Prepared for

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

2023 SEMIANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

PLANT HAMMOND ASH POND 4 (AP-4)

Prepared by

engineers | scientists | innovators

1255 Roberts Boulevard, Suite 200
Kennesaw, Georgia 30144

Project Number GW6581D

February 2024

Geosyntec
consultants

CERTIFICATION STATEMENT

This *2023 Semiannual Groundwater Monitoring and Corrective Action Report, Plant Hammond – Ash Pond 4 (AP-4)* has been prepared in compliance with the Georgia Environmental Protection Division Rules for Solid Waste Management 391-3-4-.10 by a qualified groundwater scientist or engineer with Geosyntec Consultants, Inc. I hereby certify that I am a qualified groundwater scientist, in accordance with the Georgia Rules of Solid Waste Management 391-3-4-.01.

_____ February 28, 2024

Whitney B. Law Date
Georgia Professional Engineer No. 36641

SUMMARY

This summary of the *2023 Semiannual Groundwater Monitoring and Corrective Action Report* provides the status of groundwater monitoring and corrective action program for the reporting period of July through December 2023 (referred herein as the "semiannual reporting period") at the Georgia Power Company (Georgia Power) Plant Hammond Ash Pond 4 (AP-4) (the Site). This summary was prepared by Geosyntec Consultants, Inc. (Geosyntec) on behalf of Georgia Power to meet the requirements listed in Georgia Environmental Protection Division (GA EPD) Rules for Solid Waste Management 391-3-4-.10, and by reference, Part A, Section 6[1] of the United States Environmental Protection Agency (USEPA) Coal Combustion Residual Rule (federal CCR Rule) (40 Code of Federal Regulations [CFR] 257 Subpart D).

Plant Hammond is located at 5963 Alabama Highway SW, approximately 10 miles west of Rome in Floyd County, Georgia. Dry ash stacking operations in AP-4 began in 1994 and continued until 2010; AP-4 received both fly ash and bottom ash during this period. AP-4 was closed in 2012; therefore, AP-4 is not subject to the federal monitoring requirements, however, the GA EPD monitoring requirements incorporates by reference the federal regulations on this matter[2]. As such, the federal CCR Rule is referenced in lieu of the GA EPD CCR regulations when discussing aspects of the groundwater monitoring program established for the Site. The Site is located on the western portion of the Plant Hammond property. The GA EPD approved closure permit no. 057-025D(CCR) for AP-4 on January 27, 2021. Georgia Power plans to perform closure by removal of CCR from AP-4.

Plant Hammond and the Site

Groundwater at the Site is monitored using a comprehensive monitoring network that meets federal and state monitoring requirements. Groundwater monitoring-related activities have been performed at AP-4 since August 2016. During the semiannual reporting period, Geosyntec conducted one groundwater sampling event in August 2023. Groundwater samples were submitted to Pace Analytical Services, LLC, for analysis.

[1] 80 FR 21468, Apr. 17, 2015, as amended at 81 FR 51807, Aug. 5, 2016; 83 FR 36452, July 30, 2018; 85 FR 53561, Aug. 28, 2020
[2] GA EPD Rules for Solid Waste Management 391-3-4-.10(6)(a)

Groundwater data for the event were evaluated in accordance with the certified statistical methods. Statistically significant increases of Appendix III[3] constituents above background were observed in select monitoring wells following the August 2023 event, as summarized in the table below.

Appendix III Constituent	***August 2023***
Boron	HGWC-101, HGWC-102, HGWC-103, HGWC-105, HGWC-107, HGWC-109, HGWC-117A, HGWC-118
Calcium	HGWC-102, HGWC-103, HGWC-105, HGWC-118
Chloride	HGWC-102, HGWC-103
Sulfate	HGWC-101, HGWC-102, HGWC-103, HGWC-105, HGWC-107, HGWC-109, HGWC-117A, HGWC-118
Total Dissolved Solids	HGWC-102, HGWC-103, HGWC-105, HGWC-118

No statistically significant levels (SSLs) were identified for Appendix IV groundwater data from the August 2023 event[4].

Based on review of the Appendix III and Appendix IV statistical results completed for the semiannual reporting period, the Site will continue in assessment monitoring. Georgia Power will continue routine groundwater monitoring and reporting at the Site. Reports will be posted to Georgia Power's CCR Rule Compliance website and provided to GA EPD semiannually.

[3] Boron, calcium, chloride, fluoride, pH, sulfate, and total dissolved solids (TDS)

[4] Antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, fluoride, lead, lithium, mercury, molybdenum, selenium, thallium, and radium 226 + 228. A statistically increased level (SSL)-related constituent is determined by comparing the confidence intervals developed to either the constituent's maximum contaminant level (MCL), if available, the USEPA Rule Specified Level, if no MCL is available, or the calculated background interwell tolerance limit.

Geosyntec consultants

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

LIST OF ACRONYMS AND ABBREVIATIONS

AP-4	Ash Pond 4
ASD	alternate source demonstration
CCR	coal combustion residuals
CFR	Code of Federal Regulations
cm/sec	centimeters per second
DO	dissolved oxygen
ft/day	feet per day
ft/ft	feet per foot
GA EPD	Georgia Environmental Protection Division
GCL	geosynthetic clay liner
Georgia Power	Georgia Power Company
Geosyntec	Geosyntec Consultants, Inc.
GSC	Groundwater Stats Consulting
GWPS	Groundwater Protection Standard
HAR	Hydrogeologic Assessment Report
i	horizontal hydraulic gradient
K_h	horizontal hydraulic conductivity
MCL	Maximum Contaminant Level
mg/L	milligram per liter
n_e	effective porosity
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
TDS	total dissolved solids
Unified Guidance	Statistical Analysis of Groundwater Data at RCRA Facilities Unified Guidance
USEPA	United States Environmental Protection Agency

1.0 INTRODUCTION

In accordance with the United States Environmental Protection Agency (USEPA) Coal Combustion Residual Rule (federal 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, Inc. (Geosyntec) has prepared this *2023 Semiannual Groundwater Monitoring and Corrective Action Report* to document groundwater monitoring activities conducted at Georgia Power Company (Georgia Power) Plant Hammond (Site) Ash Pond 4 (AP-4) for the reporting period of July through December 2023 (referred to herein as the "semiannual reporting period").

Groundwater monitoring and reporting for the CCR unit is performed in accordance with the monitoring requirements of the GA EPD Rules for Solid Waste Management 391-3-4-.10(6), but also in accordance with the federal CCR Rule, specifically § 257.90 through § 257.95. To specify groundwater monitoring requirements, GA EPD rule 391-3-4-.10(6)(a) incorporates by reference the federal CCR Rule. For ease of reference, the federal CCR rules are cited within this report, in lieu of citing both sets of regulations. Also, the closure permit issued by GA EPD (i.e., no. 057-025D(CCR)) stipulates that groundwater monitoring is required while CCR waste remains in place at the CCR unit and for no less than 5-years after removal of the material.

AP-4 was closed in 2012; therefore, AP-4 is not subject to the federal monitoring requirements, though GA EPD rule 391-3-4-.10(6)(a) promulgates the groundwater monitoring and corrective action regulations stipulated in the federal CCR Rule § 257.90 through § 257.95. A permit application for AP-4 was submitted to GA EPD in November 2018. GA EPD approved closure permit no. 057-025D(CCR) for AP-4 on January 27, 2021.

Due to statistically significant increases (SSIs) of Appendix III constituents identified in the *2019 Annual Groundwater Monitoring and Corrective Action Report* (Geosyntec, 2019), Georgia Power initiated an assessment monitoring program for AP-4 in August 2019. Since then, Georgia Power has routinely sampled the AP-4 monitoring well network in accordance with the assessment monitoring program as outlined in § 257.95. This report includes the results of the semiannual assessment monitoring event conducted in August 2023.

1.1 Site Description and Background

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

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

AP-4 was commissioned in 1986 as a surface impoundment with a corresponding surface area of approximately 54 acres. Dry ash stacking operations in AP-4 began in 1994 and continued until 2010; AP-4 received both fly ash and bottom ash during this period. AP-4 was capped in place in 2011-2012 in accordance with the GA EPD regulations regarding landfill closures. AP-4 was graded, engineered with drainage, and capped with a geosynthetic clay liner (GCL) and soil cover. Georgia Power plans to perform closure by removal of CCR from AP-4. The Closure Plan submitted to GA EPD as part of the closure permit application package describes the closure activities and requirements in accordance with GA EPD rules 391-3-4-.10(7)(a)2. and 391-3-4.10(9)(c)8. Closure permit no. 057-025D(CCR) was approved by GA EPD on January 27, 2021.

1.2 Regional Geology and Hydrogeologic Setting

The following section summarizes the geologic and hydrogeologic conditions at AP-4 as described in the *Hydrogeologic Assessment Report* (*Revision 01) – Ash Pond 4, Plant Hammond* (HAR Rev 01) submitted to GA EPD under separate cover in support of the AP-4 closure permit application (Geosyntec, 2020).

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. The Valley and Ridge 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-4 is underlain by the lower units of the Cambrian age Conasauga Formation, consisting of mostly calcareous shale. Based on review of subsurface investigations, the bedrock underneath AP-4 was described as predominantly shale. AP-4 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 the presence of angular fragments of rocks/materials not expected in the lower units of the Conasauga, such as chert, sandstone, limestone, or coal. 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 AP-4. 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-4 is a regional groundwater aquifer that occurs primarily in the alluvium, colluvium, and residuum, but also to some degree within the weathered and fractured bedrock. Based on observations of alluvium, colluvium, and 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-4, is expected to be very low permeability. Groundwater flow direction is generally from north to south.

1.3 Groundwater Monitoring Well Network

In accordance with § 257.91, a groundwater monitoring system was installed at AP-4 that consists of a sufficient number of wells installed at appropriate locations and depths to yield groundwater samples from the uppermost aquifer to represent the groundwater quality both upgradient of the unit (i.e., background conditions) and passing the waste boundary of the unit. The number, spacing, and depths of the groundwater monitoring wells were selected based on the characterization of site specific hydrogeologic conditions.

A network of piezometers has been installed at the Site that are used to gauge water levels to define groundwater flow direction and gradients. The locations of the detection monitoring well network and piezometers associated with AP-4 are shown on **Figure 2**; well construction details are listed in **Table 1**.

On July 27, 2023, GA EPD approved a minor modification to the closure permit proposing to remove HGWC-117 from the detection monitoring well network via abandonment and replace it with HGWC-117A as the detection monitoring well. The proposal to abandon HGWC-117 was based on the findings presented in an EPD approved Alternate Source Demonstration (ASD) to address the statistically significant level (SSL) of cobalt reported for HGWC-117 (Geosyntec, 2021b). HGWC-117 was abandoned in July, 2023, in accordance with the methods outlined in the approved Groundwater Monitoring Plan (Geosyntec, 2023).

On October 20, 2023, Georgia Power submitted to GA EPD a minor modification request to update the groundwater monitoring network to reflect as-built conditions of the abandonment of HGWC-117 and reclassification of HGWC-117A as a detection monitoring well.

2.0 GROUNDWATER MONITORING ACTIVITIES

In accordance with § 257.90(e), the following describes groundwater monitoring-related activities performed during the semiannual reporting period and discusses any change in status of the monitoring program. Groundwater sampling was performed in accordance with § 257.93.

2.1 Monitoring Well Installation and Maintenance

The well and piezometer networks are inspected semiannually to determine if any repairs or corrective actions are necessary to meet the requirements of the Georgia Water Well Standards Act (O.C.G.A. § 12-5-134(5)(d)(vii)). In August 2023, the networks were inspected and necessary corrective actions were identified and subsequently completed, as documented in **Appendix A**. This documentation was prepared under the direction of a professional geologist or engineer registered in the State of Georgia.

2.2 Assessment Monitoring

Georgia Power initiated an assessment monitoring program for groundwater at AP-4 in August 2019. No SSLs of Appendix IV constituents were identified during this semiannual reporting period. Groundwater at AP-4 will continue to be managed under the assessment monitoring program stipulated by § 257.95.

For the semiannual reporting period, one semiannual assessment monitoring event was conducted in August 2023. The AP-4 wells sampled during these events and the dates associated with them are summarized in **Table 2.** The laboratory reports associated with the August 2023 groundwater sampling event are provided in **Appendix B.** Details of the event and analytical results are discussed in Section 3, while details of the statistical analyses performed are provided in Section 4 of this report.

2.3 Additional Groundwater Evaluations

Supplemental groundwater samples were collected from the entire AP-4 monitoring well network during the August 2023 monitoring event and were analyzed for major ions [magnesium, potassium, sodium, and alkalinity (bicarbonate, carbonate, total)] as well as iron, manganese, and sulfide. The data were collected in support of evaluating, as necessary, the geochemical composition of the groundwater at the Site. The laboratory reports associated with the data are provided in **Appendix B**.

