L) Analysis Run 12/16/2019 5:38 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|---------|------------|---------|------------|---------|
| 5/23/2016 | <0.2 | 0.0315 (J) | 0.0841 | 0.0222 (J) | |
| 5/24/2016 | | | | | <0.2 |
| 7/12/2016 | 0.0214 | 0.0372 | 0.0886 | 0.0221 | 0.0346 |
| 9/1/2016 | 0.0208 | 0.0364 | 0.0934 | 0.0227 | 0.0336 |
| 10/24/2016 | 0.0208 | 0.0326 | | | |
| 10/25/2016 | | | 0.0991 | 0.0225 | 0.0349 |
| 12/7/2016 | 0.022 | 0.0301 | 0.101 | 0.0227 | |
| 12/8/2016 | | | | | 0.0339 |
| 1/26/2017 | 0.0238 | 0.0287 | 0.105 | 0.0229 | 0.0293 |
| 3/22/2017 | | | 0.11 | 0.0248 | |
| 3/23/2017 | 0.0244 | 0.0329 | | | 0.0313 |
| 5/24/2017 | 0.0228 | 0.0283 | 0.106 | | |
| 5/25/2017 | | | | 0.0255 | 0.0336 |
| 4/3/2018 | | 0.019 | 0.099 | 0.025 | 0.028 |
| 4/4/2018 | 0.021 | | | | |
| 6/5/2018 | | | | | 0.03 |
| 6/6/2018 | 0.022 | 0.022 | 0.11 | 0.028 | |
| 10/3/2018 | 0.02 | 0.025 | 0.11 | 0.028 | 0.032 |
| 3/14/2019 | 0.019 | 0.021 | | | 0.029 |
| 3/15/2019 | | | 0.13 | 0.029 | |
| 4/4/2019 | | 0.018 | 0.11 | | |
| 4/5/2019 | 0.016 | | | 0.022 | 0.021 |
| 9/24/2019 | 0.021 | 0.019 | | | |
| 9/25/2019 | | | 0.11 | 0.025 | 0.03 |
| Mean | 0.02679 | 0.02726 | 0.104 | 0.02446 | 0.0358 |
| Std. Dev. | 0.02117 | 0.006599 | 0.01132 | 0.002428 | 0.01883 |
| Upper Lim. | 0.0238 | 0.03194 | 0.112 | 0.02618 | 0.0346 |
| Lower Lim. | 0.02 | 0.02259 | 0.096 | 0.02274 | 0.029 |
| | | | | | |

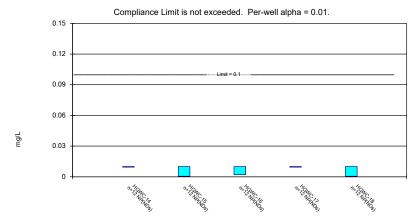
Constituent: Beryllium (mg/L) Analysis Run 12/16/2019 5:38 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|-------------|---------|---------|---------|-------------|
| 5/23/2016 | <0.003 | <0.003 | <0.003 | <0.003 | |
| 5/24/2016 | | | | | 0.00278 (J) |
| 7/12/2016 | 0.0005 (J) | <0.003 | <0.003 | <0.003 | 0.0032 |
| 9/1/2016 | 0.0005 (J) | <0.003 | <0.003 | <0.003 | 0.0034 |
| 10/24/2016 | 0.0005 (J) | <0.003 | | | |
| 10/25/2016 | | | <0.003 | <0.003 | 0.0034 |
| 12/7/2016 | 0.0006 (J) | <0.003 | <0.003 | <0.003 | |
| 12/8/2016 | | | | | 0.0033 |
| 1/26/2017 | 0.0005 (J) | <0.003 | <0.003 | <0.003 | 0.0034 |
| 3/22/2017 | | | <0.003 | <0.003 | |
| 3/23/2017 | 0.0006 (J) | <0.003 | | | 0.0036 |
| 5/24/2017 | 0.0005 (J) | <0.003 | <0.003 | | |
| 5/25/2017 | | | | <0.003 | 0.0036 |
| 4/3/2018 | | <0.003 | <0.003 | <0.003 | <0.003 |
| 4/4/2018 | <0.003 | | | | |
| 3/14/2019 | 0.00043 (J) | <0.003 | | | 0.0026 (J) |
| 3/15/2019 | | | <0.003 | <0.003 | |
| 4/4/2019 | | <0.003 | <0.003 | | |
| 4/5/2019 | 0.00027 (J) | | | <0.003 | 0.0022 (J) |
| 9/24/2019 | 0.00044 (J) | <0.003 | | | |
| 9/25/2019 | | | <0.003 | <0.003 | 0.0031 |
| Mean | 0.0009033 | 0.003 | 0.003 | 0.003 | 0.003132 |
| Std. Dev. | 0.000983 | 0 | 0 | 0 | 0.0004243 |
| Upper Lim. | 0.003 | 0.003 | 0.003 | 0.003 | 0.003465 |
| Lower Lim. | 0.00043 | 0.003 | 0.003 | 0.003 | 0.002799 |
| | | | | | |

Constituent: Cadmium (mg/L) Analysis Run 12/16/2019 5:38 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|--------------|-------------|---------|-----------|------------|
| 5/23/2016 | 0.000139 (J) | 0.00271 (J) | <0.0025 | <0.0025 | |
| 5/24/2016 | | | | | <0.0025 |
| 7/12/2016 | <0.0025 | 0.0019 | <0.0025 | <0.0025 | 0.0022 |
| 9/1/2016 | 0.0001 (J) | 0.0017 | <0.0025 | <0.0025 | 0.0024 |
| 10/24/2016 | 0.0002 (J) | 0.0018 | | | |
| 10/25/2016 | | | <0.0025 | <0.0025 | 0.0022 |
| 12/7/2016 | 0.0001 (J) | 0.0018 | <0.0025 | <0.0025 | |
| 12/8/2016 | | | | | 0.0024 |
| 1/26/2017 | 0.0001 (J) | 0.0013 | <0.0025 | <0.0025 | 0.0025 |
| 3/22/2017 | | | <0.0025 | 7E-05 (J) | |
| 3/23/2017 | 0.0002 (J) | 0.002 | | | 0.0025 |
| 5/24/2017 | 0.0001 (J) | 0.0041 | <0.0025 | | |
| 5/25/2017 | | | | <0.0025 | 0.0027 |
| 4/3/2018 | | 0.0022 | <0.0025 | <0.0025 | 0.0022 |
| 4/4/2018 | <0.0025 | | | | |
| 6/5/2018 | | | | | 0.0022 |
| 6/6/2018 | 0.00012 (J) | 0.0021 | <0.0025 | <0.0025 | |
| 10/3/2018 | 0.0001 (J) | 0.0026 | <0.0025 | <0.0025 | 0.0027 |
| 3/14/2019 | <0.0025 | 0.0024 | | | 0.0019 |
| 3/15/2019 | | | <0.0025 | <0.0025 | |
| 4/4/2019 | | 0.0018 | <0.0025 | | |
| 4/5/2019 | 7.9E-05 (J) | | | <0.0025 | 0.0017 |
| 9/24/2019 | <0.0025 | 0.0014 (J) | | | |
| 9/25/2019 | | | <0.0025 | <0.0025 | 0.0023 (J) |
| Mean | 0.0008027 | 0.002129 | 0.0025 | 0.002326 | 0.002314 |
| Std. Dev. | 0.001115 | 0.0006973 | 0 | 0.0006494 | 0.0002797 |
| Upper Lim. | 0.0025 | 0.002623 | 0.0025 | 0.0025 | 0.002512 |
| Lower Lim. | 0.0001 | 0.001635 | 0.0025 | 7E-05 | 0.002116 |

Non-Parametric Confidence Interval

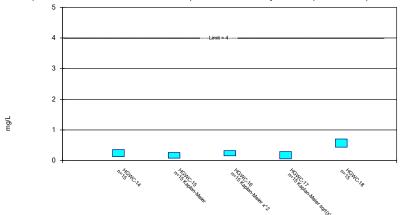


Constituent: Chromium Analysis Run 12/16/2019 5:36 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

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Parametric Confidence Interval

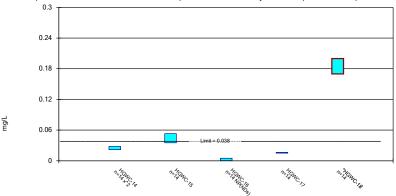




Constituent: Fluoride Analysis Run 12/16/2019 5:36 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.

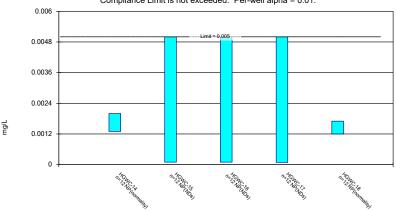


Constituent: Cobalt Analysis Run 12/16/2019 5:36 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

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Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Chromium (mg/L) Analysis Run 12/16/2019 5:38 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|---------|-------------|------------|---------|------------|
| 5/23/2016 | <0.01 | <0.01 | <0.01 | <0.01 | |
| 5/24/2016 | | | | | <0.01 |
| 7/12/2016 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| 9/1/2016 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| 10/24/2016 | <0.01 | <0.01 | | | |
| 10/25/2016 | | | <0.01 | <0.01 | <0.01 |
| 12/7/2016 | <0.01 | <0.01 | <0.01 | <0.01 | |
| 12/8/2016 | | | | | <0.01 |
| 1/26/2017 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| 3/22/2017 | | | 0.0021 (J) | <0.01 | |
| 3/23/2017 | <0.01 | 0.0005 (J) | | | 0.0005 (J) |
| 5/24/2017 | <0.01 | <0.01 | <0.01 | | |
| 5/25/2017 | | | | <0.01 | <0.01 |
| 4/3/2018 | | <0.01 | <0.01 | <0.01 | <0.01 |
| 4/4/2018 | <0.01 | | | | |
| 3/14/2019 | <0.01 | <0.01 | | | <0.01 |
| 3/15/2019 | | | <0.01 | <0.01 | |
| 4/4/2019 | | <0.01 | <0.01 | | |
| 4/5/2019 | <0.01 | | | <0.01 | <0.01 |
| 9/24/2019 | <0.01 | 0.00041 (J) | | | |
| 9/25/2019 | | | <0.01 | <0.01 | <0.01 |
| Mean | 0.01 | 0.008409 | 0.009342 | 0.01 | 0.009208 |
| Std. Dev. | 0 | 0.003715 | 0.002281 | 0 | 0.002742 |
| Upper Lim. | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| Lower Lim. | 0.01 | 0.0005 | 0.0021 | 0.01 | 0.0005 |
| | | | | | |

Constituent: Cobalt (mg/L) Analysis Run 12/16/2019 5:38 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|----------|------------|-------------|----------|----------|
| 5/23/2016 | <0.005 | 0.0419 (J) | <0.005 | 0.0167 | |
| 5/24/2016 | | | | | 0.17 (J) |
| 7/12/2016 | 0.0232 | 0.0393 | <0.005 | 0.0148 | 0.168 |
| 9/1/2016 | 0.0248 | 0.045 | <0.005 | 0.0151 | 0.18 |
| 10/24/2016 | 0.0253 | 0.0557 | | | |
| 10/25/2016 | | | <0.005 | 0.0141 | 0.188 |
| 12/7/2016 | 0.0269 | 0.0536 | <0.005 | 0.0141 | |
| 12/8/2016 | | | | | 0.206 |
| 1/26/2017 | 0.0294 | 0.055 | <0.005 | 0.0154 | 0.195 |
| 3/22/2017 | | | <0.005 | 0.0169 | |
| 3/23/2017 | 0.0311 | 0.0715 | | | 0.223 |
| 5/24/2017 | 0.0279 | 0.0446 | <0.005 | | |
| 5/25/2017 | | | | 0.0154 | 0.209 |
| 4/3/2018 | | 0.032 | <0.005 | 0.016 | 0.19 |
| 4/4/2018 | 0.025 | | | | |
| 6/5/2018 | | | | | 0.19 |
| 6/6/2018 | 0.027 | 0.032 | <0.005 | 0.018 | |
| 10/3/2018 | 0.023 | 0.051 | <0.005 | 0.016 | 0.19 |
| 3/14/2019 | 0.025 | 0.038 | | | 0.16 |
| 3/15/2019 | | | <0.005 | 0.017 | |
| 4/4/2019 | | 0.035 | 0.00028 (J) | | |
| 4/5/2019 | 0.021 | | | 0.016 | 0.14 |
| 9/24/2019 | 0.026 | 0.022 | | | |
| 9/25/2019 | | | <0.005 | 0.015 | 0.18 |
| Mean | 0.02433 | 0.04404 | 0.004663 | 0.01575 | 0.1849 |
| Std. Dev. | 0.006143 | 0.01263 | 0.001261 | 0.001131 | 0.02123 |
| Upper Lim. | 0.02798 | 0.05299 | 0.005 | 0.01655 | 0.2 |
| Lower Lim. | 0.0217 | 0.0351 | 0.00028 | 0.01495 | 0.1699 |
| | | | | | |

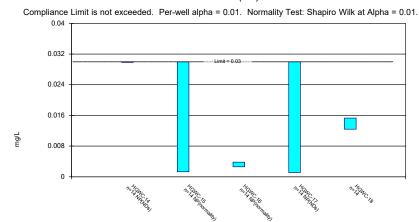
Constituent: Fluoride (mg/L) Analysis Run 12/16/2019 5:38 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|-----------|-----------|-----------|-----------|---------|
| 5/23/2016 | <0.3 | <0.3 | 0.038 (J) | <0.3 | |
| 5/24/2016 | | | | | <0.3 |
| 7/12/2016 | 0.2 (J) | 0.09 (J) | 0.26 (J) | 0.09 (J) | 0.54 |
| 9/1/2016 | 0.08 (J) | 0.22 (J) | 0.42 | 0.03 (J) | 0.49 |
| 10/24/2016 | 0.04 (J) | 0.07 (J) | | | |
| 10/25/2016 | | | 0.25 (J) | 0.07 (J) | 0.58 |
| 12/7/2016 | 0.11 (J) | 0.23 (J) | 0.23 (J) | 0.54 | |
| 12/8/2016 | | | | | 0.63 |
| 1/26/2017 | 0.13 (J) | <0.3 | 0.02 (J) | <0.3 | 0.71 |
| 3/22/2017 | | | 0.3 | 0.07 (J) | |
| 3/23/2017 | 0.28 (J) | 0.12 (J) | | | 0.57 |
| 5/24/2017 | 0.32 | 0.31 | 0.46 | | |
| 5/25/2017 | | | | 0.42 | 0.54 |
| 10/4/2017 | 0.52 | 0.6 | <0.3 | 0.93 | 0.95 |
| 4/3/2018 | | <0.3 | <0.3 | <0.3 | 0.33 |
| 4/4/2018 | <0.3 | | | | |
| 6/5/2018 | | | | | 0.66 |
| 6/6/2018 | 0.25 (J) | 0.17 (J) | <0.3 | 0.23 (J) | |
| 10/3/2018 | 0.21 (J) | <0.3 | <0.3 | <0.3 | 0.32 |
| 3/14/2019 | 0.24 (J) | <0.3 | | | 0.88 |
| 3/15/2019 | | | <0.3 | <0.3 | |
| 4/4/2019 | | 0.066 (J) | <0.3 | | |
| 4/5/2019 | 0.66 | | | 0.16 (J) | 0.37 |
| 9/24/2019 | 0.053 (J) | 0.12 (J) | | | |
| 9/25/2019 | | | <0.3 | 0.081 (J) | 0.73 |
| Mean | 0.2462 | 0.2331 | 0.2719 | 0.2747 | 0.5733 |
| Std. Dev. | 0.1694 | 0.1383 | 0.1147 | 0.2322 | 0.1961 |
| Upper Lim. | 0.361 | 0.2656 | 0.3256 | 0.2972 | 0.7062 |
| Lower Lim. | 0.1314 | 0.08135 | 0.1585 | 0.05861 | 0.4404 |
| | | | | | |

Constituent: Lead (mg/L) Analysis Run 12/16/2019 5:38 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|-------------|-------------|-------------|-------------|-------------|
| 5/23/2016 | 0.00182 (J) | <0.005 | <0.005 | <0.005 | |
| 5/24/2016 | | | | | 0.00154 (J) |
| 7/12/2016 | 0.0015 (J) | <0.005 | <0.005 | <0.005 | 0.0012 (J) |
| 9/1/2016 | 0.0016 (J) | <0.005 | <0.005 | <0.005 | 0.0014 (J) |
| 10/24/2016 | 0.0016 (J) | <0.005 | | | |
| 10/25/2016 | | | <0.005 | <0.005 | 0.0015 (J) |
| 12/7/2016 | 0.0018 (J) | <0.005 | <0.005 | <0.005 | |
| 12/8/2016 | | | | | 0.0017 (J) |
| 1/26/2017 | 0.002 (J) | <0.005 | 0.0001 (J) | <0.005 | 0.0013 (J) |
| 3/22/2017 | | | 0.0002 (J) | 0.0001 (J) | |
| 3/23/2017 | 0.0019 (J) | 0.001 (J) | | | 0.001 (J) |
| 5/24/2017 | 0.0016 (J) | 0.0001 (J) | 0.0001 (J) | | |
| 5/25/2017 | | | | <0.005 | 0.0012 (J) |
| 4/3/2018 | | <0.005 | <0.005 | <0.005 | <0.005 |
| 4/4/2018 | <0.005 | | | | |
| 3/14/2019 | 0.0014 (J) | <0.005 | | | 0.0015 (J) |
| 3/15/2019 | | | <0.005 | <0.005 | |
| 4/4/2019 | | 7.2E-05 (J) | 0.00016 (J) | | |
| 4/5/2019 | 0.0012 (J) | | | 7.6E-05 (J) | 0.0015 (J) |
| 9/24/2019 | 0.0013 (J) | 0.0002 (J) | | | |
| 9/25/2019 | | | <0.005 | 8.9E-05 (J) | 0.0015 (J) |
| Mean | 0.001893 | 0.003448 | 0.00338 | 0.003772 | 0.001695 |
| Std. Dev. | 0.001008 | 0.002305 | 0.002393 | 0.002221 | 0.001058 |
| Upper Lim. | 0.002 | 0.005 | 0.005 | 0.005 | 0.0017 |
| Lower Lim. | 0.0013 | 0.0001 | 0.0001 | 8.9E-05 | 0.0012 |
| | | | | | |

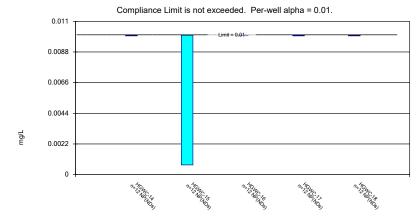
Parametric and Non-Parametric (NP) Confidence Interval



Constituent: Lithium Analysis Run 12/16/2019 5:37 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

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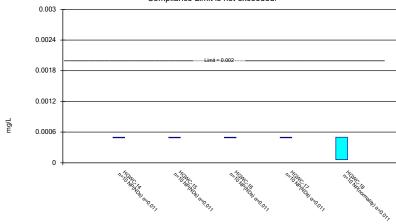




Constituent: Molybdenum Analysis Run 12/16/2019 5:37 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

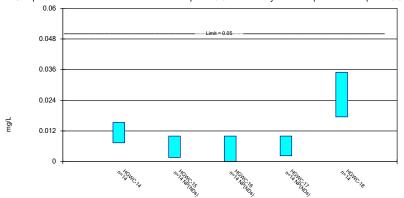


Constituent: Mercury Analysis Run 12/16/2019 5:37 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

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Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Lithium (mg/L) Analysis Run 12/16/2019 5:38 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|---------|------------|------------|-------------|------------|
| 5/23/2016 | <0.03 | <0.03 | <0.03 | <0.03 | |
| 5/24/2016 | | | | | 0.0142 (J) |
| 7/12/2016 | <0.03 | <0.03 | 0.0037 (J) | <0.03 | 0.0141 (J) |
| 9/1/2016 | <0.03 | 0.0021 (J) | 0.0033 (J) | <0.03 | 0.0158 (J) |
| 10/24/2016 | <0.03 | <0.03 | | | |
| 10/25/2016 | | | 0.0029 (J) | <0.03 | 0.016 (J) |
| 12/7/2016 | <0.03 | <0.03 | 0.0029 (J) | <0.03 | |
| 12/8/2016 | | | | | 0.0144 (J) |
| 1/26/2017 | <0.03 | <0.03 | 0.0028 (J) | <0.03 | 0.0136 (J) |
| 3/22/2017 | | | 0.0025 (J) | <0.03 | |
| 3/23/2017 | <0.03 | 0.0016 (J) | | | 0.0151 (J) |
| 5/24/2017 | <0.03 | 0.0029 (J) | 0.0029 (J) | | |
| 5/25/2017 | | | | 0.0011 (J) | 0.0154 (J) |
| 4/3/2018 | | 0.0026 (J) | 0.0028 (J) | <0.03 | 0.013 (J) |
| 4/4/2018 | <0.03 | | | | |
| 6/5/2018 | | | | | 0.013 (J) |
| 6/6/2018 | <0.03 | 0.0013 (J) | 0.0031 (J) | <0.03 | |
| 10/3/2018 | <0.03 | 0.0017 (J) | 0.0026 (J) | <0.03 | 0.015 (J) |
| 3/14/2019 | <0.03 | <0.03 | | | 0.011 (J) |
| 3/15/2019 | | | 0.0041 (J) | 0.0011 (J) | |
| 4/4/2019 | | 0.0009 (J) | 0.0032 (J) | | |
| 4/5/2019 | <0.03 | | | 0.00074 (J) | 0.0084 (J) |
| 9/24/2019 | <0.03 | 0.0012 (J) | | | |
| 9/25/2019 | | | 0.0038 (J) | 0.0011 (J) | 0.015 |
| Mean | 0.03 | 0.01388 | 0.005043 | 0.02172 | 0.01386 |
| Std. Dev. | 0 | 0.0145 | 0.007198 | 0.01359 | 0.002054 |
| Upper Lim. | 0.03 | 0.03 | 0.0038 | 0.03 | 0.01531 |
| Lower Lim. | 0.03 | 0.0013 | 0.0026 | 0.0011 | 0.0124 |
| | | | | | |