3.0 SAMPLING METHODOLOGY AND 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-4 during the semiannual reporting period.

3.1 Groundwater and Surface Water Level Measurement

A synoptic round of depth-to-groundwater-level measurements was recorded from the AP-4 wells and piezometers during the August 2023 assessment monitoring events and used to calculate the corresponding groundwater elevations, which are presented in **Table 3**. The August 2023 elevations reported are generally representative of the groundwater elevations reported for prior monitoring events.

A surface water elevation was recorded from the surveyed gauging point located along Unnamed Creek east of AP-4, as shown on **Figure 2**.

The groundwater and surface water elevation data presented in **Table 3** were used to prepare potentiometric surface contour maps for the August 2023 events, which are presented on **Figure 3**. Groundwater in the AP-4 area flows under the influence of topography from slightly higher ground surface elevations on the northern side of AP-4 toward lower elevations to the south of AP-4 along the Coosa River.

3.2 Groundwater Gradient and Flow Velocity

The horizontal groundwater hydraulic gradient within the uppermost aquifer beneath AP-4 was calculated using the groundwater elevation data from the August 2023 event. The horizontal hydraulic gradient is commonly calculated between two points along the groundwater flow path perpendicular to groundwater elevation contours. Ideally, this flow path originates and concludes with groundwater elevations reported for two wells, but this may not be feasible and still remain perpendicular to the contours. Given the surface area covered by AP-4, horizontal hydraulic gradients were calculated along the eastern, central, and western portions of the unit. The well pairs correlating to these flow areas are, respectively: GWA-14 and GWC-19; HGWA-113 and HGWC-102; and HGWA-111 and HGWC-107. The supporting calculations are presented in **Table 4.** The general trajectory of the flow paths used in the calculations and associated potentiometric contour lines are shown on **Figure 3**. The presented hydraulic gradients from the three

portions were averaged for the semiannual reporting period to provide a representative gradient of 0.015 feet per foot (ft/ft) across AP-4.

The approximate horizontal flow velocity associated with AP-4 groundwater was calculated using the following derivative of Darcy's Law. The calculations are presented in **Table 4**.

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

where:

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

K_h = Horizontal Hydraulic Conductivity $\left(\frac{feet}{day}\right)$

i = Horizontal hydraulic gradient $\left(\frac{feet}{foot}\right) = \frac{h_1 - h_2}{L}$

h_1 and h_2 = Groundwater elevation at location 1 and 2

L = distance between location 1 and 2

n_e = Effective porosity

Aquifer testing was conducted by Southern Company Services in 2013 to evaluate hydraulic conditions in the vicinity of AP-4. Results of these field events are discussed in detail in the HAR Rev 01 (Geosyntec, 2020). Horizontal hydraulic conductivity (K_h) was estimated for units above the top of bedrock by performing slug tests. The tests were conducted at wells screened in the terrace alluvium or colluvial material; a geometric mean for K_h of 5.86 x 10^{-4} centimeters per second (cm/sec) (1.67 feet per day [ft/day]) was calculated from the slug test data for the two units. Since the majority of the wells are screened in either alluvial or alluvial/colluvial materials, no hydraulic conductivity testing was conducted on the residuum, weathered shale, or unweathered shale.

The groundwater flow velocity calculation is performed using the geometric mean for K_h of 1.67 ft/day. An estimated effective porosity (n_e) of 0.15 is used to represent average conditions for the silty clay alluvium/colluvium, derived based on review of literature, observed site lithology, and professional judgement. With these variables assigned, and accounting for the representative hydraulic gradient discussed above, the representative

groundwater flow velocity underneath AP-4 was calculated to be 0.17 ft/day for the semiannual reporting period.

3.3 Groundwater Sampling Procedures

Groundwater samples were collected from the monitoring network using low-flow sampling procedures in accordance with § 257.93(a). Purging and sampling was performed using dedicated bladder pumps with dedicated tubing and peristaltic pumps. For wells sampled with peristaltic pumps, the pump intake was lowered to the midpoint of the well screen (or as appropriate based on the groundwater level). Peristaltic pump samples were collected using new disposable polyethylene tubing; all non-dedicated tubing was disposed of following the sampling event. All non-disposable equipment was decontaminated before use and between well locations.

An in-situ water quality field meter (Aqua TROLL 400) was used to monitor and record field water quality parameters (i.e., pH, conductivity, dissolved oxygen (DO), temperature, and oxidation reduction potential [ORP]) during well purging to verify stabilization prior to sampling. Turbidity was monitored using a portable turbidity meter (i.e., LaMotte 2020we or similar). Groundwater samples were collected once the following stabilization criteria were met:

- pH ± 0.1 standard units (s.u.).
- Conductivity ± 5%.
- ±0.2 milligrams per liter (mg/L) or ±10% (whichever is greater) for DO > 0.5 mg/L. No criterion applies if DO < 0.5 mg/L, record only.
- Turbidity measured less than 5 nephelometric turbidity units (NTU), or measured between 5 and 10 NTU following three hours of purging.

Following purging, and once stabilization was achieved, unfiltered 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 (Pace Analytical) in Peachtree Corners, Georgia, following chain-of-custody protocol. The field sampling and equipment calibration forms generated during the August 2023 assessment monitoring event are provided in **Appendix B**.

3.4 Laboratory Analyses

Laboratory analyses were performed by 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 constituents and the geochemical parameters analyzed for this project. Analytical methods used for groundwater sample analysis, and the associated results, are listed in the analytical laboratory reports included in **Appendix B**. The groundwater analytical results including the supplementary geochemical ionic data from the August 2023 sampling event are summarized in **Table 5**.

3.5 Quality Assurance and Quality Control Summary

Quality assurance/quality control (QA/QC) samples were collected during the groundwater monitoring event in accordance with the Site's *Groundwater Monitoring Plan* (Geosyntec, 2023), and included the following: field duplicates, equipment blanks, and field blank samples. QA/QC samples were collected in appropriately preserved laboratory-provided containers and submitted under the same chain of custody as the primary samples for analysis of the same constituents by Pace Analytical.

In addition to collecting QA/QC samples, the data were validated based on the pertinent methods referenced in the laboratory reports, professional and technical judgment, and applicable federal guidance documents (USEPA, 2011; USEPA, 2017). Where necessary, the data were qualified with supporting documentation and justifications. The validated data are considered usable for meeting project objectives. The associated data validation reports for the semiannual event are provided in **Appendix B**, along with the laboratory reports.

4.0 STATISTICAL ANALYSIS

The following section summarizes the statistical analysis of Appendix III groundwater monitoring data performed pursuant to § 257.93. In addition, pursuant to § 257.95(d)(2), Georgia Power established GWPS for the Appendix IV monitoring constituents and completed statistical analyses of the Appendix IV groundwater monitoring data obtained during the semiannual reporting period. The data were analyzed by Groundwater Stats Consulting (GSC); the reports generated from the analyses are provided in **Appendix C**.

4.1 Statistical Methods

Groundwater data from the semiannual reporting period were statistically analyzed in accordance with the Professional Engineer-certified (PE-certified) Statistical Analysis Method Certification (October 2017, revised January 2020). The Sanitas groundwater statistical software was used to perform the statistical analyses. Sanitas is a decision-support software package, which 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).

Appendix III statistical analysis was performed to determine if Appendix III constituents have returned to background levels. Appendix IV constituents were evaluated to determine if concentrations statistically exceeded the established GWPS. Detailed statistical methods used for Appendix III and Appendix IV constituents are discussed in statistical analysis packages provided in **Appendix C** and summarized in Sections 4.1.1 and 4.1.2. The GWPS were finalized pursuant to § 257.95(d)(2) and presented in **Table 6**.

4.1.1 Appendix III Statistical Methods

Based on guidance from GA EPD, statistical tests used to evaluate the groundwater monitoring data consist of interwell prediction limits (PLs) combined with a 1-of-2 verification resample plan for each of the Appendix III constituents. Interwell PLs 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 constituent. The most recent sample from each downgradient well is compared to the background limit to determine whether there are SSIs. An "initial exceedance" occurs when an Appendix III constituent reported in the groundwater of a downgradient detection monitoring well exceeds the constituent's associated PL. The 1-of-2 resample

plan allows for collection of an independent resample. A confirmed exceedance is noted only when the resample confirms the initial exceedance by also exceeding the statistical limit. If the resample falls within its respective prediction limit, no exceedance is declared.

4.1.2 Appendix IV Statistical Methods

To statistically compare groundwater data to GWPS, confidence intervals are constructed for each of the detected Appendix IV constituents in each downgradient detection monitoring well with a minimum of four samples. In accordance with Section 21.1.1 of the Unified Guidance (USEPA, 2009), four independent data are the minimum population size recommended to construct confidence intervals required to assess SSL for Appendix IV constituents.

The confidence intervals are compared to the GWPS. Only when the entire confidence interval is above a GWPS is the well/constituent pair considered to exceed its GWPS. If a confidence interval exceeds a GWPS, an SSL exceedance is identified.

USEPA revised the federal CCR Rule on July 30, 2018, updating GWPS for cobalt, lead, lithium, and molybdenum. As described in § 257.95(h)(1-3), the GWPS is defined by the below criteria. These criteria were adopted into the GA EPD Rules for Solid Waste Management 391-3-4-.10 on February 22, 2022.

(1) The maximum contaminant level (MCL) established under § 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 0.1 mg/L.

(3) Background levels for constituents where the background level is higher than the MCL or rule specified GWPS.

Following the above requirements, GWPS have been established for statistical comparison of Appendix IV constituents and are presented in **Table 6**.

4.2 Statistical Analyses Results

Based on review of the Appendix III statistical analyses presented in **Appendix C**, groundwater conditions have not returned to background and assessment monitoring should continue. No SSLs of Appendix IV constituents were identified following statistical analyses of the August 2023 data set.

5.0 ALTERNATE SOURCE DEMONSTRATION

An ASD was prepared and submitted to GA EPD on October 28, 2021, to address the SSL of cobalt reported for HGWC-117 (Geosyntec, 2021b). The ASD presented multiple lines of evidence that the SSL was not associated with a release from AP-4, but was instead an isolated occurrence unrelated to the unit, and may have been affected by pump/sampling issues. As part of the ASD, HGWC-117A was installed in July 2021 to assess groundwater quality proximal to HGWC-117; the new well was located approximately 30 ft side-gradient to HGWC-117 and within similar lithology. Since August 2021, the groundwater samples collected from HGWC-117A have reported cobalt concentration as estimated below the reporting limit (i.e., "J" qualified) and consequently below the GWPS. GA EPD approved the ASD on July 19, 2023, and HGWC-117 was abandoned following submittal of a minor modification to the site permit. In October 2023, Georgia Power submitted to GA EPD a minor modification request to update the groundwater monitoring network to reflect as-built conditions of the abandonment of HGWC-117 and reclassification of HGWC-117A as a detection monitoring well.

6.0 MONITORING PROGRAM STATUS

Based on the statistical evaluation results presented for the semiannual reporting period, SSIs of Appendix III constituents have not returned to background levels. Pursuant to § 257.96(b), Georgia Power will continue to monitor the groundwater at AP-4 in accordance with the assessment monitoring program regulations of § 257.95.

7.0 CONCLUSIONS AND FUTURE ACTIONS

This *2023 Semiannual Groundwater Monitoring and Corrective Action Report* for Plant Hammond AP-4 was prepared to fulfill the requirements of the GA EPD Rules for Solid Waste Management 391-3-4-.10, and indirectly by reference the federal CCR Rule.

Statistical analyses of the groundwater monitoring data for AP-4 for the semiannual reporting period did not identify any SSLs of Appendix IV constituents and the site will remain in assessment monitoring.

The next routine semiannual assessment monitoring event for AP-4 is scheduled to begin in February 2024.

8.0 REFERENCES

Geosyntec, 2019. *2019 Annual Groundwater Monitoring & Corrective Action Report – Georgia Power Company, Plant Hammond Ash Pond 4 (AP-4)*. July 2019.

Geosyntec, 2020. *Hydrogeologic Assessment Report (Revision 01) – Ash Pond 4 (AP-4), Plant Hammond*. May 2020.

Geosyntec, 2021a. *2021 Annual Groundwater Monitoring and Corrective Action Report – Plant Hammond Ash Pond 4 (AP-4)*. July 2021.

Geosyntec, 2021b. *Alternate Source Demonstration – Cobalt, Georgia Power Company, Plant Hammond Ash Pond 4.* October 2021.