Constituent: Mercury (mg/L) Analysis Run 12/16/2019 5:38 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|---------|---------|---------|---------|-----------|
| 5/23/2016 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | |
| 5/24/2016 | | | | | <0.0005 |
| 7/12/2016 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| 9/1/2016 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | 6E-05 (J) |
| 10/24/2016 | <0.0005 | <0.0005 | | | |
| 10/25/2016 | | | <0.0005 | <0.0005 | 4E-05 (J) |
| 12/7/2016 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | |
| 12/8/2016 | | | | | <0.0005 |
| 1/26/2017 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | 8E-05 (J) |
| 3/22/2017 | | | <0.0005 | <0.0005 | |
| 3/23/2017 | <0.0005 | <0.0005 | | | 9E-05 (J) |
| 5/24/2017 | <0.0005 | <0.0005 | <0.0005 | | |
| 5/25/2017 | | | | <0.0005 | 8E-05 (J) |
| 4/3/2018 | | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| 4/4/2018 | <0.0005 | | | | |
| 3/14/2019 | <0.0005 | <0.0005 | | | <0.0005 |
| 3/15/2019 | | | <0.0005 | <0.0005 | |
| Mean | 0.0005 | 0.0005 | 0.0005 | 0.0005 | 0.000285 |
| Std. Dev. | 0 | 0 | 0 | 0 | 0.000227 |
| Upper Lim. | 0.0005 | 0.0005 | 0.0005 | 0.0005 | 0.0005 |
| Lower Lim. | 0.0005 | 0.0005 | 0.0005 | 0.0005 | 6E-05 |
| | | | | | |

Constituent: Molybdenum (mg/L) Analysis Run 12/16/2019 5:38 PM

Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|---------|------------|---------|---------|---------|
| 5/23/2016 | <0.01 | <0.01 | <0.01 | <0.01 | |
| 5/24/2016 | | | | | <0.01 |
| 7/12/2016 | <0.01 | 0.0007 (J) | <0.01 | <0.01 | <0.01 |
| 9/1/2016 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| 10/24/2016 | <0.01 | <0.01 | | | |
| 10/25/2016 | | | <0.01 | <0.01 | <0.01 |
| 12/7/2016 | <0.01 | <0.01 | <0.01 | <0.01 | |
| 12/8/2016 | | | | | <0.01 |
| 1/26/2017 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| 3/22/2017 | | | <0.01 | <0.01 | |
| 3/23/2017 | <0.01 | <0.01 | | | <0.01 |
| 5/24/2017 | <0.01 | <0.01 | <0.01 | | |
| 5/25/2017 | | | | <0.01 | <0.01 |
| 4/3/2018 | | <0.01 | <0.01 | <0.01 | <0.01 |
| 4/4/2018 | <0.01 | | | | |
| 3/14/2019 | <0.01 | <0.01 | | | <0.01 |
| 3/15/2019 | | | <0.01 | <0.01 | |
| 4/4/2019 | | <0.01 | <0.01 | | |
| 4/5/2019 | <0.01 | | | <0.01 | <0.01 |
| 9/24/2019 | <0.01 | <0.01 | | | |
| 9/25/2019 | | | <0.01 | <0.01 | <0.01 |
| Mean | 0.01 | 0.009225 | 0.01 | 0.01 | 0.01 |
| Std. Dev. | 0 | 0.002685 | 0 | 0 | 0 |
| Upper Lim. | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| Lower Lim. | 0.01 | 0.0007 | 0.01 | 0.01 | 0.01 |
| | | | | | |

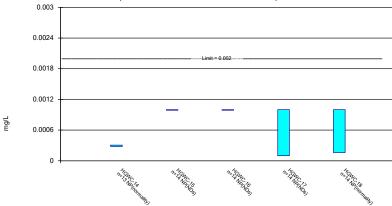
Constituent: Selenium (mg/L) Analysis Run 12/16/2019 5:38 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|-------------|-------------|-------------|-------------|------------|
| 5/23/2016 | 0.017 | <0.01 | <0.01 | <0.01 | |
| 5/24/2016 | | | | | <0.01 |
| 7/12/2016 | 0.0146 | <0.01 | <0.01 | <0.01 | 0.036 |
| 9/1/2016 | 0.0137 | <0.01 | <0.01 | 0.0014 (J) | 0.0347 |
| 10/24/2016 | 0.0135 | 0.0012 (J) | | | |
| 10/25/2016 | | | <0.01 | <0.01 | 0.0282 |
| 12/7/2016 | 0.01 (J) | 0.0041 (J) | <0.01 | 0.0023 (J) | |
| 12/8/2016 | | | | | 0.0373 |
| 1/26/2017 | 0.0214 | <0.01 | <0.01 | <0.01 | 0.0385 |
| 3/22/2017 | | | <0.01 | <0.01 | |
| 3/23/2017 | 0.0167 | 0.0016 (J) | | | 0.0414 |
| 5/24/2017 | 0.0083 (J) | <0.01 | <0.01 | | |
| 5/25/2017 | | | | <0.01 | 0.019 |
| 4/3/2018 | | <0.01 | <0.01 | <0.01 | 0.029 |
| 4/4/2018 | 0.012 | | | | |
| 6/5/2018 | | | | | 0.038 |
| 6/6/2018 | 0.014 | <0.01 | <0.01 | <0.01 | |
| 10/3/2018 | 0.0056 (J) | <0.01 | <0.01 | <0.01 | 0.017 |
| 3/14/2019 | 0.0048 (J) | <0.01 | | | 0.016 |
| 3/15/2019 | | | <0.01 | <0.01 | |
| 4/4/2019 | | 0.00021 (J) | 8.9E-05 (J) | | |
| 4/5/2019 | 0.00091 (J) | | | 9.3E-05 (J) | 0.0018 (J) |
| 9/24/2019 | 0.0064 (J) | <0.01 | | | |
| 9/25/2019 | | | <0.01 | <0.01 | 0.02 |
| Mean | 0.01135 | 0.007651 | 0.009292 | 0.008128 | 0.02621 |
| Std. Dev. | 0.005618 | 0.003936 | 0.002649 | 0.003745 | 0.01228 |
| Upper Lim. | 0.01533 | 0.01 | 0.01 | 0.01 | 0.03491 |
| Lower Lim. | 0.007371 | 0.0016 | 8.9E-05 | 0.0023 | 0.01751 |
| | | | | | |

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Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

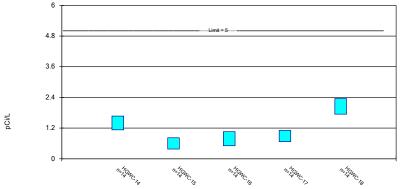


Constituent: Thallium Analysis Run 12/16/2019 5:37 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

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Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Total Radium Analysis Run 12/16/2019 5:37 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

Constituent: Thallium (mg/L) Analysis Run 12/16/2019 5:38 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|--------------|---------|---------|-------------|-------------|
| 5/23/2016 | 0.000306 (J) | <0.001 | <0.001 | <0.001 | |
| 5/24/2016 | | | | | <0.001 |
| 7/12/2016 | 0.0003 (J) | <0.001 | <0.001 | 0.0001 (J) | 0.0002 (J) |
| 9/1/2016 | 0.0003 (J) | <0.001 | <0.001 | <0.001 | <0.001 |
| 10/24/2016 | 0.0004 (o) | <0.001 | | | |
| 10/25/2016 | | | <0.001 | <0.001 | <0.001 |
| 12/7/2016 | 0.0003 (J) | <0.001 | <0.001 | <0.001 | |
| 12/8/2016 | | | | | <0.001 |
| 1/26/2017 | 0.0003 (J) | <0.001 | <0.001 | <0.001 | <0.001 |
| 3/22/2017 | | | <0.001 | 0.0001 (J) | |
| 3/23/2017 | 0.0003 (J) | <0.001 | | | 0.0002 (J) |
| 5/24/2017 | 0.0003 (J) | <0.001 | <0.001 | | |
| 5/25/2017 | | | | 0.0001 (J) | 0.0002 (J) |
| 4/3/2018 | | <0.001 | <0.001 | <0.001 | 0.00014 (J) |
| 4/4/2018 | 0.00028 (J) | | | | |
| 6/5/2018 | | | | | 0.00016 (J) |
| 6/6/2018 | 0.00029 (J) | <0.001 | <0.001 | <0.001 | |
| 10/3/2018 | 0.00029 (J) | <0.001 | <0.001 | <0.001 | <0.001 |
| 3/14/2019 | 0.00028 (J) | <0.001 | | | <0.001 |
| 3/15/2019 | | | <0.001 | <0.001 | |
| 4/4/2019 | | <0.001 | <0.001 | | |
| 4/5/2019 | 0.00028 (J) | | | 0.00013 (J) | 0.00014 (J) |
| 9/24/2019 | 0.0003 (J) | <0.001 | | | |
| 9/25/2019 | | | <0.001 | 0.00012 (J) | 0.00019 (J) |
| Mean | 0.0002943 | 0.001 | 0.001 | 0.0006821 | 0.0005879 |
| Std. Dev. | 9.196E-06 | 0 | 0 | 0.0004426 | 0.0004281 |
| Upper Lim. | 0.000306 | 0.001 | 0.001 | 0.001 | 0.001 |
| Lower Lim. | 0.00028 | 0.001 | 0.001 | 0.0001 | 0.00016 |
| | | | | | |

Constituent: Total Radium (pCi/L) Analysis Run 12/16/2019 5:38 PM

Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|-----------|-----------|-----------|-----------|----------|
| 5/23/2016 | 0.568 (U) | 0.171 (U) | | 0.618 (U) | |
| 5/24/2016 | | | | | 1.82 |
| 7/1/2016 | | | 0 (U) | | |
| 7/12/2016 | 1.31 | 0.611 (U) | 0.182 (U) | 0.867 | 1.76 |
| 9/1/2016 | 1.64 | 0.766 (U) | 1.23 | 0.857 (U) | 1.51 |
| 10/24/2016 | 1.88 | 0.969 | | | |
| 10/25/2016 | | | 1.05 (U) | 1.11 (U) | 2.69 |
| 12/7/2016 | 1.35 | 0.302 (U) | 1.11 (U) | 0.964 (U) | |
| 12/8/2016 | | | | | 2.21 |
| 1/26/2017 | 2.1 | 0.626 (U) | 1.29 (U) | 0.612 (U) | 2.26 |
| 3/22/2017 | | | 0.453 (U) | 0.437 (U) | |
| 3/23/2017 | 1.17 | 0.662 (U) | | | 1.81 |
| 5/24/2017 | 1 (U) | 0.202 (U) | 1.05 (U) | | |
| 5/25/2017 | | | | 1.21 (U) | 1.63 |
| 4/3/2018 | | 0.384 (U) | 0.783 (U) | 0.409 (U) | 2.53 |
| 4/4/2018 | 1.72 | | | | |
| 6/5/2018 | | | | | 1.91 |
| 6/6/2018 | 1.31 (U) | 1.32 (U) | 0.595 (U) | 0.772 (U) | |
| 10/3/2018 | 1.48 | 0.858 (U) | 1.03 (U) | 1.08 (U) | 2.22 |
| 3/14/2019 | 1.5 | 0.462 (U) | | | 1.37 (U) |
| 3/15/2019 | | | 0.591 (U) | 0.917 (U) | |
| 4/4/2019 | | 0.512 (U) | 0.96 (U) | | |
| 4/5/2019 | 1.43 (U) | | | 1.07 (U) | 2.22 |
| 9/24/2019 | 1.17 | 0.582 (U) | | | |
| 9/25/2019 | | | 0.643 (U) | 1.54 | 2.77 |
| Mean | 1.402 | 0.6019 | 0.7834 | 0.8902 | 2.051 |
| Std. Dev. | 0.3797 | 0.3111 | 0.3896 | 0.3103 | 0.4324 |
| Upper Lim. | 1.671 | 0.8223 | 1.059 | 1.11 | 2.357 |
| Lower Lim. | 1.133 | 0.3816 | 0.5074 | 0.6705 | 1.744 |
| | | | | | |

USEPA Based Groundwater Protection Standards Statistical Analysis Package AM 02

Tolerance Limit (USEPA)

| | | Hammond AP C | lient: Georgia Po | wer Data: Han | nmond Al | P-2 Pr | inted 12/16/2 | 2019, 5:53 PM | | |
|----------------------|-------------|--------------|-------------------|---------------|----------|--------|---------------|------------------|--------------|---------------------|
| Constituent | <u>Well</u> | Upper Lim. | <u>Date</u> | Observ. | Sig. | Bg N | %NDs | <u>Transform</u> | <u>Alpha</u> | Method |
| Antimony (mg/L) | n/a | 0.003 | n/a | n/a | n/a | 63 | 93.65 | n/a | 0.0395 | NP Inter(NDs) |
| Arsenic (mg/L) | n/a | 0.005 | n/a | n/a | n/a | 84 | 78.57 | n/a | 0.01345 | NP Inter(NDs) |
| Barium (mg/L) | n/a | 0.22 | n/a | n/a | n/a | 84 | 0 | n/a | 0.01345 | NP Inter(normality) |
| Beryllium (mg/L) | n/a | 0.003 | n/a | n/a | n/a | 72 | 86.11 | n/a | 0.02489 | NP Inter(NDs) |
| Cadmium (mg/L) | n/a | 0.0025 | n/a | n/a | n/a | 84 | 92.86 | n/a | 0.01345 | NP Inter(NDs) |
| Chromium (mg/L) | n/a | 0.019 | n/a | n/a | n/a | 72 | 90.28 | n/a | 0.02489 | NP Inter(NDs) |
| Cobalt (mg/L) | n/a | 0.038 | n/a | n/a | n/a | 84 | 70.24 | n/a | 0.01345 | NP Inter(NDs) |
| Fluoride (mg/L) | n/a | 0.36 | n/a | n/a | n/a | 90 | 30 | n/a | 0.009888 | NP Inter(normality) |
| Lead (mg/L) | n/a | 0.005 | n/a | n/a | n/a | 72 | 84.72 | n/a | 0.02489 | NP Inter(NDs) |
| Lithium (mg/L) | n/a | 0.03 | n/a | n/a | n/a | 84 | 30.95 | n/a | 0.01345 | NP Inter(normality) |
| Mercury (mg/L) | n/a | 0.0005 | n/a | n/a | n/a | 60 | 86.67 | n/a | 0.04607 | NP Inter(NDs) |
| Molybdenum (mg/L) | n/a | 0.01 | n/a | n/a | n/a | 72 | 97.22 | n/a | 0.02489 | NP Inter(NDs) |
| Selenium (mg/L) | n/a | 0.01 | n/a | n/a | n/a | 84 | 98.81 | n/a | 0.01345 | NP Inter(NDs) |
| Thallium (mg/L) | n/a | 0.001 | n/a | n/a | n/a | 84 | 98.81 | n/a | 0.01345 | NP Inter(NDs) |
| Total Radium (pCi/L) | n/a | 2.42 | n/a | n/a | n/a | 84 | 0 | n/a | 0.01345 | NP Inter(normality) |
| | | | | | | | | | | |

Table F-2 USEPA Based Groundwater Protection Standards Plant Hammond - Ash Pond 2 Floyd County, Georgia

| Constituent | CAS | Units | EPA MCL | Statistically Derived Upper Tolerance Limits for Background | GWPS ¹ |
|-------------------------|------------|-------|------------|---|-------------------|
| Antimony | 7440-36-0 | mg/L | 0.006 | 0.003 | 0.006 |
| Arsenic | 7440-38-2 | mg/L | 0.01 | 0.005 | 0.01 |
| Barium | 7440-39-3 | mg/L | 2 | 0.22 | 2 |
| Beryllium | 7440-41-7 | mg/L | 0.004 | 0.003 | 0.004 |
| Cadmium | 7440-43-9 | mg/L | 0.005 | 0.0025 | 0.005 |
| Chromium (III+VI) | 7440-47-3 | mg/L | 0.1 | 0.019 | 0.1 |
| Cobalt ² | 7440-48-4 | mg/L | 0.006 | 0.038 | 0.038 |
| Fluoride | 16984-48-8 | mg/L | 4 | 0.36 | 4 |
| Lead ³ | 7439-92-1 | mg/L | 0.015 | 0.005 | 0.015 |
| Lithium ² | 7439-93-2 | mg/L | 0.04 | 0.03 | 0.04 |
| Mercury | 7439-97-6 | mg/L | 0.002 | 0.0005 | 0.002 |
| Molybdenum ² | 7439-98-7 | mg/L | 0.1 | 0.01 | 0.1 |
| Selenium | 7782-49-2 | mg/L | 0.05 | 0.01 | 0.05 |
| Thallium | 7440-28-0 | mg/L | 0.002 | 0.001 | 0.002 |
| Total Radium | 7440-14-4 | pCi/L | 5 | 2.42 | 5 |

Notes:

EPA MCL - U.S. Environmental Protection Agency, Maximum Contaminant Level

GWPS - Groundwater Protection Standards

mg/L - milligram per liter

N/A - Not Available

pCi/L - Picocuries per liter

¹GWPS selected as the greater value between the EPA MCL and the background Upper Tolerance Limit.

²Regional Screening Level applied for constituent per CCR Rule Ammendment, July 30, 2018.

³Currently, there is no EPA MCL established for lead. The value listed is the established EPA Action Level for drinking water.

Confidence Interval (USEPA) - Significant Results

Hammond AP Client: Georgia Power Data: Hammond AP-2 Printed 12/16/2019, 6:01 PM

Constituent <u>Well</u> Upper Lim. Sig. N %NDs <u>Transform</u> Method Lower Lim. Compliance <u>Alpha</u> HGWC-18 Yes 14 No 0.2 0.1699 0.038 0 0.01 Cobalt (mg/L) Param.

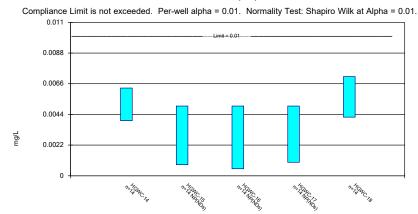
Confidence Interval (USEPA) - All Results

| | | Hammond AP | Client: Georgia P | ower Data: H | ammond | , I AP-2 | Printed 12/16 | 6/2019, 6:01 PM | | |
|------------------|-------------|------------|-------------------|--------------|--------|-------------|---------------|------------------|--------------|----------------|
| Constituent | <u>Well</u> | Upper Lim. | Lower Lim. | Compliance | Sig. | <u>N</u> | %NDs | <u>Transform</u> | <u>Alpha</u> | <u>Method</u> |
| Arsenic (mg/L) | HGWC-14 | 0.006292 | 0.003948 | 0.01 | No | 14 | 14.29 | No | 0.01 | Param. |
| Arsenic (mg/L) | HGWC-15 | 0.005 | 0.0008 | 0.01 | No | 14 | 78.57 | No | 0.01 | NP (NDs) |
| Arsenic (mg/L) | HGWC-16 | 0.005 | 0.0005 | 0.01 | No | 14 | 85.71 | No | 0.01 | NP (NDs) |
| Arsenic (mg/L) | HGWC-17 | 0.005 | 0.00097 | 0.01 | No | 14 | 78.57 | No | 0.01 | NP (NDs) |
| Arsenic (mg/L) | HGWC-18 | 0.007116 | 0.004204 | 0.01 | No | 14 | 0 | No | 0.01 | Param. |
| Barium (mg/L) | HGWC-14 | 0.0238 | 0.02 | 2 | No | 14 | 7.143 | No | 0.01 | NP (normality) |
| Barium (mg/L) | HGWC-15 | 0.03194 | 0.02259 | 2 | No | 14 | 0 | No | 0.01 | Param. |
| Barium (mg/L) | HGWC-16 | 0.112 | 0.096 | 2 | No | 14 | 0 | No | 0.01 | Param. |
| Barium (mg/L) | HGWC-17 | 0.02618 | 0.02274 | 2 | No | 14 | 0 | No | 0.01 | Param. |
| Barium (mg/L) | HGWC-18 | 0.0346 | 0.029 | 2 | No | 14 | 7.143 | No | 0.01 | NP (normality) |
| Beryllium (mg/L) | HGWC-14 | 0.003 | 0.00043 | 0.004 | No | 12 | 16.67 | No | 0.01 | NP (normality) |
| Beryllium (mg/L) | HGWC-15 | 0.003 | 0.003 | 0.004 | No | 12 | 100 | No | 0.01 | NP (NDs) |
| Beryllium (mg/L) | HGWC-16 | 0.003 | 0.003 | 0.004 | No | 12 | 100 | No | 0.01 | NP (NDs) |
| Beryllium (mg/L) | HGWC-17 | 0.003 | 0.003 | 0.004 | No | 12 | 100 | No | 0.01 | NP (NDs) |
| Beryllium (mg/L) | HGWC-18 | 0.003465 | 0.002799 | 0.004 | No | 12 | 8.333 | No | 0.01 | Param. |
| Cadmium (mg/L) | HGWC-14 | 0.0025 | 0.0001 | 0.005 | No | 14 | 28.57 | No | 0.01 | NP (normality) |
| Cadmium (mg/L) | HGWC-15 | 0.002623 | 0.001635 | 0.005 | No | 14 | 0 | No | 0.01 | Param. |
| Cadmium (mg/L) | HGWC-16 | 0.0025 | 0.0025 | 0.005 | No | 14 | 100 | No | 0.01 | NP (NDs) |
| Cadmium (mg/L) | HGWC-17 | 0.0025 | 0.00007 | 0.005 | No | 14 | 92.86 | No | 0.01 | NP (NDs) |
| Cadmium (mg/L) | HGWC-18 | 0.002512 | 0.002116 | 0.005 | No | 14 | 7.143 | No | 0.01 | Param. |
| Chromium (mg/L) | HGWC-14 | 0.01 | 0.01 | 0.1 | No | 12 | 100 | No | 0.01 | NP (NDs) |
| Chromium (mg/L) | HGWC-15 | 0.01 | 0.0005 | 0.1 | No | 12 | 83.33 | No | 0.01 | NP (NDs) |
| Chromium (mg/L) | HGWC-16 | 0.01 | 0.0021 | 0.1 | No | 12 | 91.67 | No | 0.01 | NP (NDs) |
| Chromium (mg/L) | HGWC-17 | 0.01 | 0.01 | 0.1 | No | 12 | 100 | No | 0.01 | NP (NDs) |
| Chromium (mg/L) | HGWC-18 | 0.01 | 0.0005 | 0.1 | No | 12 | 91.67 | No | 0.01 | NP (NDs) |
| Cobalt (mg/L) | HGWC-14 | 0.02798 | 0.0217 | 0.038 | No | 14 | 7.143 | x^2 | 0.01 | Param. |
| Cobalt (mg/L) | HGWC-15 | 0.05299 | 0.0351 | 0.038 | No | 14 | 0 | No | 0.01 | Param. |
| Cobalt (mg/L) | HGWC-16 | 0.005 | 0.00028 | 0.038 | No | 14 | 92.86 | No | 0.01 | NP (NDs) |
| Cobalt (mg/L) | HGWC-17 | 0.01655 | 0.01495 | 0.038 | No | 14 | 0 | No | 0.01 | Param. |
| Cobalt (mg/L) | HGWC-18 | 0.2 | 0.1699 | 0.038 | Yes | 14 | 0 | No | 0.01 | Param. |
| Fluoride (mg/L) | HGWC-14 | 0.361 | 0.1314 | 4 | No | 15 | 13.33 | No | 0.01 | Param. |
| Fluoride (mg/L) | HGWC-15 | 0.2656 | 0.08135 | 4 | No | 15 | 33.33 | No | 0.01 | Param. |
| Fluoride (mg/L) | HGWC-16 | 0.3256 | 0.1585 | 4 | No | 15 | 46.67 | x^2 | 0.01 | Param. |
| Fluoride (mg/L) | HGWC-17 | 0.2972 | 0.05861 | 4 | No | 15 | 33.33 | sqrt(x) | 0.01 | Param. |
| Fluoride (mg/L) | HGWC-18 | 0.7062 | 0.4404 | 4 | No | 15 | 6.667 | No | 0.01 | Param. |
| Lead (mg/L) | HGWC-14 | 0.002 | 0.0013 | 0.015 | No | 12 | 8.333 | No | 0.01 | NP (normality) |
| Lead (mg/L) | HGWC-15 | 0.005 | 0.0001 | 0.015 | No | 12 | 66.67 | No | 0.01 | NP (NDs) |
| Lead (mg/L) | HGWC-16 | 0.005 | 0.0001 | 0.015 | No | 12 | 66.67 | No | 0.01 | NP (NDs) |
| Lead (mg/L) | HGWC-17 | 0.005 | 0.000089 | 0.015 | No | 12 | 75 | No | 0.01 | NP (NDs) |
| Lead (mg/L) | HGWC-18 | 0.0017 | 0.0012 | 0.015 | No | 12 | 8.333 | No | 0.01 | NP (normality) |
| Lithium (mg/L) | HGWC-14 | 0.03 | 0.03 | 0.04 | No | 14 | 100 | No | 0.01 | NP (NDs) |
| Lithium (mg/L) | HGWC-15 | 0.03 | 0.0013 | 0.04 | No | 14 | 42.86 | No | 0.01 | NP (normality) |
| Lithium (mg/L) | HGWC-16 | 0.0038 | 0.0026 | 0.04 | No | 14 | 7.143 | No | 0.01 | NP (normality) |
| Lithium (mg/L) | HGWC-17 | 0.03 | 0.0011 | 0.04 | No | 14 | 71.43 | No | 0.01 | NP (NDs) |
| Lithium (mg/L) | HGWC-18 | 0.01531 | 0.0124 | 0.04 | No | 14 | 0 | No | 0.01 | Param. |
| Mercury (mg/L) | HGWC-14 | 0.0005 | 0.0005 | 0.002 | No | 10 | 100 | No | 0.011 | NP (NDs) |
| Mercury (mg/L) | HGWC-15 | 0.0005 | 0.0005 | 0.002 | No | 10 | 100 | No | 0.011 | NP (NDs) |
| Mercury (mg/L) | HGWC-16 | 0.0005 | 0.0005 | 0.002 | No | 10 | 100 | No | 0.011 | NP (NDs) |
| Mercury (mg/L) | HGWC-17 | 0.0005 | 0.0005 | 0.002 | No | 10 | 100 | No | 0.011 | NP (NDs) |
| Mercury (mg/L) | HGWC-18 | 0.0005 | 0.00006 | 0.002 | No | 10 | 50 | No | 0.011 | NP (normality) |
| * · · · | | | | | | | | | | |