Geosyntec, 2023. *Groundwater Monitoring Plan, Pland Hammond – Ash Pond 4 (AP-4), Floyd County, Georgia*. September 2020, Revision 1 – March 2023 (minor permit mod).

Golder, 2018. *Geologic and Hydrogeologic Report – Plant Hammond*. November 2018.

Sanitas™: Groundwater Statistical Software, v. 9.6.05, 2018. Sanitas Technologies©, Boulder, CO.

USEPA, 2009. *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance*. Office of Resource Conservation and Recovery – Program Implementation and Information Division. March 2009.

USEPA, 2011. *Region IV Data Validation Standard Operating Procedures.* Science and Ecosystem Support Division. Region IV. Athens, GA. September 2011.

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

TABLES

Table 1
Monitoring Well Network Summary
Plant Hammond AP-4, Floyd County, Georgia

Well ID	Hydraulic Location	Installation Date	Northing [1]	Easting [1]	Ground Surface Elevation [2] (ft)	Top of Casing Elevation [2] (ft)	Top of Screen Elevation [2] (ft)	Bottom of Screen Elevation [2] (ft)	Well Depth (ft BTOC) [3]	Screen Interval Length (ft)
Detection Monitoring Well										
HGWA-47	Upgradient	8/21/2020	1548990.96	1934171.84	577.39	580.33	546.84	536.84	43.74	10
HGWA-48D	Upgradient	8/20/2020	1548989.39	1934178.15	577.29	580.26	517.54	507.54	72.97	10
HGWA-111	Upgradient	8/21/2012	1548834.26	1935222.81	588.79	591.75	558.48	548.48	43.67	10
HGWA-112	Upgradient	8/21/2012	1548885.63	1935647.00	593.46	596.27	566.52	556.52	40.15	10
HGWA-113	Upgradient	10/2/2012	1548944.62	1935990.09	592.07	594.58	568.87	558.87	36.11	10
HGWC-101	Downgradient	8/7/2012	1547725.50	1936369.58	575.91	578.85	551.31	541.31	37.94	10
HGWC-102	Downgradient	8/7/2012	1547713.50	1936033.33	574.54	577.54	550.51	540.51	37.43	10
HGWC-103	Downgradient	8/8/2012	1547848.88	1935732.96	577.76	580.79	553.51	543.51	37.68	10
HGWC-105	Downgradient	8/8/2012	1547855.56	1935110.36	579.08	582.09	547.72	537.72	44.67	10
HGWC-107	Downgradient	8/8/2012	1547909.99	1934442.24	576.43	579.31	551.51	541.51	38.20	10
HGWC-109	Downgradient	8/15/2012	1548627.41	1934362.77	573.66	576.77	555.81	545.81	31.36	10
HGWC-117A	Downgradient	7/21/2021	1548082.04	1937157.25	578.85	581.76	551.85	541.85	40.31	10
HGWC-118	Downgradient	10/1/2012	1547980.56	1936946.37	576.52	579.02	548.51	538.51	40.91	10
Piezometer										
MW-12	Downgradient	10/21/2014	1547853.78	1937525.46	580.59	583.27	555.84	545.84	37.83	10
GWC-4	Downgradient	8/8/2012	1547898.31	1935398.70	577.73	580.65	543.47	533.47	47.58	10
GWC-6	Downgradient	8/13/2012	1547843.93	1934800.45	578.55	581.63	553.90	543.90	38.13	10
GWC-8	Downgradient	8/9/2012	1548167.13	1934342.94	577.13	579.99	549.47	539.47	40.92	10
GWA-14	Upgradient	10/2/2012	1548982.59	1936642.58	589.70	592.14	561.40	551.40	41.14	10
GWA-15	Upgradient	8/22/2012	1548766.17	1936808.47	588.37	591.56	571.44	561.44	30.52	10
GWA-16	Upgradient	8/21/2012	1548592.74	1937210.99	579.58	582.55	569.94	559.94	23.01	10
GWC-19	Downgradient	8/14/2012	1547892.89	1936572.97	576.90	579.83	554.04	544.04	36.19	10

Notes:
ft = feet
ft BTOC = feet below top of casing
(1) Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Survey completed by GEL Solutions dated May 11, 2020, September 10, 2020 (for HGWA-47 and HGWA-48D), and September 8, 2021 (for HGWC-117A).
(2) Elevations referenced to the North American Vertical Datum of 1988 (NAVD88). Survey completed by GEL Solutions dated May 11, 2020, September 10, 2020 (for HGWA-47 and HGWA-48D), and September 8, 2021 (for HGWC-117A).
(3) Total well depth accounts for sump if data provided on well construction logs.

Table 2

Groundwater Sampling Event Summary
Plant Hammond AP-4, Floyd County, Georgia

Well ID	Hydraulic Location	August 7 - 11, 2023
Purpose of Sampling Event:		**Assessment**
HGWA-47	Upgradient	X
HGWA-48D	Upgradient	X
HGWA-111	Upgradient	X
HGWA-112	Upgradient	X
HGWA-113	Upgradient	X
HGWC-101	Downgradient	X
HGWC-102	Downgradient	X
HGWC-103	Downgradient	X
HGWC-105	Downgradient	X
HGWC-107	Downgradient	X
HGWC-109	Downgradient	X
HGWC-117A	Downgradient	X
HGWC-118	Downgradient	X

Table 3
Summary of Groundwater and Surface Water Elevations
Plant Hammond AP-4, Floyd County, Georgia

Well ID	Top of Casing Elevation [(1)] (ft)	August 7, 2023	
		Depth to Water (ft BTOC)	Groundwater Elevations (ft)
Detection Monitoring Well			
HGWA-47	580.33	9.11	571.22
HGWA-48D	580.26	9.01	571.25
HGWA-111	591.75	12.84	578.91
HGWA-112	596.27	13.26	583.01
HGWA-113	594.58	12.09	582.49
HGWC-101	578.85	13.45	565.40
HGWC-102	577.54	13.23	564.31
HGWC-103	580.79	13.86	566.93
HGWC-105	582.09	18.09	564.00
HGWC-107	579.31	15.35	563.96
HGWC-109	576.77	9.45	567.32
HGWC-117A	581.76	17.22	564.54
HGWC-118	579.02	13.88	565.14
Piezometer			
MW-12	583.27	19.05	564.22
GWC-4	580.65	13.66	566.99
GWC-6	581.63	17.49	564.14
GWC-8	579.99	14.47	565.52
GWA-14	592.14	8.43	583.71
GWA-15	591.56	10.23	581.33
GWA-16	582.55	5.65	576.90
GWC-19	579.83	13.28	566.55
Surface Water Level Gauge Point			
Unnamed Creek	580.14	N/A	564.16

Notes:
-- = not applicable
ft = feet
(1) Elevations referenced to the North American Vertical Datum of 1988 (NAVD88). Survey completed by GEL solutions dated May 10, 2020, September 10, 2020 (for HGWA-47 and HGWA-48D), and September 8, 2021 (for HGWA-117A).

Table 4

Horizontal Groundwater Gradient and Flow Velocity Calculations

Plant Hammond AP-4, Floyd County, Georgia

	August 7, 2023				
Flow Path Direction [(1)]	**h_1 (ft)**	**h_2 (ft)**	**L (ft)**	**i (ft/ft)**	**Average i (ft/ft)**
Eastern Flow Path (GWA-14 to GWC-19)	583.71	566.55	1,100	0.016	0.015
Central Flow Path (HGWA-113 to HGWC-102)	582.49	564.31	1,235	0.015	
Western Flow Path (HGWA-111 to HGWC-107)	578.91	563.96	1,210	0.012	

Flow Path Direction [(1)]	**K_h (ft/day)**	**n_e**	**Average i (ft/ft)**	**V (ft/day)[(2)]**
Eastern Flow Path (GWA-14 to GWC-19)	1.67	0.15	0.015	0.17
Central Flow Path (HGWA-113 to HGWC-102)				
Western Flow Path (HGWA-111 to HGWC-107)				

Notes:

ft = feet

ft/day = feet per day

ft/ft = feet per foot

h_1 and h_2 = groundwater elevation at location 1 and 2

$i = h_1\text{-}h_2/L$ = horizontal hydraulic gradient

K_h = horizontal hydraulic conductivity

L = distance between location 1 and 2 along the flow path

n_e = effective porosity

V = groundwater flow velocity

(1) Flow path direction relative to the orientation of AP-4 and illustrated on Figure 3 of associated report.

(2) Groundwater flow velocity equation: $V = [K_h * i] / n_e$.

Table 5
Summary of Semiannual Groundwater Analytical Data
Plant Hammond AP-4, Floyd County, Georgia

	Well ID:	HGWA-47	HGWA-48D	HGWA-111	HGWA-112	HGWA-113	HGWC-101	HGWC-102	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-117A	HGWC-118
	Sample Date:	8/8/2023	8/8/2023	8/8/2023	8/8/2023	8/10/2023	8/11/2023	8/11/2023	8/11/2023	8/11/2023	8/11/2023	8/11/2023	8/11/2023	8/11/2023
	Parameter [1,2]													
APPENDIX III	Boron	<0.0086	<0.0086	<0.0086	<0.0086	0.0091 J	0.16	3.2	4.3	1.4	0.81	0.23	0.31	0.66
	Calcium	68.0	58.2	0.94 J	6.6	8.4	24.1	134	139	129	56.0	44.8	61.1	85.5
	Chloride	2.7	2.7	3.0	5.1	1.6	4.9	6.7	7.9	5.6	2.7	3.5	4.6	3.8
	Fluoride	0.072 J	0.091 J	0.076 J	0.050 J	0.19	<0.0500	<0.050	<0.050	<0.050	<0.050	0.086 J	0.057 J	0.070 J
	pH [3]	7.27	7.37	7.01	5.77	6.07	5.44	5.79	5.80	6.47	6.16	6.80	7.09	7.49
	Sulfate	2.0	2.9	1.5	0.71 J	5.1	102	370	382	237	113	19.8	67.7	64.9
	TDS	214	220	207	57.0	80.0	250	785	808	630	296	205	280	346
APPENDIX IV	Antimony	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	0.00	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012
	Arsenic	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037
	Barium	0.026	0.10	0.027	0.025	0.028	0.036	0.028	0.035	0.089	0.032	0.081	0.046	0.040
	Beryllium	<0.000054	<0.000054	<0.000054	<0.000054	<0.000054	0.000070 J	<0.000054	<0.000054	<0.000054	<0.000054	<0.000054	<0.000054	<0.000054
	Cadmium	<0.00011	<0.00011	<0.00011	<0.00011	<0.00011	0.00015 J	0.00067	0.00070	<0.00011	<0.00011	<0.00011	<0.00011	<0.00011
	Chromium	<0.0011	<0.0011	<0.0011	0.0037 J	0.0019 J	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011
	Cobalt	<0.00039	<0.00039	<0.00039	<0.00039	<0.00039	0.0028 J	0.0010 J	0.0019 J	0.00047 J	<0.00039	0.00077 J	0.00078 J	<0.00039
	Fluoride	0.072 J	0.091 J	0.076 J	0.050 J	0.19	<0.0500	<0.050	<0.050	<0.050	<0.050	0.086 J	0.057 J	0.070 J
	Lead	<0.00012	<0.00012	<0.00012	<0.00012	<0.00012	<0.00012	<0.00012	<0.00012	<0.00012	<0.00012	<0.00012	<0.00012	<0.00012
	Lithium	0.0029 J	0.0040 J	0.0018 J	<0.00073	0.0010 J	<0.00073	0.0013 J	0.0014 J	0.0044 J	0.00083 J	0.00076 J	0.0041 J	0.0023 J
	Mercury	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013	0.00025	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013
	Molybdenum	<0.00074	0.00092 J	<0.00074	<0.00074	<0.00074	<0.00074	<0.00074	<0.00074	<0.00074	<0.00074	<0.00074	<0.00074	<0.00074
	Comb. Radium 226/228	0.502 U	0.549 U	0.728 U	0.723 U	0.841 U	0.930 U	1.08	0.849 U	0.292 U	0.314 U	0.105 U	0.822 U	0.806 U
	Selenium	<0.0014	<0.0014	<0.0014	<0.0014	0.0027 J	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014
	Thallium	<0.00018	<0.00018	<0.00018	<0.00018	<0.00018	<0.00018	<0.00018	<0.00018	<0.00018	<0.00018	<0.00018	<0.00018	<0.00018
GEOCHEM	Bicarbonate Alkalinity	212	222	152	24.7	40.3	21.9	111	106	162	79.7	164	141	217
	Carbonate Alkalinity	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	Total Alkaliniity	212	222	152	24.7	40.3	21.9	111	106	162	79.7	164	141	217
	Iron	0.033 J	0.46	<0.025	0.11	<0.025	5.4	1.8	1.6	7.7	<0.025	6.4	0.13	<0.025
	Magnesium	5.5	12.1	0.46	2.6	3.4	11.6	32.4	33.2	12.4	8.5	8.7	7.8	10.4
	Manganese	0.025 J	0.013 J	0.040	<0.011	<0.011	2.4	2.1	1.9	0.44	0.22	0.36	0.18	0.13
	Poassium	0.47 J	0.63	0.47 J	0.87	0.32 J	0.75	3.2	3.9	1.0	2.4	0.46 J	0.56	0.80
	Sodium	3.6	11.6	3.4	3.6	9.5	12.3	18.9	23.1	15.5	7.7	8.3	8.9	8.8
	Sulfide	<0.022	0.055 J	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022

Notes:
< = Indicates the parameter was not detected above the analytical method detection limit (MDL).
J = Indicates the parameter was estimated and detected between the MDL and the reporting limit (RL).
TDS = Total dissolved solids
U = Indicates the parameter was not detected above the analytical minimum detectable concentration (MDC) (Specific to combined radium 226/228).
(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 6010D, 6020B, and 7470A, anions were analyzed by EPA Method 300.0, TDS was analyzed by SM2540C-2015, and combined radium 226/228 by EPA Methods 9315/9320.
Ions were analyzed by EPA Method 6010D, alkalinity was analyzed by SM2320B-2011, and sulfide was analyzed by SM4500-S2D-2011..
(3) The pH value presented was recorded at the time of sample collection in the field.