Confidence Interval (USEPA) - All Results

| | | | | _ ` | | | | | | |
|----------------------|-------------|------------|--------------------|---------------|--------|----------|---------------|------------------|--------------|----------------|
| | | Hammond AP | Client: Georgia Po | ower Data: Ha | ammond | AP-2 | Printed 12/16 | /2019, 6:01 PM | | |
| Constituent | <u>Well</u> | Upper Lim. | Lower Lim. | Compliance | Sig. | <u>N</u> | %NDs | <u>Transform</u> | <u>Alpha</u> | Method |
| Molybdenum (mg/L) | HGWC-14 | 0.01 | 0.01 | 0.1 | No | 12 | 100 | No | 0.01 | NP (NDs) |
| Molybdenum (mg/L) | HGWC-15 | 0.01 | 0.0007 | 0.1 | No | 12 | 91.67 | No | 0.01 | NP (NDs) |
| Molybdenum (mg/L) | HGWC-16 | 0.01 | 0.01 | 0.1 | No | 12 | 100 | No | 0.01 | NP (NDs) |
| Molybdenum (mg/L) | HGWC-17 | 0.01 | 0.01 | 0.1 | No | 12 | 100 | No | 0.01 | NP (NDs) |
| Molybdenum (mg/L) | HGWC-18 | 0.01 | 0.01 | 0.1 | No | 12 | 100 | No | 0.01 | NP (NDs) |
| Selenium (mg/L) | HGWC-14 | 0.01533 | 0.007371 | 0.05 | No | 14 | 0 | No | 0.01 | Param. |
| Selenium (mg/L) | HGWC-15 | 0.01 | 0.0016 | 0.05 | No | 14 | 71.43 | No | 0.01 | NP (NDs) |
| Selenium (mg/L) | HGWC-16 | 0.01 | 0.000089 | 0.05 | No | 14 | 92.86 | No | 0.01 | NP (NDs) |
| Selenium (mg/L) | HGWC-17 | 0.01 | 0.0023 | 0.05 | No | 14 | 78.57 | No | 0.01 | NP (NDs) |
| Selenium (mg/L) | HGWC-18 | 0.03491 | 0.01751 | 0.05 | No | 14 | 7.143 | No | 0.01 | Param. |
| Thallium (mg/L) | HGWC-14 | 0.000306 | 0.00028 | 0.002 | No | 13 | 0 | No | 0.01 | NP (normality) |
| Thallium (mg/L) | HGWC-15 | 0.001 | 0.001 | 0.002 | No | 14 | 100 | No | 0.01 | NP (NDs) |
| Thallium (mg/L) | HGWC-16 | 0.001 | 0.001 | 0.002 | No | 14 | 100 | No | 0.01 | NP (NDs) |
| Thallium (mg/L) | HGWC-17 | 0.001 | 0.0001 | 0.002 | No | 14 | 64.29 | No | 0.01 | NP (NDs) |
| Thallium (mg/L) | HGWC-18 | 0.001 | 0.00016 | 0.002 | No | 14 | 50 | No | 0.01 | NP (normality) |
| Total Radium (pCi/L) | HGWC-14 | 1.671 | 1.133 | 5 | No | 14 | 0 | No | 0.01 | Param. |
| Total Radium (pCi/L) | HGWC-15 | 0.8223 | 0.3816 | 5 | No | 14 | 0 | No | 0.01 | Param. |
| Total Radium (pCi/L) | HGWC-16 | 1.059 | 0.5074 | 5 | No | 14 | 0 | No | 0.01 | Param. |
| Total Radium (pCi/L) | HGWC-17 | 1.11 | 0.6705 | 5 | No | 14 | 0 | No | 0.01 | Param. |
| Total Radium (pCi/L) | HGWC-18 | 2.357 | 1.744 | 5 | No | 14 | 0 | No | 0.01 | Param. |

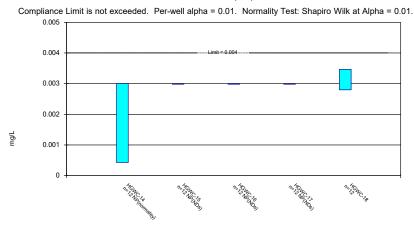
Parametric and Non-Parametric (NP) Confidence Interval



Constituent: Arsenic Analysis Run 12/16/2019 5:59 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

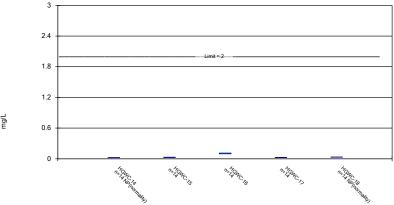
Parametric and Non-Parametric (NP) Confidence Interval



Constituent: Beryllium Analysis Run 12/16/2019 5:59 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.

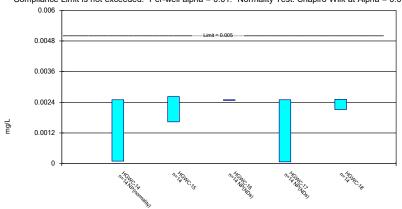


Constituent: Barium Analysis Run 12/16/2019 5:59 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

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Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Arsenic (mg/L) Analysis Run 12/16/2019 6:01 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|-------------|-------------|------------|-------------|-------------|
| 5/23/2016 | 0.00268 (J) | <0.005 | <0.005 | <0.005 | |
| 5/24/2016 | | | | | 0.00294 (J) |
| 7/12/2016 | 0.0059 | <0.005 | <0.005 | <0.005 | 0.0074 |
| 9/1/2016 | 0.0056 | <0.005 | <0.005 | <0.005 | 0.0073 |
| 10/24/2016 | 0.0058 | <0.005 | | | |
| 10/25/2016 | | | <0.005 | <0.005 | 0.006 |
| 12/7/2016 | <0.005 | <0.005 | <0.005 | <0.005 | |
| 12/8/2016 | | | | | 0.007 |
| 1/26/2017 | 0.0089 | <0.005 | <0.005 | <0.005 | 0.0068 |
| 3/22/2017 | | | 0.0005 (J) | 0.0007 (J) | |
| 3/23/2017 | 0.0069 | 0.0008 (J) | | | 0.0082 |
| 5/24/2017 | 0.0048 (J) | <0.005 | <0.005 | | |
| 5/25/2017 | | | | 0.0007 (J) | 0.006 |
| 4/3/2018 | | <0.005 | <0.005 | <0.005 | 0.0062 |
| 4/4/2018 | 0.0052 | | | | |
| 6/5/2018 | | | | | 0.008 |
| 6/6/2018 | 0.0059 | <0.005 | <0.005 | 0.00097 (J) | |
| 10/3/2018 | 0.0032 (J) | <0.005 | <0.005 | <0.005 | 0.0039 (J) |
| 3/14/2019 | 0.0029 (J) | <0.005 | | | 0.0036 (J) |
| 3/15/2019 | | | <0.005 | <0.005 | |
| 4/4/2019 | | 0.00017 (J) | 0.0001 (J) | | |
| 4/5/2019 | <0.005 | | | <0.005 | 0.0015 (J) |
| 9/24/2019 | 0.0039 (J) | 0.00037 (J) | | | |
| 9/25/2019 | | | <0.005 | <0.005 | 0.0044 (J) |
| Mean | 0.00512 | 0.004024 | 0.004329 | 0.004098 | 0.00566 |
| Std. Dev. | 0.001654 | 0.001943 | 0.001709 | 0.001794 | 0.002055 |
| Upper Lim. | 0.006292 | 0.005 | 0.005 | 0.005 | 0.007116 |
| Lower Lim. | 0.003948 | 0.0008 | 0.0005 | 0.00097 | 0.004204 |
| | | | | | |

Constituent: Barium (mg/L) Analysis Run 12/16/2019 6:01 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|---------|------------|---------|------------|---------|
| 5/23/2016 | <0.2 | 0.0315 (J) | 0.0841 | 0.0222 (J) | |
| 5/24/2016 | | | | | <0.2 |
| 7/12/2016 | 0.0214 | 0.0372 | 0.0886 | 0.0221 | 0.0346 |
| 9/1/2016 | 0.0208 | 0.0364 | 0.0934 | 0.0227 | 0.0336 |
| 10/24/2016 | 0.0208 | 0.0326 | | | |
| 10/25/2016 | | | 0.0991 | 0.0225 | 0.0349 |
| 12/7/2016 | 0.022 | 0.0301 | 0.101 | 0.0227 | |
| 12/8/2016 | | | | | 0.0339 |
| 1/26/2017 | 0.0238 | 0.0287 | 0.105 | 0.0229 | 0.0293 |
| 3/22/2017 | | | 0.11 | 0.0248 | |
| 3/23/2017 | 0.0244 | 0.0329 | | | 0.0313 |
| 5/24/2017 | 0.0228 | 0.0283 | 0.106 | | |
| 5/25/2017 | | | | 0.0255 | 0.0336 |
| 4/3/2018 | | 0.019 | 0.099 | 0.025 | 0.028 |
| 4/4/2018 | 0.021 | | | | |
| 6/5/2018 | | | | | 0.03 |
| 6/6/2018 | 0.022 | 0.022 | 0.11 | 0.028 | |
| 10/3/2018 | 0.02 | 0.025 | 0.11 | 0.028 | 0.032 |
| 3/14/2019 | 0.019 | 0.021 | | | 0.029 |
| 3/15/2019 | | | 0.13 | 0.029 | |
| 4/4/2019 | | 0.018 | 0.11 | | |
| 4/5/2019 | 0.016 | | | 0.022 | 0.021 |
| 9/24/2019 | 0.021 | 0.019 | | | |
| 9/25/2019 | | | 0.11 | 0.025 | 0.03 |
| Mean | 0.02679 | 0.02726 | 0.104 | 0.02446 | 0.0358 |
| Std. Dev. | 0.02117 | 0.006599 | 0.01132 | 0.002428 | 0.01883 |
| Upper Lim. | 0.0238 | 0.03194 | 0.112 | 0.02618 | 0.0346 |
| Lower Lim. | 0.02 | 0.02259 | 0.096 | 0.02274 | 0.029 |
| | | | | | |

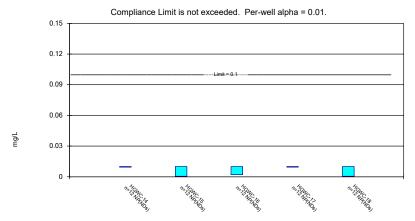
Constituent: Beryllium (mg/L) Analysis Run 12/16/2019 6:01 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|-------------|---------|---------|---------|-------------|
| 5/23/2016 | <0.003 | <0.003 | <0.003 | <0.003 | |
| 5/24/2016 | | | | | 0.00278 (J) |
| 7/12/2016 | 0.0005 (J) | <0.003 | <0.003 | <0.003 | 0.0032 |
| 9/1/2016 | 0.0005 (J) | <0.003 | <0.003 | <0.003 | 0.0034 |
| 10/24/2016 | 0.0005 (J) | <0.003 | | | |
| 10/25/2016 | | | <0.003 | <0.003 | 0.0034 |
| 12/7/2016 | 0.0006 (J) | <0.003 | <0.003 | <0.003 | |
| 12/8/2016 | | | | | 0.0033 |
| 1/26/2017 | 0.0005 (J) | <0.003 | <0.003 | <0.003 | 0.0034 |
| 3/22/2017 | | | <0.003 | <0.003 | |
| 3/23/2017 | 0.0006 (J) | <0.003 | | | 0.0036 |
| 5/24/2017 | 0.0005 (J) | <0.003 | <0.003 | | |
| 5/25/2017 | | | | <0.003 | 0.0036 |
| 4/3/2018 | | <0.003 | <0.003 | <0.003 | <0.003 |
| 4/4/2018 | <0.003 | | | | |
| 3/14/2019 | 0.00043 (J) | <0.003 | | | 0.0026 (J) |
| 3/15/2019 | | | <0.003 | <0.003 | |
| 4/4/2019 | | <0.003 | <0.003 | | |
| 4/5/2019 | 0.00027 (J) | | | <0.003 | 0.0022 (J) |
| 9/24/2019 | 0.00044 (J) | <0.003 | | | |
| 9/25/2019 | | | <0.003 | <0.003 | 0.0031 |
| Mean | 0.0009033 | 0.003 | 0.003 | 0.003 | 0.003132 |
| Std. Dev. | 0.000983 | 0 | 0 | 0 | 0.0004243 |
| Upper Lim. | 0.003 | 0.003 | 0.003 | 0.003 | 0.003465 |
| Lower Lim. | 0.00043 | 0.003 | 0.003 | 0.003 | 0.002799 |
| | | | | | |

Constituent: Cadmium (mg/L) Analysis Run 12/16/2019 6:01 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|--------------|-------------|---------|-----------|------------|
| 5/23/2016 | 0.000139 (J) | 0.00271 (J) | <0.0025 | <0.0025 | |
| 5/24/2016 | | | | | <0.0025 |
| 7/12/2016 | <0.0025 | 0.0019 | <0.0025 | <0.0025 | 0.0022 |
| 9/1/2016 | 0.0001 (J) | 0.0017 | <0.0025 | <0.0025 | 0.0024 |
| 10/24/2016 | 0.0002 (J) | 0.0018 | | | |
| 10/25/2016 | | | <0.0025 | <0.0025 | 0.0022 |
| 12/7/2016 | 0.0001 (J) | 0.0018 | <0.0025 | <0.0025 | |
| 12/8/2016 | | | | | 0.0024 |
| 1/26/2017 | 0.0001 (J) | 0.0013 | <0.0025 | <0.0025 | 0.0025 |
| 3/22/2017 | | | <0.0025 | 7E-05 (J) | |
| 3/23/2017 | 0.0002 (J) | 0.002 | | | 0.0025 |
| 5/24/2017 | 0.0001 (J) | 0.0041 | <0.0025 | | |
| 5/25/2017 | | | | <0.0025 | 0.0027 |
| 4/3/2018 | | 0.0022 | <0.0025 | <0.0025 | 0.0022 |
| 4/4/2018 | <0.0025 | | | | |
| 6/5/2018 | | | | | 0.0022 |
| 6/6/2018 | 0.00012 (J) | 0.0021 | <0.0025 | <0.0025 | |
| 10/3/2018 | 0.0001 (J) | 0.0026 | <0.0025 | <0.0025 | 0.0027 |
| 3/14/2019 | <0.0025 | 0.0024 | | | 0.0019 |
| 3/15/2019 | | | <0.0025 | <0.0025 | |
| 4/4/2019 | | 0.0018 | <0.0025 | | |
| 4/5/2019 | 7.9E-05 (J) | | | <0.0025 | 0.0017 |
| 9/24/2019 | <0.0025 | 0.0014 (J) | | | |
| 9/25/2019 | | | <0.0025 | <0.0025 | 0.0023 (J) |
| Mean | 0.0008027 | 0.002129 | 0.0025 | 0.002326 | 0.002314 |
| Std. Dev. | 0.001115 | 0.0006973 | 0 | 0.0006494 | 0.0002797 |
| Upper Lim. | 0.0025 | 0.002623 | 0.0025 | 0.0025 | 0.002512 |
| Lower Lim. | 0.0001 | 0.001635 | 0.0025 | 7E-05 | 0.002116 |
| | | | | | |

Non-Parametric Confidence Interval

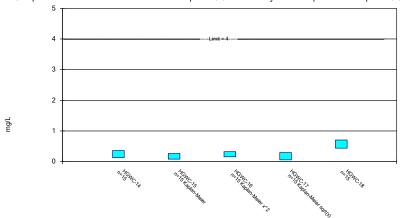


Constituent: Chromium Analysis Run 12/16/2019 6:00 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

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Parametric Confidence Interval

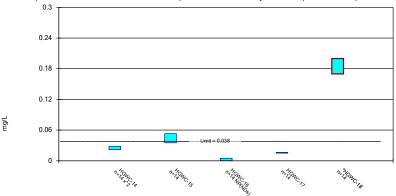




Constituent: Fluoride Analysis Run 12/16/2019 6:00 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.

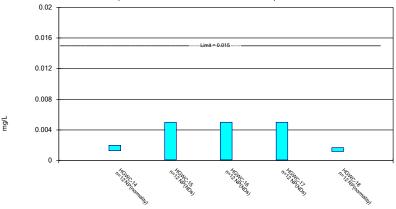


Constituent: Cobalt Analysis Run 12/16/2019 6:00 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

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Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Chromium (mg/L) Analysis Run 12/16/2019 6:01 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|---------|-------------|------------|---------|------------|
| 5/23/2016 | <0.01 | <0.01 | <0.01 | <0.01 | |
| 5/24/2016 | | | | | <0.01 |
| 7/12/2016 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| 9/1/2016 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| 10/24/2016 | <0.01 | <0.01 | | | |
| 10/25/2016 | | | <0.01 | <0.01 | <0.01 |
| 12/7/2016 | <0.01 | <0.01 | <0.01 | <0.01 | |
| 12/8/2016 | | | | | <0.01 |
| 1/26/2017 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| 3/22/2017 | | | 0.0021 (J) | <0.01 | |
| 3/23/2017 | <0.01 | 0.0005 (J) | | | 0.0005 (J) |
| 5/24/2017 | <0.01 | <0.01 | <0.01 | | |
| 5/25/2017 | | | | <0.01 | <0.01 |
| 4/3/2018 | | <0.01 | <0.01 | <0.01 | <0.01 |
| 4/4/2018 | <0.01 | | | | |
| 3/14/2019 | <0.01 | <0.01 | | | <0.01 |
| 3/15/2019 | | | <0.01 | <0.01 | |
| 4/4/2019 | | <0.01 | <0.01 | | |
| 4/5/2019 | <0.01 | | | <0.01 | <0.01 |
| 9/24/2019 | <0.01 | 0.00041 (J) | | | |
| 9/25/2019 | | | <0.01 | <0.01 | <0.01 |
| Mean | 0.01 | 0.008409 | 0.009342 | 0.01 | 0.009208 |
| Std. Dev. | 0 | 0.003715 | 0.002281 | 0 | 0.002742 |
| Upper Lim. | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| Lower Lim. | 0.01 | 0.0005 | 0.0021 | 0.01 | 0.0005 |
| | | | | | |

Constituent: Cobalt (mg/L) Analysis Run 12/16/2019 6:01 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|----------|------------|-------------|----------|----------|
| 5/23/2016 | <0.005 | 0.0419 (J) | <0.005 | 0.0167 | |
| 5/24/2016 | | | | | 0.17 (J) |
| 7/12/2016 | 0.0232 | 0.0393 | <0.005 | 0.0148 | 0.168 |
| 9/1/2016 | 0.0248 | 0.045 | <0.005 | 0.0151 | 0.18 |
| 10/24/2016 | 0.0253 | 0.0557 | | | |
| 10/25/2016 | | | <0.005 | 0.0141 | 0.188 |
| 12/7/2016 | 0.0269 | 0.0536 | <0.005 | 0.0141 | |
| 12/8/2016 | | | | | 0.206 |
| 1/26/2017 | 0.0294 | 0.055 | <0.005 | 0.0154 | 0.195 |
| 3/22/2017 | | | <0.005 | 0.0169 | |
| 3/23/2017 | 0.0311 | 0.0715 | | | 0.223 |
| 5/24/2017 | 0.0279 | 0.0446 | <0.005 | | |
| 5/25/2017 | | | | 0.0154 | 0.209 |
| 4/3/2018 | | 0.032 | <0.005 | 0.016 | 0.19 |
| 4/4/2018 | 0.025 | | | | |
| 6/5/2018 | | | | | 0.19 |
| 6/6/2018 | 0.027 | 0.032 | <0.005 | 0.018 | |
| 10/3/2018 | 0.023 | 0.051 | <0.005 | 0.016 | 0.19 |
| 3/14/2019 | 0.025 | 0.038 | | | 0.16 |
| 3/15/2019 | | | <0.005 | 0.017 | |
| 4/4/2019 | | 0.035 | 0.00028 (J) | | |
| 4/5/2019 | 0.021 | | | 0.016 | 0.14 |
| 9/24/2019 | 0.026 | 0.022 | | | |
| 9/25/2019 | | | <0.005 | 0.015 | 0.18 |
| Mean | 0.02433 | 0.04404 | 0.004663 | 0.01575 | 0.1849 |
| Std. Dev. | 0.006143 | 0.01263 | 0.001261 | 0.001131 | 0.02123 |
| Upper Lim. | 0.02798 | 0.05299 | 0.005 | 0.01655 | 0.2 |
| Lower Lim. | 0.0217 | 0.0351 | 0.00028 | 0.01495 | 0.1699 |
| | | | | | |