Table 6
Summary of Background Concentrations and Groundwater Protection Standards
Plant Hammond AP-4, Floyd County, Georgia

Analyte	Units	MCL	CCR-Rule Specified[1]	Background[2]	GWPS[3]
Antimony	mg/L	0.006	N/A	0.003	0.006
Arsenic	mg/L	0.01	N/A	0.005	0.01
Barium	mg/L	2	N/A	0.11	2
Beryllium	mg/L	0.004	N/A	0.0019	0.004
Cadmium	mg/L	0.005	N/A	0.0005	0.005
Chromium	mg/L	0.1	N/A	0.0061	0.1
Cobalt	mg/L	N/A	0.006	0.005	0.006
Fluoride	mg/L	4	N/A	0.17	4
Lead	mg/L	N/A	0.015	0.0016	0.015
Lithium	mg/L	N/A	0.040	0.030	0.040
Mercury	mg/L	0.002	N/A	0.0002	0.002
Molybdenum	mg/L	N/A	0.1	0.01	0.1
Selenium	mg/L	0.05	N/A	0.005	0.05
Thallium	mg/L	0.002	N/A	0.001	0.002
Combined Radium-226/228	pCi/L	5	N/A	1.26	5

Notes:
CCR = Coal Combustion Residuals
GWPS = Groundwater Protection Standard
MCL = Maximum Contaminant Level
mg/L = milligrams per liter
N/A = Not Applicable
pCi/L = picocuries per liter
(1) On February 22, 2022, the Georgia Environmental Protection Division (GA EPD) adopted the federally promulgated GWPS for cobalt, lithium, lead, and molybdenum.
(2) The background limits were used when determining the GWPS under 40 CFR 257.95(h) and GA 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.
(3) 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; (iii) where and MCL has not been established a rule-specific GWPS; or (iii) background levels for constituents where the background level is higher than the MCL or rule-specified GWPS.

FIGURES

N

LEGEND

Plant Hammond Property Boundary

Note:
1. Aerial photograph source: Google Earth Pro, August 2019 and Georgia Power Company, July 2023.

0 625 1,250 2,500

SCALE IN FEET

SITE LOCATION MAP

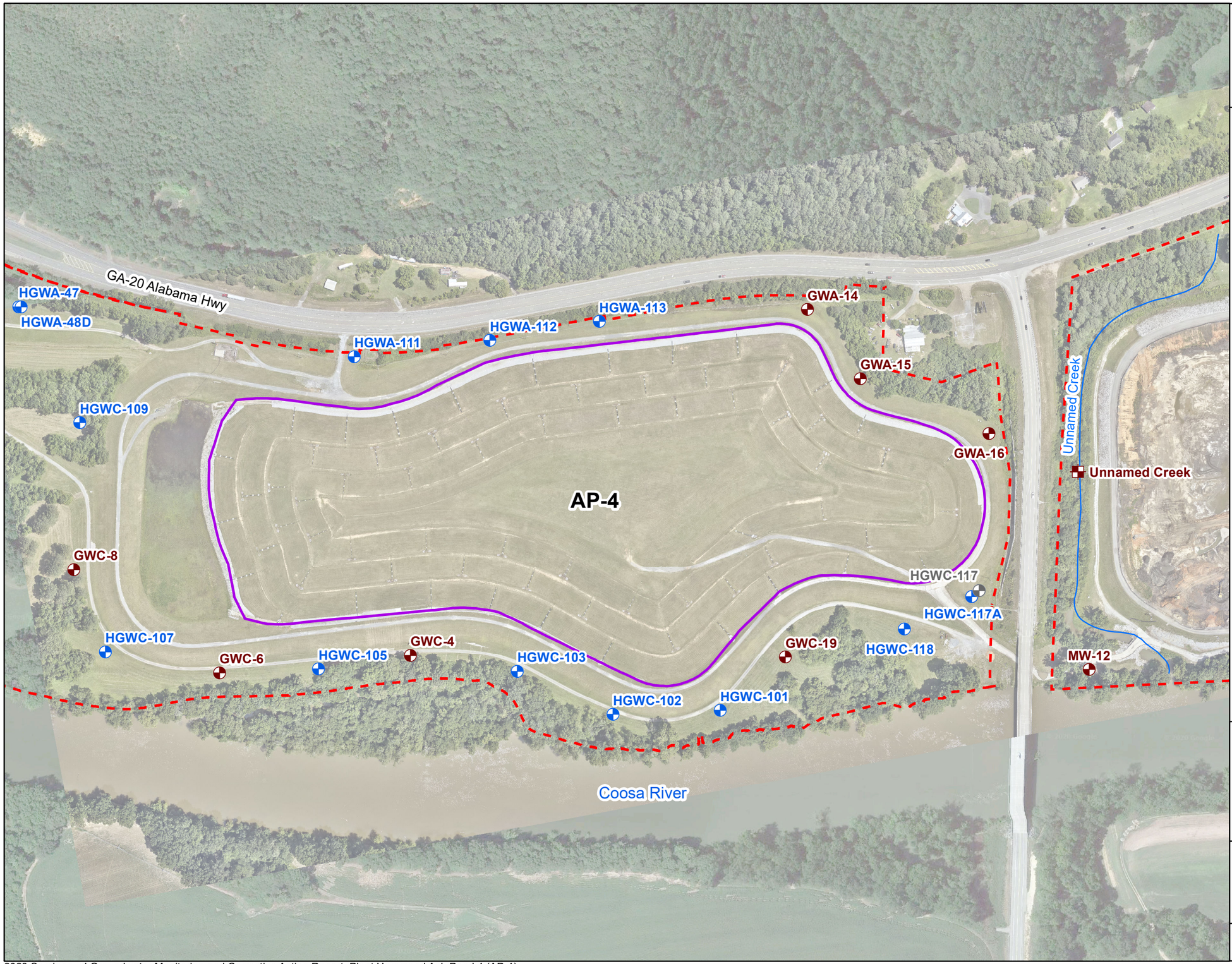
GEORGIA POWER COMPANY
PLANT HAMMOND AP-4
ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

KENNESAW, GA | FEBRUARY 2024

FIGURE 1



N

LEGEND

- Detection Monitoring Well
- Piezometer
- Abandoned Well
- Surface Water Level Gauge Point
- Unnamed Creek
- Approximate AP-4
- Plant Hammond Property Boundary

Notes:
1. Aerial photograph source: Google Earth Pro, August 2019 and Georgia Power Company, July 2023.
2. Former detection monitoring well HGWC-117 was reclassified as a piezometer and replaced with HGWC-117A as proposed in the April 2023 minor modification to the closure permit. HGWC-117 was abandoned in July 2023.

0 150 300 600

SCALE IN FEET

MONITORING WELL AND SURFACE WATER GAUGE LOCATION NETWORK MAP

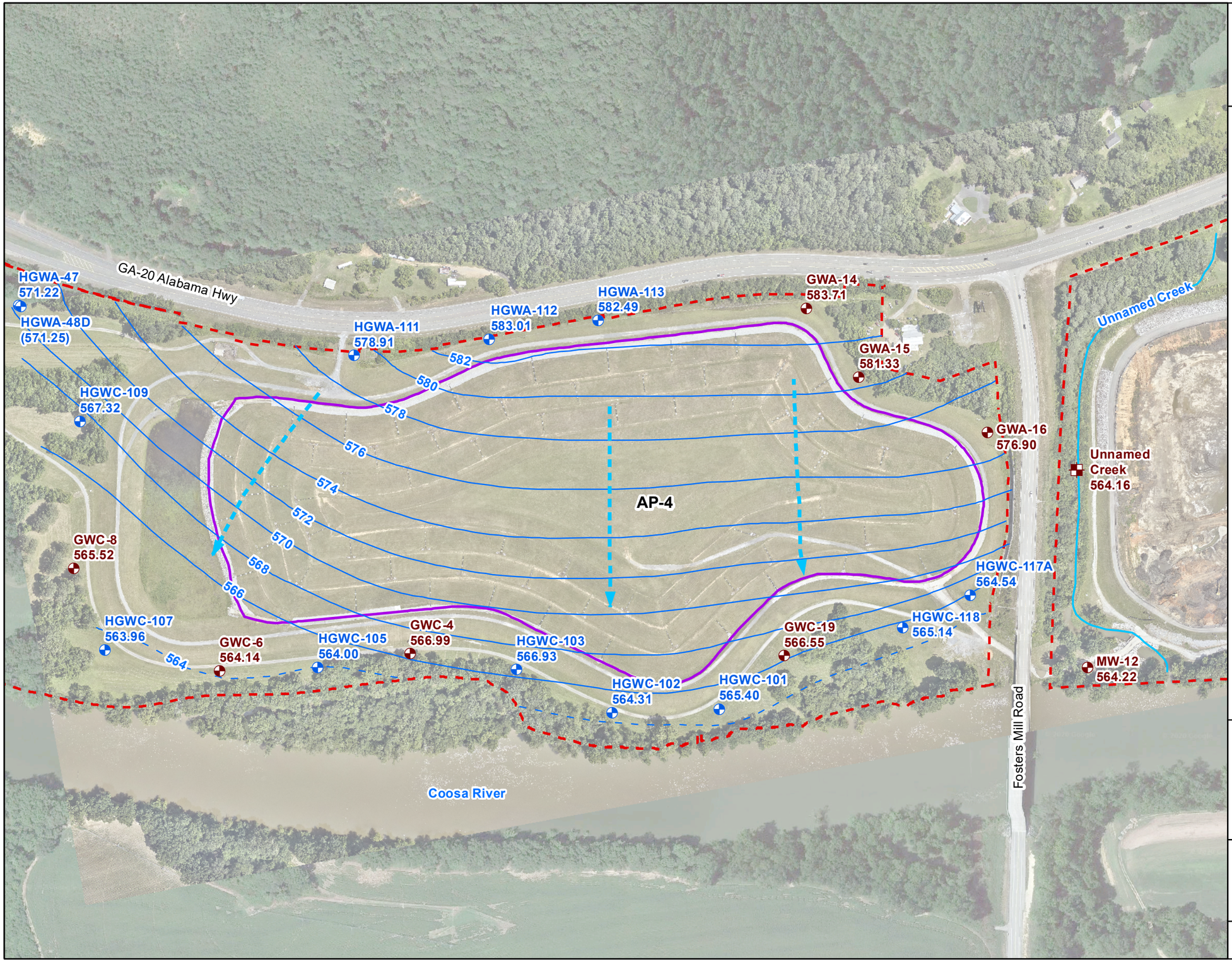
GEORGIA POWER
PLANT HAMMOND
FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

KENNESAW, GA | FEBRUARY 2024

FIGURE 2



N

LEGEND

- Detection Monitoring Well
- Piezometer
- Surface Water Level Gauge Point
- Groundwater Elevation Iso-Contour (Inferred)
- Groundwater Elevation Iso-Contour
- Approximate Groundwater Flow Direction
- Unnamed Creek
- Approximate AP-4 Boundary
- Plant Hammond Property Boundary

GEORGIA REGISTERED No. PE036510 PROFESSIONAL ENGINEER WHITNEY B. LAW

Notes:
1. Water level elevation recorded on August 7, 2023. Elevation provided in feet (ft) referenced to the North American Vertical Datum of 1988 (NAVD 88).
2. Groundwater elevation in parentheses was not used in development of groundwater contours due to well being screened at a different elevation in the formation/aquifer.
3. Aerial photograph source: Google Earth Pro, August 2019 and Georgia Power Company, July 2023.