Constituent: Fluoride (mg/L) Analysis Run 12/16/2019 6:01 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

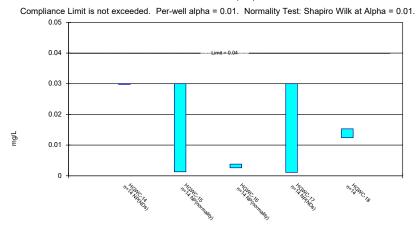
| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|-----------|-----------|-----------|-----------|---------|
| 5/23/2016 | <0.3 | <0.3 | 0.038 (J) | <0.3 | |
| 5/24/2016 | | | | | <0.3 |
| 7/12/2016 | 0.2 (J) | 0.09 (J) | 0.26 (J) | 0.09 (J) | 0.54 |
| 9/1/2016 | 0.08 (J) | 0.22 (J) | 0.42 | 0.03 (J) | 0.49 |
| 10/24/2016 | 0.04 (J) | 0.07 (J) | | | |
| 10/25/2016 | | | 0.25 (J) | 0.07 (J) | 0.58 |
| 12/7/2016 | 0.11 (J) | 0.23 (J) | 0.23 (J) | 0.54 | |
| 12/8/2016 | | | | | 0.63 |
| 1/26/2017 | 0.13 (J) | <0.3 | 0.02 (J) | <0.3 | 0.71 |
| 3/22/2017 | | | 0.3 | 0.07 (J) | |
| 3/23/2017 | 0.28 (J) | 0.12 (J) | | | 0.57 |
| 5/24/2017 | 0.32 | 0.31 | 0.46 | | |
| 5/25/2017 | | | | 0.42 | 0.54 |
| 10/4/2017 | 0.52 | 0.6 | <0.3 | 0.93 | 0.95 |
| 4/3/2018 | | <0.3 | <0.3 | <0.3 | 0.33 |
| 4/4/2018 | <0.3 | | | | |
| 6/5/2018 | | | | | 0.66 |
| 6/6/2018 | 0.25 (J) | 0.17 (J) | <0.3 | 0.23 (J) | |
| 10/3/2018 | 0.21 (J) | <0.3 | <0.3 | <0.3 | 0.32 |
| 3/14/2019 | 0.24 (J) | <0.3 | | | 0.88 |
| 3/15/2019 | | | <0.3 | <0.3 | |
| 4/4/2019 | | 0.066 (J) | <0.3 | | |
| 4/5/2019 | 0.66 | | | 0.16 (J) | 0.37 |
| 9/24/2019 | 0.053 (J) | 0.12 (J) | | | |
| 9/25/2019 | | | <0.3 | 0.081 (J) | 0.73 |
| Mean | 0.2462 | 0.2331 | 0.2719 | 0.2747 | 0.5733 |
| Std. Dev. | 0.1694 | 0.1383 | 0.1147 | 0.2322 | 0.1961 |
| Upper Lim. | 0.361 | 0.2656 | 0.3256 | 0.2972 | 0.7062 |
| Lower Lim. | 0.1314 | 0.08135 | 0.1585 | 0.05861 | 0.4404 |
| | | | | | |

Constituent: Lead (mg/L) Analysis Run 12/16/2019 6:01 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|-------------|-------------|-------------|-------------|-------------|
| 5/23/2016 | 0.00182 (J) | <0.005 | <0.005 | <0.005 | |
| 5/24/2016 | | | | | 0.00154 (J) |
| 7/12/2016 | 0.0015 (J) | <0.005 | <0.005 | <0.005 | 0.0012 (J) |
| 9/1/2016 | 0.0016 (J) | <0.005 | <0.005 | <0.005 | 0.0014 (J) |
| 10/24/2016 | 0.0016 (J) | <0.005 | | | |
| 10/25/2016 | | | <0.005 | <0.005 | 0.0015 (J) |
| 12/7/2016 | 0.0018 (J) | <0.005 | <0.005 | <0.005 | |
| 12/8/2016 | | | | | 0.0017 (J) |
| 1/26/2017 | 0.002 (J) | <0.005 | 0.0001 (J) | <0.005 | 0.0013 (J) |
| 3/22/2017 | | | 0.0002 (J) | 0.0001 (J) | |
| 3/23/2017 | 0.0019 (J) | 0.001 (J) | | | 0.001 (J) |
| 5/24/2017 | 0.0016 (J) | 0.0001 (J) | 0.0001 (J) | | |
| 5/25/2017 | | | | <0.005 | 0.0012 (J) |
| 4/3/2018 | | <0.005 | <0.005 | <0.005 | <0.005 |
| 4/4/2018 | <0.005 | | | | |
| 3/14/2019 | 0.0014 (J) | <0.005 | | | 0.0015 (J) |
| 3/15/2019 | | | <0.005 | <0.005 | |
| 4/4/2019 | | 7.2E-05 (J) | 0.00016 (J) | | |
| 4/5/2019 | 0.0012 (J) | | | 7.6E-05 (J) | 0.0015 (J) |
| 9/24/2019 | 0.0013 (J) | 0.0002 (J) | | | |
| 9/25/2019 | | | <0.005 | 8.9E-05 (J) | 0.0015 (J) |
| Mean | 0.001893 | 0.003448 | 0.00338 | 0.003772 | 0.001695 |
| Std. Dev. | 0.001008 | 0.002305 | 0.002393 | 0.002221 | 0.001058 |
| Upper Lim. | 0.002 | 0.005 | 0.005 | 0.005 | 0.0017 |
| Lower Lim. | 0.0013 | 0.0001 | 0.0001 | 8.9E-05 | 0.0012 |
| | | | | | |

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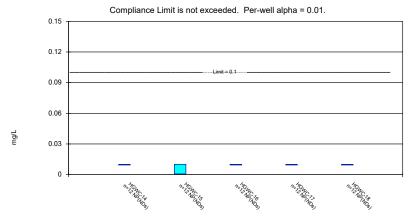
Parametric and Non-Parametric (NP) Confidence Interval



Constituent: Lithium Analysis Run 12/16/2019 6:00 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

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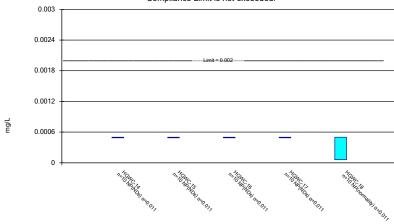
Non-Parametric Confidence Interval



Constituent: Molybdenum Analysis Run 12/16/2019 6:00 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

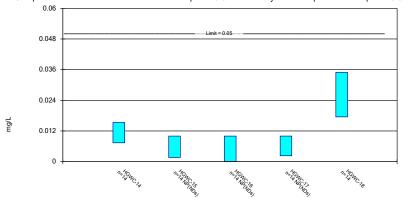


Constituent: Mercury Analysis Run 12/16/2019 6:00 PM
Hammond AP Client: Georgia Power Data: Hammond AP-2

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Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Lithium (mg/L) Analysis Run 12/16/2019 6:01 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|---------|------------|------------|-------------|------------|
| 5/23/2016 | <0.03 | <0.03 | <0.03 | <0.03 | |
| 5/24/2016 | | | | | 0.0142 (J) |
| 7/12/2016 | <0.03 | <0.03 | 0.0037 (J) | <0.03 | 0.0141 (J) |
| 9/1/2016 | <0.03 | 0.0021 (J) | 0.0033 (J) | <0.03 | 0.0158 (J) |
| 10/24/2016 | <0.03 | <0.03 | | | |
| 10/25/2016 | | | 0.0029 (J) | <0.03 | 0.016 (J) |
| 12/7/2016 | <0.03 | <0.03 | 0.0029 (J) | <0.03 | |
| 12/8/2016 | | | | | 0.0144 (J) |
| 1/26/2017 | <0.03 | <0.03 | 0.0028 (J) | <0.03 | 0.0136 (J) |
| 3/22/2017 | | | 0.0025 (J) | <0.03 | |
| 3/23/2017 | <0.03 | 0.0016 (J) | | | 0.0151 (J) |
| 5/24/2017 | <0.03 | 0.0029 (J) | 0.0029 (J) | | |
| 5/25/2017 | | | | 0.0011 (J) | 0.0154 (J) |
| 4/3/2018 | | 0.0026 (J) | 0.0028 (J) | <0.03 | 0.013 (J) |
| 4/4/2018 | <0.03 | | | | |
| 6/5/2018 | | | | | 0.013 (J) |
| 6/6/2018 | <0.03 | 0.0013 (J) | 0.0031 (J) | <0.03 | |
| 10/3/2018 | <0.03 | 0.0017 (J) | 0.0026 (J) | <0.03 | 0.015 (J) |
| 3/14/2019 | <0.03 | <0.03 | | | 0.011 (J) |
| 3/15/2019 | | | 0.0041 (J) | 0.0011 (J) | |
| 4/4/2019 | | 0.0009 (J) | 0.0032 (J) | | |
| 4/5/2019 | <0.03 | | | 0.00074 (J) | 0.0084 (J) |
| 9/24/2019 | <0.03 | 0.0012 (J) | | | |
| 9/25/2019 | | | 0.0038 (J) | 0.0011 (J) | 0.015 |
| Mean | 0.03 | 0.01388 | 0.005043 | 0.02172 | 0.01386 |
| Std. Dev. | 0 | 0.0145 | 0.007198 | 0.01359 | 0.002054 |
| Upper Lim. | 0.03 | 0.03 | 0.0038 | 0.03 | 0.01531 |
| Lower Lim. | 0.03 | 0.0013 | 0.0026 | 0.0011 | 0.0124 |
| | | | | | |

Constituent: Mercury (mg/L) Analysis Run 12/16/2019 6:01 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|---------|---------|---------|---------|-----------|
| 5/23/2016 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | |
| 5/24/2016 | | | | | <0.0005 |
| 7/12/2016 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| 9/1/2016 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | 6E-05 (J) |
| 10/24/2016 | <0.0005 | <0.0005 | | | |
| 10/25/2016 | | | <0.0005 | <0.0005 | 4E-05 (J) |
| 12/7/2016 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | |
| 12/8/2016 | | | | | <0.0005 |
| 1/26/2017 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | 8E-05 (J) |
| 3/22/2017 | | | <0.0005 | <0.0005 | |
| 3/23/2017 | <0.0005 | <0.0005 | | | 9E-05 (J) |
| 5/24/2017 | <0.0005 | <0.0005 | <0.0005 | | |
| 5/25/2017 | | | | <0.0005 | 8E-05 (J) |
| 4/3/2018 | | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| 4/4/2018 | <0.0005 | | | | |
| 3/14/2019 | <0.0005 | <0.0005 | | | <0.0005 |
| 3/15/2019 | | | <0.0005 | <0.0005 | |
| Mean | 0.0005 | 0.0005 | 0.0005 | 0.0005 | 0.000285 |
| Std. Dev. | 0 | 0 | 0 | 0 | 0.000227 |
| Upper Lim. | 0.0005 | 0.0005 | 0.0005 | 0.0005 | 0.0005 |
| Lower Lim. | 0.0005 | 0.0005 | 0.0005 | 0.0005 | 6E-05 |
| | | | | | |

Constituent: Molybdenum (mg/L) Analysis Run 12/16/2019 6:01 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|---------|------------|---------|---------|---------|
| 5/23/2016 | <0.01 | <0.01 | <0.01 | <0.01 | |
| 5/24/2016 | | | | | <0.01 |
| 7/12/2016 | <0.01 | 0.0007 (J) | <0.01 | <0.01 | <0.01 |
| 9/1/2016 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| 10/24/2016 | <0.01 | <0.01 | | | |
| 10/25/2016 | | | <0.01 | <0.01 | <0.01 |
| 12/7/2016 | <0.01 | <0.01 | <0.01 | <0.01 | |
| 12/8/2016 | | | | | <0.01 |
| 1/26/2017 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| 3/22/2017 | | | <0.01 | <0.01 | |
| 3/23/2017 | <0.01 | <0.01 | | | <0.01 |
| 5/24/2017 | <0.01 | <0.01 | <0.01 | | |
| 5/25/2017 | | | | <0.01 | <0.01 |
| 4/3/2018 | | <0.01 | <0.01 | <0.01 | <0.01 |
| 4/4/2018 | <0.01 | | | | |
| 3/14/2019 | <0.01 | <0.01 | | | <0.01 |
| 3/15/2019 | | | <0.01 | <0.01 | |
| 4/4/2019 | | <0.01 | <0.01 | | |
| 4/5/2019 | <0.01 | | | <0.01 | <0.01 |
| 9/24/2019 | <0.01 | <0.01 | | | |
| 9/25/2019 | | | <0.01 | <0.01 | <0.01 |
| Mean | 0.01 | 0.009225 | 0.01 | 0.01 | 0.01 |
| Std. Dev. | 0 | 0.002685 | 0 | 0 | 0 |
| Upper Lim. | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| Lower Lim. | 0.01 | 0.0007 | 0.01 | 0.01 | 0.01 |
| | | | | | |

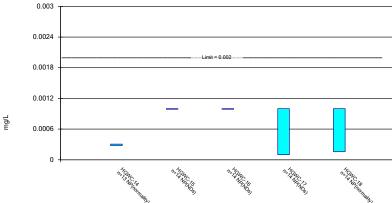
Constituent: Selenium (mg/L) Analysis Run 12/16/2019 6:01 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|-------------|-------------|-------------|-------------|------------|
| 5/23/2016 | 0.017 | <0.01 | <0.01 | <0.01 | |
| 5/24/2016 | | | | | <0.01 |
| 7/12/2016 | 0.0146 | <0.01 | <0.01 | <0.01 | 0.036 |
| 9/1/2016 | 0.0137 | <0.01 | <0.01 | 0.0014 (J) | 0.0347 |
| 10/24/2016 | 0.0135 | 0.0012 (J) | | | |
| 10/25/2016 | | | <0.01 | <0.01 | 0.0282 |
| 12/7/2016 | 0.01 (J) | 0.0041 (J) | <0.01 | 0.0023 (J) | |
| 12/8/2016 | | | | | 0.0373 |
| 1/26/2017 | 0.0214 | <0.01 | <0.01 | <0.01 | 0.0385 |
| 3/22/2017 | | | <0.01 | <0.01 | |
| 3/23/2017 | 0.0167 | 0.0016 (J) | | | 0.0414 |
| 5/24/2017 | 0.0083 (J) | <0.01 | <0.01 | | |
| 5/25/2017 | | | | <0.01 | 0.019 |
| 4/3/2018 | | <0.01 | <0.01 | <0.01 | 0.029 |
| 4/4/2018 | 0.012 | | | | |
| 6/5/2018 | | | | | 0.038 |
| 6/6/2018 | 0.014 | <0.01 | <0.01 | <0.01 | |
| 10/3/2018 | 0.0056 (J) | <0.01 | <0.01 | <0.01 | 0.017 |
| 3/14/2019 | 0.0048 (J) | <0.01 | | | 0.016 |
| 3/15/2019 | | | <0.01 | <0.01 | |
| 4/4/2019 | | 0.00021 (J) | 8.9E-05 (J) | | |
| 4/5/2019 | 0.00091 (J) | | | 9.3E-05 (J) | 0.0018 (J) |
| 9/24/2019 | 0.0064 (J) | <0.01 | | | |
| 9/25/2019 | | | <0.01 | <0.01 | 0.02 |
| Mean | 0.01135 | 0.007651 | 0.009292 | 0.008128 | 0.02621 |
| Std. Dev. | 0.005618 | 0.003936 | 0.002649 | 0.003745 | 0.01228 |
| Upper Lim. | 0.01533 | 0.01 | 0.01 | 0.01 | 0.03491 |
| Lower Lim. | 0.007371 | 0.0016 | 8.9E-05 | 0.0023 | 0.01751 |

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Non-Parametric Confidence Interval

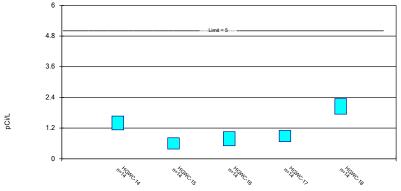
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Thallium Analysis Run 12/16/2019 6:00 PM Hammond AP Client: Georgia Power Data: Hammond AP-2 Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Total Radium Analysis Run 12/16/2019 6:00 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

Constituent: Thallium (mg/L) Analysis Run 12/16/2019 6:01 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|--------------|---------|---------|-------------|-------------|
| 5/23/2016 | 0.000306 (J) | <0.001 | <0.001 | <0.001 | |
| 5/24/2016 | | | | | <0.001 |
| 7/12/2016 | 0.0003 (J) | <0.001 | <0.001 | 0.0001 (J) | 0.0002 (J) |
| 9/1/2016 | 0.0003 (J) | <0.001 | <0.001 | <0.001 | <0.001 |
| 10/24/2016 | 0.0004 (o) | <0.001 | | | |
| 10/25/2016 | | | <0.001 | <0.001 | <0.001 |
| 12/7/2016 | 0.0003 (J) | <0.001 | <0.001 | <0.001 | |
| 12/8/2016 | | | | | <0.001 |
| 1/26/2017 | 0.0003 (J) | <0.001 | <0.001 | <0.001 | <0.001 |
| 3/22/2017 | | | <0.001 | 0.0001 (J) | |
| 3/23/2017 | 0.0003 (J) | <0.001 | | | 0.0002 (J) |
| 5/24/2017 | 0.0003 (J) | <0.001 | <0.001 | | |
| 5/25/2017 | | | | 0.0001 (J) | 0.0002 (J) |
| 4/3/2018 | | <0.001 | <0.001 | <0.001 | 0.00014 (J) |
| 4/4/2018 | 0.00028 (J) | | | | |
| 6/5/2018 | | | | | 0.00016 (J) |
| 6/6/2018 | 0.00029 (J) | <0.001 | <0.001 | <0.001 | |
| 10/3/2018 | 0.00029 (J) | <0.001 | <0.001 | <0.001 | <0.001 |
| 3/14/2019 | 0.00028 (J) | <0.001 | | | <0.001 |
| 3/15/2019 | | | <0.001 | <0.001 | |
| 4/4/2019 | | <0.001 | <0.001 | | |
| 4/5/2019 | 0.00028 (J) | | | 0.00013 (J) | 0.00014 (J) |
| 9/24/2019 | 0.0003 (J) | <0.001 | | | |
| 9/25/2019 | | | <0.001 | 0.00012 (J) | 0.00019 (J) |
| Mean | 0.0002943 | 0.001 | 0.001 | 0.0006821 | 0.0005879 |
| Std. Dev. | 9.196E-06 | 0 | 0 | 0.0004426 | 0.0004281 |
| Upper Lim. | 0.000306 | 0.001 | 0.001 | 0.001 | 0.001 |
| Lower Lim. | 0.00028 | 0.001 | 0.001 | 0.0001 | 0.00016 |
| | | | | | |

Constituent: Total Radium (pCi/L) Analysis Run 12/16/2019 6:01 PM Hammond AP Client: Georgia Power Data: Hammond AP-2

| | HGWC-14 | HGWC-15 | HGWC-16 | HGWC-17 | HGWC-18 |
|------------|-----------|-----------|-----------|-----------|----------|
| 5/23/2016 | 0.568 (U) | 0.171 (U) | | 0.618 (U) | |
| 5/24/2016 | | | | | 1.82 |
| 7/1/2016 | | | 0 (U) | | |
| 7/12/2016 | 1.31 | 0.611 (U) | 0.182 (U) | 0.867 | 1.76 |
| 9/1/2016 | 1.64 | 0.766 (U) | 1.23 | 0.857 (U) | 1.51 |
| 10/24/2016 | 1.88 | 0.969 | | | |
| 10/25/2016 | | | 1.05 (U) | 1.11 (U) | 2.69 |
| 12/7/2016 | 1.35 | 0.302 (U) | 1.11 (U) | 0.964 (U) | |
| 12/8/2016 | | | | | 2.21 |
| 1/26/2017 | 2.1 | 0.626 (U) | 1.29 (U) | 0.612 (U) | 2.26 |
| 3/22/2017 | | | 0.453 (U) | 0.437 (U) | |
| 3/23/2017 | 1.17 | 0.662 (U) | | | 1.81 |
| 5/24/2017 | 1 (U) | 0.202 (U) | 1.05 (U) | | |
| 5/25/2017 | | | | 1.21 (U) | 1.63 |
| 4/3/2018 | | 0.384 (U) | 0.783 (U) | 0.409 (U) | 2.53 |
| 4/4/2018 | 1.72 | | | | |
| 6/5/2018 | | | | | 1.91 |
| 6/6/2018 | 1.31 (U) | 1.32 (U) | 0.595 (U) | 0.772 (U) | |
| 10/3/2018 | 1.48 | 0.858 (U) | 1.03 (U) | 1.08 (U) | 2.22 |
| 3/14/2019 | 1.5 | 0.462 (U) | | | 1.37 (U) |
| 3/15/2019 | | | 0.591 (U) | 0.917 (U) | |
| 4/4/2019 | | 0.512 (U) | 0.96 (U) | | |
| 4/5/2019 | 1.43 (U) | | | 1.07 (U) | 2.22 |
| 9/24/2019 | 1.17 | 0.582 (U) | | | |
| 9/25/2019 | | | 0.643 (U) | 1.54 | 2.77 |
| Mean | 1.402 | 0.6019 | 0.7834 | 0.8902 | 2.051 |
| Std. Dev. | 0.3797 | 0.3111 | 0.3896 | 0.3103 | 0.4324 |
| Upper Lim. | 1.671 | 0.8223 | 1.059 | 1.11 | 2.357 |
| Lower Lim. | 1.133 | 0.3816 | 0.5074 | 0.6705 | 1.744 |
| | | | | | |