0 150 300 600

SCALE IN FEET

POTENTIOMETRIC SURFACE CONTOUR MAP - AUGUST 2023

GEORGIA POWER COMPANY
PLANT HAMMOND AP-4
FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

KENNESAW, GA | FEBRUARY 2024

FIGURE 3

APPENDIX A

Well Maintenance and Repair Documentation Memorandum

August 2023

Geosyntec consultants

1255 Roberts Boulevard, Suite 200
Kennesaw, Georgia 30144
PH 678.202.9500
FAX 678.202.9501
www.geosyntec.com

MEMORANDUM

DATE: November 3, 2023

TO: Kristen Jurinko, P.G., Southern Company Services, Inc.

CC: Ben Hodges, P.G. Georgia Power Company

FROM: Geosyntec Consultants

SUBJECT: **Plant Hammond Ash Pond 4 (AP-4) – Well Maintenance and Repair Documentation, Georgia Power Company**

Geosyntec Consultants has prepared this memorandum to provide documentation of groundwater monitoring well maintenance and/or repair performed at Plant Hammond Ash Pond 4 (AP-4) during the August 2023 sampling event. All repairs and maintenance were completed in accordance with the Georgia Environmental Protection Division (GA EPD) guidance on routine visual inspections of groundwater monitoring wells. Documentation of the well inspections are provided as an attachment to this memorandum.

Georgia Power Site/Unit	Date Performed	Well ID	Maintenance/ Repair Performed
Hammond/AP-4	8/7/2023 -8/8/2023	All Wells	Checked and cleared weep holes of debris.

ATTACHMENT

Well Inspection Summary

Well Inspection

Site Name: Plant Hammond AP-4

Date: 08/07/2023

Permit Number: 057-025D (CCR)

Field Conditions: Sunny, 70° F

Well ID:	Location/Identification			
	Visible and accessible	Properly identified with correct well ID	Located in high traffic area; does the well require protection from traffic	Acceptable drainage around well (no standing water, not located in obvious drainage flow path)
HGWA-47	Yes	Yes	No	Yes
HGWA-48D	Yes	Yes	No	Yes
HGWA-111	Yes	Yes	No	Yes
HGWA-112	Yes	Yes	No	Yes
HGWA-113	Yes	Yes	No	Yes
HGWC-101	Yes	Yes	No	Yes
HGWC-102	Yes	Yes	No	Yes
HGWC-103	Yes	Yes	No	Yes
HGWC-105	Yes	Yes	No	Yes
HGWC-107	Yes	Yes	No	Yes
HGWC-109	Yes	Yes	No	Yes
HGWC-117A	Yes	Yes	No	Yes
HGWC-118	Yes	Yes	No	Yes
GWC-4	Yes	Yes	No	Yes
GWC-6	Yes	Yes	No	Yes
GWC-8	Yes	Yes	No	Yes
GWA-14	Yes	Yes	No	Yes
GWA-15	Yes	Yes	No	Yes
GWC-16	Yes	Yes	No	Yes
GWC-19	Yes	Yes	No	Yes
MW-12	Yes	Yes	No	Yes

Well Inspection

Site Name: Plant Hammond AP-4

Date: 08/07/2023

Permit Number: 057-025D (CCR)

Field Conditions: Sunny, 70° F

Well ID:	Protective Casing				
	Free from apparent damage and able to be secured	No degradation or deterioration	Functioning weep hole	Annular space clear of debris and water, or filled with pea gravel/sand	Locked and is the lock in good condition
HGWA-47	Yes	Yes	Yes	Yes	Yes
HGWA-48D	Yes	Yes	Yes	Yes	Yes
HGWA-111	Yes	Yes	Yes	Yes	Yes
HGWA-112	Yes	Yes	Yes	Yes	Yes
HGWA-113	Yes	Yes	Yes	Yes	Yes
HGWC-101	Yes	Yes	Yes	Yes	Yes
HGWC-102	Yes	Yes	Yes	Yes	Yes
HGWC-103	Yes	Yes	Yes	Yes	Yes
HGWC-105	Yes	Yes	Yes	Yes	Yes
HGWC-107	Yes	Yes	Yes	Yes	Yes
HGWC-109	Yes	Yes	Yes	Yes	Yes
HGWC-117A	Yes	Yes	Yes	Yes	Yes
HGWC-118	Yes	Yes	Yes	Yes	Yes
GWC-4	Yes	Yes	Yes	Yes	Yes
GWC-6	Yes	Yes	Yes	Yes	Yes
GWC-8	Yes	Yes	Yes	Yes	Yes
GWA-14	Yes	Yes	Yes	Yes	Yes
GWA-15	Yes	Yes	Yes	Yes	Yes
GWC-16	Yes	Yes	Yes	Yes	Yes
GWC-19	Yes	Yes	Yes	Yes	Yes
MW-12	Yes	Yes	Yes	Yes	Yes

Well Inspection

Site Name: Plant Hammond AP-4

Date: 08/07/2023

Permit Number: 057-025D (CCR)

Field Conditions: Sunny, 70° F

Well ID:	Surface Pad			Internal Casing		
	Good condition (not cracked/ broken)	Sloped away from the protective casing	In complete contact with the ground surface and stable	Cap prevents entry of foreign material into the well	Free of kinks/bends, or any obstructions from foreign objects (such as bailers)	Properly vented for equilibration of air pressure
HGWA-47	Yes	Yes	Yes	Yes	Yes	Yes
HGWA-48D	Yes	Yes	Yes	Yes	Yes	Yes
HGWA-111	Yes	Yes	Yes	Yes	Yes	Yes
HGWA-112	Yes	Yes	Yes	Yes	Yes	Yes
HGWA-113	Yes	Yes	Yes	Yes	Yes	Yes
HGWC-101	Yes	Yes	Yes	Yes	Yes	Yes
HGWC-102	Yes	Yes	Yes	Yes	Yes	Yes
HGWC-103	Yes	Yes	Yes	Yes	Yes	Yes
HGWC-105	Yes	Yes	Yes	Yes	Yes	Yes
HGWC-107	Yes	Yes	Yes	Yes	Yes	Yes
HGWC-109	Yes	Yes	Yes	Yes	Yes	Yes
HGWC-117A	Yes	Yes	Yes	Yes	Yes	Yes
HGWC-118	Yes	Yes	Yes	Yes	Yes	Yes
GWC-4	Yes	Yes	Yes	Yes	Yes	Yes
GWC-6	Yes	Yes	Yes	Yes	Yes	Yes
GWC-8	Yes	Yes	Yes	Yes	Yes	Yes
GWA-14	Yes	Yes	Yes	Yes	Yes	Yes
GWA-15	Yes	Yes	Yes	Yes	Yes	Yes
GWC-16	Yes	Yes	Yes	Yes	Yes	Yes
GWC-19	Yes	Yes	Yes	Yes	Yes	Yes
MW-12	Yes	Yes	Yes	Yes	Yes	Yes

Well Inspection

Site Name: Plant Hammond AP-4

Date: 08/07/2023

Permit Number: 057-025D (CCR)

Field Conditions: Sunny, 70° F

Well ID:	Corrective actions as needed, by date:
HGWA-47	N/A
HGWA-48D	N/A
HGWA-111	N/A
HGWA-112	N/A
HGWA-113	N/A
HGWC-101	N/A
HGWC-102	N/A
HGWC-103	N/A
HGWC-105	N/A
HGWC-107	N/A
HGWC-109	N/A
HGWC-117A	N/A
HGWC-118	N/A
GWC-4	N/A
GWC-6	N/A
GWC-8	N/A
GWA-14	N/A
GWA-15	N/A
GWC-16	N/A
GWC-19	N/A
MW-12	N/A

APPENDIX B

Laboratory Analytical and Field Sampling Reports

LABORATORY ANALYTICAL RESULTS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

August 25, 2023

Kristen Jurinko
Southern Company
241 Ralph McGill Blvd NE
Bin 10160
Atlanta, GA 30308

RE: Project: Hammond AP-4
Pace Project No.: 92681884

Dear Kristen Jurinko:

Enclosed are the analytical results for sample(s) received by the laboratory between August 09, 2023 and August 14, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

Bonnie Vang
bonnie.vang@pacelabs.com
(704)875-9092
Project Manager

Enclosures

cc: Kip Gray, Geosyntec
Christine Hug, Geosyntec Consultants, Inc.
Whitney Law, Geosyntec Consultants
Laura Midkiff, Southern Company
Caroline Nelson, Geosyntec

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: Hammond AP-4
Pace Project No.: 92681884

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Laboratory ID: 99030
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE SUMMARY

Project: Hammond AP-4
Pace Project No.: 92681884

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92681884001	**HAM-HGWA-47**	Water	08/08/23 16:25	08/09/23 11:40
92681884002	**HAM-HGWA-48D**	Water	08/08/23 17:37	08/09/23 11:40
92681884003	**HAM-HGWA-111**	Water	08/08/23 18:53	08/09/23 11:40
92681884004	**HAM-HGWA-112**	Water	08/08/23 17:35	08/09/23 11:40
92682576001	**HAM-HGWC-101**	Water	08/11/23 11:55	08/14/23 11:15
92682576002	**HAM-HGWC-102**	Water	08/11/23 16:25	08/14/23 11:15
92682576003	**HAM-HGWC-103**	Water	08/11/23 14:25	08/14/23 11:15
92682576004	**HAM-HGWC-105**	Water	08/11/23 11:02	08/14/23 11:15
92682576005	**HAM-HGWC-107**	Water	08/11/23 14:40	08/14/23 11:15
92682576006	**HAM-HGWC-109**	Water	08/11/23 11:32	08/14/23 11:15
92682576007	**HAM-HGWC-117A**	Water	08/11/23 16:50	08/14/23 11:15
92682576008	**HAM-HGWC-118**	Water	08/11/23 15:09	08/14/23 11:15
92682576009	**HAM-AP4-EB-04**	Water	08/11/23 16:45	08/14/23 11:15
92682576010	**HAM-AP4-FB-04**	Water	08/11/23 16:40	08/14/23 11:15
92682576011	**HAM-AP4-FD-04**	Water	08/11/23 00:00	08/14/23 11:15
92682392001	**HAM-HGWA-113**	Water	08/10/23 16:22	08/11/23 13:12

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: Hammond AP-4
Pace Project No.: 92681884

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92681884001	**HAM-HGWA-47**	EPA 6010D	MS	6
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	DL1	1
		SM 2320B-2011	SMS	3
		SM 4500-S2D-2011	JP1	1
		EPA 300.0 Rev 2.1 1993	JCM	3
92681884002	**HAM-HGWA-48D**	EPA 6010D	MS	6
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	DL1	1
		SM 2320B-2011	SMS	3
		SM 4500-S2D-2011	JP1	1
		EPA 300.0 Rev 2.1 1993	JCM	3
92681884003	**HAM-HGWA-111**	EPA 6010D	MS	6
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	DL1	1
		SM 2320B-2011	SMS	3
		SM 4500-S2D-2011	JP1	1
		EPA 300.0 Rev 2.1 1993	JCM	3
92681884004	**HAM-HGWA-112**	EPA 6010D	MS	6
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	DL1	1
		SM 2320B-2011	SMS	3
		SM 4500-S2D-2011	JP1	1
		EPA 300.0 Rev 2.1 1993	JCM	3
92682576001	**HAM-HGWC-101**	EPA 6010D	DRB, MS	6
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	DL1	1
		SM 2320B-2011	SMS	3
		SM 4500-S2D-2011	JP1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92682576002	**HAM-HGWC-102**	EPA 6010D	DRB, MS	6
		EPA 6020B	CW1	13

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: Hammond AP-4
Pace Project No.: 92681884

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 7470A	VB	1
		SM 2540C-2015	DL1	1
		SM 2320B-2011	SMS	3
		SM 4500-S2D-2011	JP1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92682576003	**HAM-HGWC-103**	EPA 6010D	DRB, MS	6
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	DL1	1
		SM 2320B-2011	SMS	3
		SM 4500-S2D-2011	JP1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92682576004	**HAM-HGWC-105**	EPA 6010D	DRB, MS	6
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	DL1	1
		SM 2320B-2011	SMS	3
		SM 4500-S2D-2011	JP1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92682576005	**HAM-HGWC-107**	EPA 6010D	DRB, MS	6
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	DL1	1
		SM 2320B-2011	SMS	3
		SM 4500-S2D-2011	JP1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92682576006	**HAM-HGWC-109**	EPA 6010D	DRB, MS	6
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	DL1	1
		SM 2320B-2011	SMS	3
		SM 4500-S2D-2011	JP1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92682576007	**HAM-HGWC-117A**	EPA 6010D	DRB, MS	6
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	DL1	1

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: Hammond AP-4
Pace Project No.: 92681884

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		SM 2320B-2011	SMS	3
		SM 4500-S2D-2011	JP1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92682576008	**HAM-HGWC-118**	EPA 6010D	DRB, MS	6
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	DL1	1
		SM 2320B-2011	SMS	3
		SM 4500-S2D-2011	JP1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92682576009	**HAM-AP4-EB-04**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	DL1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92682576010	**HAM-AP4-FB-04**	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	DL1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92682576011	**HAM-AP4-FD-04**	EPA 6010D	DRB, MS	6
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	DL1	1
		SM 2320B-2011	SMS	3
		SM 4500-S2D-2011	JP1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92682392001	**HAM-HGWA-113**	EPA 6010D	DRB	6
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	DL1	1
		SM 2320B-2011	SMS	3
		SM 4500-S2D-2011	JP1	1
		EPA 300.0 Rev 2.1 1993	JCM	3

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SUMMARY OF DETECTION

Project: Hammond AP-4
Pace Project No.: 92681884

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92681884001	**HAM-HGWA-47**					
EPA 6010D	Iron	0.033J	mg/L	0.040	08/12/23 06:04	
EPA 6010D	Manganese	0.025J	mg/L	0.040	08/12/23 06:04	
EPA 6010D	Potassium	0.47J	mg/L	0.50	08/12/23 06:04	
EPA 6010D	Sodium	3.6	mg/L	1.0	08/12/23 06:04	
EPA 6010D	Calcium	68.0	mg/L	1.0	08/12/23 06:04	
EPA 6010D	Magnesium	5.5	mg/L	0.050	08/12/23 06:04	
EPA 6020B	Barium	0.026	mg/L	0.0050	08/17/23 20:14	
EPA 6020B	Lithium	0.0029J	mg/L	0.030	08/17/23 20:14	
SM 2540C-2015	Total Dissolved Solids	214	mg/L	25.0	08/11/23 13:59	D6
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	212	mg/L	5.0	08/15/23 21:01	
SM 2320B-2011	Alkalinity, Total as CaCO3	212	mg/L	5.0	08/15/23 21:01	
EPA 300.0 Rev 2.1 1993	Chloride	2.7	mg/L	1.0	08/12/23 18:55	
EPA 300.0 Rev 2.1 1993	Fluoride	0.072J	mg/L	0.10	08/12/23 18:55	
EPA 300.0 Rev 2.1 1993	Sulfate	2.0	mg/L	1.0	08/12/23 18:55	
92681884002	**HAM-HGWA-48D**					
EPA 6010D	Iron	0.46	mg/L	0.040	08/12/23 05:59	
EPA 6010D	Manganese	0.013J	mg/L	0.040	08/12/23 05:59	
EPA 6010D	Potassium	0.63	mg/L	0.50	08/12/23 05:59	
EPA 6010D	Sodium	11.6	mg/L	1.0	08/12/23 05:59	
EPA 6010D	Calcium	58.2	mg/L	1.0	08/12/23 05:59	
EPA 6010D	Magnesium	12.1	mg/L	0.050	08/12/23 05:59	
EPA 6020B	Barium	0.10	mg/L	0.0050	08/17/23 20:20	
EPA 6020B	Lithium	0.0040J	mg/L	0.030	08/17/23 20:20	
EPA 6020B	Molybdenum	0.00092J	mg/L	0.010	08/17/23 20:20	
SM 2540C-2015	Total Dissolved Solids	220	mg/L	25.0	08/11/23 14:00	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	222	mg/L	5.0	08/15/23 21:13	
SM 2320B-2011	Alkalinity, Total as CaCO3	222	mg/L	5.0	08/15/23 21:13	
SM 4500-S2D-2011	Sulfide	0.055J	mg/L	0.10	08/15/23 06:14	
EPA 300.0 Rev 2.1 1993	Chloride	2.7	mg/L	1.0	08/12/23 19:09	
EPA 300.0 Rev 2.1 1993	Fluoride	0.091J	mg/L	0.10	08/12/23 19:09	
EPA 300.0 Rev 2.1 1993	Sulfate	2.9	mg/L	1.0	08/12/23 19:09	
92681884003	**HAM-HGWA-111**					
EPA 6010D	Manganese	0.040	mg/L	0.040	08/12/23 05:54	
EPA 6010D	Potassium	0.47J	mg/L	0.50	08/12/23 05:54	
EPA 6010D	Sodium	3.4	mg/L	1.0	08/12/23 05:54	
EPA 6010D	Calcium	0.94J	mg/L	1.0	08/12/23 05:54	
EPA 6010D	Magnesium	0.46	mg/L	0.050	08/12/23 05:54	
EPA 6020B	Barium	0.027	mg/L	0.0050	08/18/23 19:55	
EPA 6020B	Lithium	0.0018J	mg/L	0.030	08/17/23 20:26	
SM 2540C-2015	Total Dissolved Solids	207	mg/L	25.0	08/11/23 14:00	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	152	mg/L	5.0	08/15/23 21:26	
SM 2320B-2011	Alkalinity, Total as CaCO3	152	mg/L	5.0	08/15/23 21:26	
EPA 300.0 Rev 2.1 1993	Chloride	3.0	mg/L	1.0	08/12/23 19:24	
EPA 300.0 Rev 2.1 1993	Fluoride	0.076J	mg/L	0.10	08/12/23 19:24	
EPA 300.0 Rev 2.1 1993	Sulfate	1.5	mg/L	1.0	08/12/23 19:24	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SUMMARY OF DETECTION

Project: Hammond AP-4
Pace Project No.: 92681884

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92681884004	**HAM-HGWA-112**					
EPA 6010D	Iron	0.11	mg/L	0.040	08/12/23 06:09	
EPA 6010D	Potassium	0.87	mg/L	0.50	08/12/23 06:09	
EPA 6010D	Sodium	3.6	mg/L	1.0	08/12/23 06:09	
EPA 6010D	Calcium	6.6	mg/L	1.0	08/12/23 06:09	
EPA 6010D	Magnesium	2.6	mg/L	0.050	08/12/23 06:09	
EPA 6020B	Barium	0.025	mg/L	0.0050	08/17/23 20:32	
EPA 6020B	Chromium	0.0037J	mg/L	0.0050	08/17/23 20:32	
SM 2540C-2015	Total Dissolved Solids	57.0	mg/L	25.0	08/11/23 14:00	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	24.7	mg/L	5.0	08/15/23 21:36	
SM 2320B-2011	Alkalinity, Total as CaCO3	24.7	mg/L	5.0	08/15/23 21:36	
EPA 300.0 Rev 2.1 1993	Chloride	5.1	mg/L	1.0	08/12/23 19:39	
EPA 300.0 Rev 2.1 1993	Fluoride	0.050J	mg/L	0.10	08/12/23 19:39	
EPA 300.0 Rev 2.1 1993	Sulfate	0.71J	mg/L	1.0	08/12/23 19:39	
92682576001	**HAM-HGWC-101**					
EPA 6010D	Manganese	2.4	mg/L	0.040	08/17/23 22:49	
EPA 6010D	Potassium	0.75	mg/L	0.50	08/17/23 22:49	
EPA 6010D	Sodium	12.3	mg/L	1.0	08/17/23 22:49	
EPA 6010D	Magnesium	11.6	mg/L	0.050	08/17/23 22:49	
EPA 6010D	Iron	5.4	mg/L	0.040	08/18/23 17:58	
EPA 6010D	Calcium	24.1	mg/L	1.0	08/18/23 17:58	
EPA 6020B	Barium	0.036	mg/L	0.0050	08/22/23 15:18	
EPA 6020B	Beryllium	0.000070J	mg/L	0.00050	08/22/23 15:18	
EPA 6020B	Boron	0.16	mg/L	0.040	08/22/23 15:18	
EPA 6020B	Cadmium	0.00015J	mg/L	0.00050	08/22/23 15:18	
EPA 6020B	Cobalt	0.0028J	mg/L	0.0050	08/22/23 15:18	
SM 2540C-2015	Total Dissolved Solids	250	mg/L	25.0	08/17/23 11:12	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	21.9	mg/L	5.0	08/17/23 18:05	
SM 2320B-2011	Alkalinity, Total as CaCO3	21.9	mg/L	5.0	08/17/23 18:05	
EPA 300.0 Rev 2.1 1993	Chloride	4.9	mg/L	1.0	08/15/23 14:01	
EPA 300.0 Rev 2.1 1993	Sulfate	102	mg/L	2.0	08/16/23 04:49	
92682576002	**HAM-HGWC-102**					
EPA 6010D	Manganese	2.1	mg/L	0.040	08/17/23 22:53	
EPA 6010D	Potassium	3.2	mg/L	0.50	08/17/23 22:53	
EPA 6010D	Sodium	18.9	mg/L	1.0	08/17/23 22:53	
EPA 6010D	Magnesium	32.4	mg/L	0.050	08/17/23 22:53	
EPA 6010D	Iron	1.8	mg/L	0.040	08/18/23 18:03	
EPA 6010D	Calcium	134	mg/L	1.0	08/18/23 18:03	
EPA 6020B	Antimony	0.0030	mg/L	0.0030	08/22/23 15:42	
EPA 6020B	Barium	0.028	mg/L	0.0050	08/22/23 15:42	
EPA 6020B	Boron	3.2	mg/L	0.040	08/22/23 15:42	
EPA 6020B	Cadmium	0.00067	mg/L	0.00050	08/22/23 15:42	
EPA 6020B	Cobalt	0.0010J	mg/L	0.0050	08/22/23 15:42	
EPA 6020B	Lithium	0.0013J	mg/L	0.030	08/22/23 15:42	
SM 2540C-2015	Total Dissolved Solids	785	mg/L	25.0	08/17/23 11:12	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	111	mg/L	5.0	08/17/23 18:11	
SM 2320B-2011	Alkalinity, Total as CaCO3	111	mg/L	5.0	08/17/23 18:11	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SUMMARY OF DETECTION

Project: Hammond AP-4
Pace Project No.: 92681884

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92682576002	**HAM-HGWC-102**					
EPA 300.0 Rev 2.1 1993	Chloride	6.7	mg/L	1.0	08/15/23 14:16	
EPA 300.0 Rev 2.1 1993	Sulfate	370	mg/L	7.0	08/16/23 05:04	
92682576003	**HAM-HGWC-103**					
EPA 6010D	Iron	1.6	mg/L	0.040	08/18/23 18:07	
EPA 6010D	Calcium	139	mg/L	1.0	08/18/23 18:07	
EPA 6010D	Manganese	1.9	mg/L	0.040	08/17/23 22:58	
EPA 6010D	Potassium	3.9	mg/L	0.50	08/17/23 22:58	
EPA 6010D	Sodium	23.1	mg/L	1.0	08/17/23 22:58	
EPA 6010D	Magnesium	33.2	mg/L	0.050	08/17/23 22:58	
EPA 6020B	Barium	0.035	mg/L	0.0050	08/22/23 15:48	
EPA 6020B	Boron	4.3	mg/L	0.040	08/22/23 15:48	
EPA 6020B	Cadmium	0.00070	mg/L	0.00050	08/22/23 15:48	
EPA 6020B	Cobalt	0.0019J	mg/L	0.0050	08/22/23 15:48	
EPA 6020B	Lithium	0.0014J	mg/L	0.030	08/22/23 15:48	
EPA 7470A	Mercury	0.00025	mg/L	0.00020	08/21/23 16:49	
SM 2540C-2015	Total Dissolved Solids	808	mg/L	25.0	08/17/23 11:12	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	106	mg/L	5.0	08/17/23 18:32	
SM 2320B-2011	Alkalinity, Total as CaCO3	106	mg/L	5.0	08/17/23 18:32	
EPA 300.0 Rev 2.1 1993	Chloride	7.9	mg/L	1.0	08/15/23 14:31	
EPA 300.0 Rev 2.1 1993	Sulfate	382	mg/L	8.0	08/16/23 05:18	
92682576004	**HAM-HGWC-105**					
EPA 6010D	Manganese	0.44	mg/L	0.040	08/17/23 23:03	
EPA 6010D	Potassium	1.0	mg/L	0.50	08/17/23 23:03	
EPA 6010D	Sodium	15.5	mg/L	1.0	08/17/23 23:03	
EPA 6010D	Magnesium	12.4	mg/L	0.050	08/17/23 23:03	
EPA 6010D	Iron	7.7	mg/L	0.040	08/18/23 18:12	
EPA 6010D	Calcium	129	mg/L	1.0	08/18/23 18:12	
EPA 6020B	Barium	0.089	mg/L	0.0050	08/22/23 15:54	
EPA 6020B	Boron	1.4	mg/L	0.040	08/22/23 15:54	
EPA 6020B	Cobalt	0.00047J	mg/L	0.0050	08/22/23 15:54	
EPA 6020B	Lithium	0.0044J	mg/L	0.030	08/22/23 15:54	
SM 2540C-2015	Total Dissolved Solids	630	mg/L	25.0	08/17/23 11:12	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	162	mg/L	5.0	08/17/23 18:43	
SM 2320B-2011	Alkalinity, Total as CaCO3	162	mg/L	5.0	08/17/23 18:43	M1
EPA 300.0 Rev 2.1 1993	Chloride	5.6	mg/L	1.0	08/15/23 15:15	
EPA 300.0 Rev 2.1 1993	Sulfate	237	mg/L	5.0	08/16/23 06:02	
92682576005	**HAM-HGWC-107**					
EPA 6010D	Manganese	0.22	mg/L	0.040	08/17/23 23:08	
EPA 6010D	Potassium	2.4	mg/L	0.50	08/17/23 23:08	
EPA 6010D	Sodium	7.7	mg/L	1.0	08/17/23 23:08	
EPA 6010D	Magnesium	8.5	mg/L	0.050	08/17/23 23:08	
EPA 6010D	Calcium	56.0	mg/L	1.0	08/18/23 18:17	
EPA 6020B	Barium	0.032	mg/L	0.0050	08/22/23 16:00	
EPA 6020B	Boron	0.81	mg/L	0.040	08/22/23 16:00	
EPA 6020B	Lithium	0.00083J	mg/L	0.030	08/22/23 16:00	
SM 2540C-2015	Total Dissolved Solids	296	mg/L	25.0	08/17/23 11:13	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SUMMARY OF DETECTION

Project: Hammond AP-4
Pace Project No.: 92681884

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92682576005	**HAM-HGWC-107**					
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	79.7	mg/L	5.0	08/17/23 19:10	
SM 2320B-2011	Alkalinity, Total as CaCO3	79.7	mg/L	5.0	08/17/23 19:10	
EPA 300.0 Rev 2.1 1993	Chloride	2.7	mg/L	1.0	08/15/23 15:30	
EPA 300.0 Rev 2.1 1993	Sulfate	113	mg/L	2.0	08/16/23 06:17	
92682576006	**HAM-HGWC-109**					
EPA 6010D	Manganese	0.36	mg/L	0.040	08/17/23 23:13	
EPA 6010D	Potassium	0.46J	mg/L	0.50	08/17/23 23:13	
EPA 6010D	Sodium	8.3	mg/L	1.0	08/17/23 23:13	
EPA 6010D	Magnesium	8.7	mg/L	0.050	08/17/23 23:13	
EPA 6010D	Iron	6.4	mg/L	0.040	08/18/23 18:22	
EPA 6010D	Calcium	44.8	mg/L	1.0	08/18/23 18:22	
EPA 6020B	Barium	0.081	mg/L	0.0050	08/22/23 16:26	
EPA 6020B	Boron	0.23	mg/L	0.040	08/22/23 16:26	
EPA 6020B	Cobalt	0.00077J	mg/L	0.0050	08/22/23 16:26	
EPA 6020B	Lithium	0.00076J	mg/L	0.030	08/22/23 16:26	
SM 2540C-2015	Total Dissolved Solids	205	mg/L	25.0	08/17/23 11:13	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	164	mg/L	5.0	08/17/23 20:32	
SM 2320B-2011	Alkalinity, Total as CaCO3	164	mg/L	5.0	08/17/23 20:32	
EPA 300.0 Rev 2.1 1993	Chloride	3.5	mg/L	1.0	08/15/23 15:45	
EPA 300.0 Rev 2.1 1993	Fluoride	0.086J	mg/L	0.10	08/15/23 15:45	
EPA 300.0 Rev 2.1 1993	Sulfate	19.8	mg/L	1.0	08/15/23 15:45	
92682576007	**HAM-HGWC-117A**					
EPA 6010D	Manganese	0.18	mg/L	0.040	08/17/23 23:18	
EPA 6010D	Potassium	0.56	mg/L	0.50	08/17/23 23:18	
EPA 6010D	Sodium	8.9	mg/L	1.0	08/17/23 23:18	
EPA 6010D	Magnesium	7.8	mg/L	0.050	08/17/23 23:18	
EPA 6010D	Iron	0.13	mg/L	0.040	08/18/23 18:27	
EPA 6010D	Calcium	61.1	mg/L	1.0	08/18/23 18:27	
EPA 6020B	Barium	0.046	mg/L	0.0050	08/22/23 16:32	
EPA 6020B	Boron	0.31	mg/L	0.040	08/22/23 16:32	
EPA 6020B	Cobalt	0.00078J	mg/L	0.0050	08/22/23 16:32	
EPA 6020B	Lithium	0.0041J	mg/L	0.030	08/22/23 16:32	
SM 2540C-2015	Total Dissolved Solids	280	mg/L	25.0	08/17/23 11:13	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	141	mg/L	5.0	08/17/23 20:43	
SM 2320B-2011	Alkalinity, Total as CaCO3	141	mg/L	5.0	08/17/23 20:43	
EPA 300.0 Rev 2.1 1993	Chloride	4.6	mg/L	1.0	08/15/23 16:00	
EPA 300.0 Rev 2.1 1993	Fluoride	0.057J	mg/L	0.10	08/15/23 16:00	
EPA 300.0 Rev 2.1 1993	Sulfate	67.7	mg/L	1.0	08/15/23 16:00	
92682576008	**HAM-HGWC-118**					
EPA 6010D	Manganese	0.13	mg/L	0.040	08/17/23 23:22	
EPA 6010D	Potassium	0.80	mg/L	0.50	08/17/23 23:22	
EPA 6010D	Sodium	8.8	mg/L	1.0	08/17/23 23:22	
EPA 6010D	Magnesium	10.4	mg/L	0.050	08/17/23 23:22	
EPA 6010D	Calcium	85.5	mg/L	1.0	08/18/23 18:31	
EPA 6020B	Barium	0.040	mg/L	0.0050	08/22/23 16:38	
EPA 6020B	Boron	0.66	mg/L	0.040	08/22/23 16:38	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SUMMARY OF DETECTION

Project: Hammond AP-4
Pace Project No.: 92681884

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92682576008	**HAM-HGWC-118**					
EPA 6020B	Lithium	0.0023J	mg/L	0.030	08/22/23 16:38	
SM 2540C-2015	Total Dissolved Solids	346	mg/L	25.0	08/17/23 11:13	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	217	mg/L	5.0	08/17/23 20:53	
SM 2320B-2011	Alkalinity, Total as CaCO3	217	mg/L	5.0	08/17/23 20:53	
EPA 300.0 Rev 2.1 1993	Chloride	3.8	mg/L	1.0	08/15/23 16:15	
EPA 300.0 Rev 2.1 1993	Fluoride	0.070J	mg/L	0.10	08/15/23 16:15	
EPA 300.0 Rev 2.1 1993	Sulfate	64.9	mg/L	1.0	08/15/23 16:15	M1
92682576011	**HAM-AP4-FD-04**					
EPA 6010D	Manganese	0.52	mg/L	0.040	08/17/23 23:46	
EPA 6010D	Potassium	1.0	mg/L	0.50	08/17/23 23:46	
EPA 6010D	Sodium	15.4	mg/L	1.0	08/17/23 23:46	
EPA 6010D	Magnesium	12.6	mg/L	0.050	08/17/23 23:46	
EPA 6010D	Iron	8.9	mg/L	0.040	08/18/23 18:55	
EPA 6010D	Calcium	125	mg/L	1.0	08/18/23 18:55	
EPA 6020B	Barium	0.095	mg/L	0.0050	08/22/23 16:56	
EPA 6020B	Boron	1.4	mg/L	0.040	08/22/23 16:56	
EPA 6020B	Cobalt	0.00051J	mg/L	0.0050	08/22/23 16:56	
EPA 6020B	Lithium	0.0043J	mg/L	0.030	08/22/23 16:56	
SM 2540C-2015	Total Dissolved Solids	579	mg/L	25.0	08/17/23 11:18	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	153	mg/L	5.0	08/17/23 21:14	
SM 2320B-2011	Alkalinity, Total as CaCO3	153	mg/L	5.0	08/17/23 21:14	
EPA 300.0 Rev 2.1 1993	Chloride	5.8	mg/L	1.0	08/15/23 17:29	
EPA 300.0 Rev 2.1 1993	Sulfate	226	mg/L	5.0	08/16/23 07:01	
92682392001	**HAM-HGWA-113**					
EPA 6010D	Potassium	0.32J	mg/L	0.50	08/18/23 19:10	
EPA 6010D	Sodium	9.5	mg/L	1.0	08/18/23 19:10	M1
EPA 6010D	Calcium	8.4	mg/L	1.0	08/18/23 19:10	M1
EPA 6010D	Magnesium	3.4	mg/L	0.050	08/18/23 19:10	M1
EPA 6020B	Barium	0.028	mg/L	0.0050	08/22/23 19:35	
EPA 6020B	Boron	0.0091J	mg/L	0.040	08/22/23 19:35	
EPA 6020B	Chromium	0.0019J	mg/L	0.0050	08/23/23 16:58	
EPA 6020B	Lithium	0.0010J	mg/L	0.030	08/22/23 19:35	
EPA 6020B	Selenium	0.0027J	mg/L	0.0050	08/22/23 19:35	
SM 2540C-2015	Total Dissolved Solids	80.0	mg/L	25.0	08/16/23 14:47	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	40.3	mg/L	5.0	08/16/23 20:04	
SM 2320B-2011	Alkalinity, Total as CaCO3	40.3	mg/L	5.0	08/16/23 20:04	
EPA 300.0 Rev 2.1 1993	Chloride	1.6	mg/L	1.0	08/12/23 17:02	
EPA 300.0 Rev 2.1 1993	Fluoride	0.19	mg/L	0.10	08/12/23 17:02	
EPA 300.0 Rev 2.1 1993	Sulfate	5.1	mg/L	1.0	08/12/23 17:02	

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWA-47 **Lab ID: 92681884001** Collected: 08/08/23 16:25 Received: 08/09/23 11:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Iron	**0.033J**	mg/L	0.040	0.025	1	08/11/23 14:21	08/12/23 06:04	7439-89-6	
Manganese	**0.025J**	mg/L	0.040	0.011	1	08/11/23 14:21	08/12/23 06:04	7439-96-5	
Potassium	**0.47J**	mg/L	0.50	0.15	1	08/11/23 14:21	08/12/23 06:04	7440-09-7	
Sodium	**3.6**	mg/L	1.0	0.58	1	08/11/23 14:21	08/12/23 06:04	7440-23-5	
Calcium	**68.0**	mg/L	1.0	0.12	1	08/11/23 14:21	08/12/23 06:04	7440-70-2	
Magnesium	**5.5**	mg/L	0.050	0.012	1	08/11/23 14:21	08/12/23 06:04	7439-95-4	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.0012	1	08/12/23 12:00	08/17/23 20:14	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/12/23 12:00	08/17/23 20:14	7440-38-2	
Barium	**0.026**	mg/L	0.0050	0.00067	1	08/12/23 12:00	08/17/23 20:14	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/12/23 12:00	08/17/23 20:14	7440-41-7	
Boron	ND	mg/L	0.040	0.0086	1	08/12/23 12:00	08/17/23 20:14	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/12/23 12:00	08/17/23 20:14	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/12/23 12:00	08/17/23 20:14	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/12/23 12:00	08/17/23 20:14	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/12/23 12:00	08/17/23 20:14	7439-92-1	
Lithium	**0.0029J**	mg/L	0.030	0.00073	1	08/12/23 12:00	08/17/23 20:14	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/12/23 12:00	08/17/23 20:14	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/12/23 12:00	08/17/23 20:14	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/12/23 12:00	08/17/23 20:14	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.00013	1	08/15/23 11:30	08/15/23 15:48	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**214**	mg/L	25.0	25.0	1		08/11/23 13:59		D6
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**212**	mg/L	5.0	5.0	1		08/15/23 21:01		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/15/23 21:01		
Alkalinity, Total as CaCO3	**212**	mg/L	5.0	5.0	1		08/15/23 21:01		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.022	1		08/15/23 06:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**2.7**	mg/L	1.0	0.60	1		08/12/23 18:55	16887-00-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWA-47 **Lab ID: 92681884001** Collected: 08/08/23 16:25 Received: 08/09/23 11:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	**0.072J**	mg/L	0.10	0.050	1		08/12/23 18:55	16984-48-8	
Sulfate	**2.0**	mg/L	1.0	0.50	1		08/12/23 18:55	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWA-48D **Lab ID: 92681884002** Collected: 08/08/23 17:37 Received: 08/09/23 11:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Iron	**0.46**	mg/L	0.040	0.025	1	08/11/23 14:21	08/12/23 05:59	7439-89-6	
Manganese	**0.013J**	mg/L	0.040	0.011	1	08/11/23 14:21	08/12/23 05:59	7439-96-5	
Potassium	**0.63**	mg/L	0.50	0.15	1	08/11/23 14:21	08/12/23 05:59	7440-09-7	
Sodium	**11.6**	mg/L	1.0	0.58	1	08/11/23 14:21	08/12/23 05:59	7440-23-5	
Calcium	**58.2**	mg/L	1.0	0.12	1	08/11/23 14:21	08/12/23 05:59	7440-70-2	
Magnesium	**12.1**	mg/L	0.050	0.012	1	08/11/23 14:21	08/12/23 05:59	7439-95-4	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.0012	1	08/12/23 12:00	08/17/23 20:20	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/12/23 12:00	08/17/23 20:20	7440-38-2	
Barium	**0.10**	mg/L	0.0050	0.00067	1	08/12/23 12:00	08/17/23 20:20	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/12/23 12:00	08/17/23 20:20	7440-41-7	
Boron	ND	mg/L	0.040	0.0086	1	08/12/23 12:00	08/17/23 20:20	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/12/23 12:00	08/17/23 20:20	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/12/23 12:00	08/17/23 20:20	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/12/23 12:00	08/17/23 20:20	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/12/23 12:00	08/17/23 20:20	7439-92-1	
Lithium	**0.0040J**	mg/L	0.030	0.00073	1	08/12/23 12:00	08/17/23 20:20	7439-93-2	
Molybdenum	**0.00092J**	mg/L	0.010	0.00074	1	08/12/23 12:00	08/17/23 20:20	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/12/23 12:00	08/17/23 20:20	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/12/23 12:00	08/17/23 20:20	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.00013	1	08/15/23 11:30	08/15/23 15:51	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**220**	mg/L	25.0	25.0	1		08/11/23 14:00		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**222**	mg/L	5.0	5.0	1		08/15/23 21:13		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/15/23 21:13		
Alkalinity, Total as CaCO3	**222**	mg/L	5.0	5.0	1		08/15/23 21:13		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	**0.055J**	mg/L	0.10	0.022	1		08/15/23 06:14	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**2.7**	mg/L	1.0	0.60	1		08/12/23 19:09	16887-00-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWA-48D **Lab ID: 92681884002** Collected: 08/08/23 17:37 Received: 08/09/23 11:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	**0.091J**	mg/L	0.10	0.050	1		08/12/23 19:09	16984-48-8	
Sulfate	**2.9**	mg/L	1.0	0.50	1		08/12/23 19:09	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWA-111 **Lab ID: 92681884003** Collected: 08/08/23 18:53 Received: 08/09/23 11:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Iron	ND	mg/L	0.040	0.025	1	08/11/23 14:21	08/12/23 05:54	7439-89-6	
Manganese	**0.040**	mg/L	0.040	0.011	1	08/11/23 14:21	08/12/23 05:54	7439-96-5	
Potassium	**0.47J**	mg/L	0.50	0.15	1	08/11/23 14:21	08/12/23 05:54	7440-09-7	
Sodium	**3.4**	mg/L	1.0	0.58	1	08/11/23 14:21	08/12/23 05:54	7440-23-5	
Calcium	**0.94J**	mg/L	1.0	0.12	1	08/11/23 14:21	08/12/23 05:54	7440-70-2	
Magnesium	**0.46**	mg/L	0.050	0.012	1	08/11/23 14:21	08/12/23 05:54	7439-95-4	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.0012	1	08/12/23 12:00	08/18/23 19:55	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/12/23 12:00	08/17/23 20:26	7440-38-2	
Barium	**0.027**	mg/L	0.0050	0.00067	1	08/12/23 12:00	08/18/23 19:55	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/12/23 12:00	08/17/23 20:26	7440-41-7	
Boron	ND	mg/L	0.040	0.0086	1	08/12/23 12:00	08/17/23 20:26	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/12/23 12:00	08/18/23 19:55	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/12/23 12:00	08/17/23 20:26	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/12/23 12:00	08/17/23 20:26	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/12/23 12:00	08/17/23 20:26	7439-92-1	
Lithium	**0.0018J**	mg/L	0.030	0.00073	1	08/12/23 12:00	08/17/23 20:26	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/12/23 12:00	08/18/23 19:55	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/12/23 12:00	08/17/23 20:26	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/12/23 12:00	08/17/23 20:26	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.00013	1	08/15/23 11:30	08/15/23 15:53	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**207**	mg/L	25.0	25.0	1		08/11/23 14:00		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**152**	mg/L	5.0	5.0	1		08/15/23 21:26		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/15/23 21:26		
Alkalinity, Total as CaCO3	**152**	mg/L	5.0	5.0	1		08/15/23 21:26		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.022	1		08/15/23 06:14	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**3.0**	mg/L	1.0	0.60	1		08/12/23 19:24	16887-00-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWA-111 **Lab ID: 92681884003** Collected: 08/08/23 18:53 Received: 08/09/23 11:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	**0.076J**	mg/L	0.10	0.050	1		08/12/23 19:24	16984-48-8	
Sulfate	**1.5**	mg/L	1.0	0.50	1		08/12/23 19:24	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWA-112 **Lab ID: 92681884004** Collected: 08/08/23 17:35 Received: 08/09/23 11:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Iron	**0.11**	mg/L	0.040	0.025	1	08/11/23 14:21	08/12/23 06:09	7439-89-6	
Manganese	ND	mg/L	0.040	0.011	1	08/11/23 14:21	08/12/23 06:09	7439-96-5	
Potassium	**0.87**	mg/L	0.50	0.15	1	08/11/23 14:21	08/12/23 06:09	7440-09-7	
Sodium	**3.6**	mg/L	1.0	0.58	1	08/11/23 14:21	08/12/23 06:09	7440-23-5	
Calcium	**6.6**	mg/L	1.0	0.12	1	08/11/23 14:21	08/12/23 06:09	7440-70-2	
Magnesium	**2.6**	mg/L	0.050	0.012	1	08/11/23 14:21	08/12/23 06:09	7439-95-4	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.0012	1	08/12/23 12:00	08/17/23 20:32	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/12/23 12:00	08/17/23 20:32	7440-38-2	
Barium	**0.025**	mg/L	0.0050	0.00067	1	08/12/23 12:00	08/17/23 20:32	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/12/23 12:00	08/17/23 20:32	7440-41-7	
Boron	ND	mg/L	0.040	0.0086	1	08/12/23 12:00	08/17/23 20:32	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/12/23 12:00	08/17/23 20:32	7440-43-9	
Chromium	**0.0037J**	mg/L	0.0050	0.0011	1	08/12/23 12:00	08/17/23 20:32	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/12/23 12:00	08/17/23 20:32	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/12/23 12:00	08/17/23 20:32	7439-92-1	
Lithium	ND	mg/L	0.030	0.00073	1	08/12/23 12:00	08/17/23 20:32	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/12/23 12:00	08/17/23 20:32	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/12/23 12:00	08/17/23 20:32	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/12/23 12:00	08/17/23 20:32	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.00013	1	08/15/23 11:30	08/15/23 15:56	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**57.0**	mg/L	25.0	25.0	1		08/11/23 14:00		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**24.7**	mg/L	5.0	5.0	1		08/15/23 21:36		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/15/23 21:36		
Alkalinity, Total as CaCO3	**24.7**	mg/L	5.0	5.0	1		08/15/23 21:36		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.022	1		08/15/23 06:14	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5.1**	mg/L	1.0	0.60	1		08/12/23 19:39	16887-00-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWA-112 **Lab ID: 92681884004** Collected: 08/08/23 17:35 Received: 08/09/23 11:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	**0.050J**	mg/L	0.10	0.050	1		08/12/23 19:39	16984-48-8	
Sulfate	**0.71J**	mg/L	1.0	0.50	1		08/12/23 19:39	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWC-101 **Lab ID: 92682576001** Collected: 08/11/23 11:55 Received: 08/14/23 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Manganese	**2.4**	mg/L	0.040	0.011	1	08/16/23 11:06	08/17/23 22:49	7439-96-5	
Potassium	**0.75**	mg/L	0.50	0.15	1	08/16/23 11:06	08/17/23 22:49	7440-09-7	
Sodium	**12.3**	mg/L	1.0	0.58	1	08/16/23 11:06	08/17/23 22:49	7440-23-5	
Magnesium	**11.6**	mg/L	0.050	0.012	1	08/16/23 11:06	08/17/23 22:49	7439-95-4	
Iron	**5.4**	mg/L	0.040	0.025	1	08/16/23 11:06	08/18/23 17:58	7439-89-6	
Calcium	**24.1**	mg/L	1.0	0.12	1	08/16/23 11:06	08/18/23 17:58	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.0012	1	08/17/23 11:45	08/22/23 15:18	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/17/23 11:45	08/22/23 15:18	7440-38-2	
Barium	**0.036**	mg/L	0.0050	0.00067	1	08/17/23 11:45	08/22/23 15:18	7440-39-3	
Beryllium	**0.000070J**	mg/L	0.00050	0.000054	1	08/17/23 11:45	08/22/23 15:18	7440-41-7	
Boron	**0.16**	mg/L	0.040	0.0086	1	08/17/23 11:45	08/22/23 15:18	7440-42-8	
Cadmium	**0.00015J**	mg/L	0.00050	0.00011	1	08/17/23 11:45	08/22/23 15:18	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/17/23 11:45	08/22/23 15:18	7440-47-3	
Cobalt	**0.0028J**	mg/L	0.0050	0.00039	1	08/17/23 11:45	08/22/23 15:18	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/17/23 11:45	08/22/23 15:18	7439-92-1	
Lithium	ND	mg/L	0.030	0.00073	1	08/17/23 11:45	08/22/23 15:18	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/17/23 11:45	08/22/23 15:18	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/17/23 11:45	08/22/23 15:18	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/17/23 11:45	08/22/23 15:18	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.00013	1	08/21/23 14:15	08/21/23 16:30	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**250**	mg/L	25.0	25.0	1		08/17/23 11:12		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**21.9**	mg/L	5.0	5.0	1		08/17/23 18:05		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/17/23 18:05		
Alkalinity, Total as CaCO3	**21.9**	mg/L	5.0	5.0	1		08/17/23 18:05		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.022	1		08/15/23 06:50	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**4.9**	mg/L	1.0	0.60	1		08/15/23 14:01	16887-00-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWC-101 **Lab ID: 92682576001** Collected: 08/11/23 11:55 Received: 08/14/23 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	ND	mg/L	0.10	0.050	1		08/15/23 14:01	16984-48-8	
Sulfate	**102**	mg/L	2.0	1.0	2		08/16/23 04:49	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWC-102 **Lab ID: 92682576002** Collected: 08/11/23 16:25 Received: 08/14/23 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Manganese	**2.1**	mg/L	0.040	0.011	1	08/16/23 11:06	08/17/23 22:53	7439-96-5	
Potassium	**3.2**	mg/L	0.50	0.15	1	08/16/23 11:06	08/17/23 22:53	7440-09-7	
Sodium	**18.9**	mg/L	1.0	0.58	1	08/16/23 11:06	08/17/23 22:53	7440-23-5	
Magnesium	**32.4**	mg/L	0.050	0.012	1	08/16/23 11:06	08/17/23 22:53	7439-95-4	
Iron	**1.8**	mg/L	0.040	0.025	1	08/16/23 11:06	08/18/23 18:03	7439-89-6	
Calcium	**134**	mg/L	1.0	0.12	1	08/16/23 11:06	08/18/23 18:03	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.0030**	mg/L	0.0030	0.0012	1	08/17/23 11:45	08/22/23 15:42	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/17/23 11:45	08/22/23 15:42	7440-38-2	
Barium	**0.028**	mg/L	0.0050	0.00067	1	08/17/23 11:45	08/22/23 15:42	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/17/23 11:45	08/22/23 15:42	7440-41-7	
Boron	**3.2**	mg/L	0.040	0.0086	1	08/17/23 11:45	08/22/23 15:42	7440-42-8	
Cadmium	**0.00067**	mg/L	0.00050	0.00011	1	08/17/23 11:45	08/22/23 15:42	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/17/23 11:45	08/22/23 15:42	7440-47-3	
Cobalt	**0.0010J**	mg/L	0.0050	0.00039	1	08/17/23 11:45	08/22/23 15:42	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/17/23 11:45	08/22/23 15:42	7439-92-1	
Lithium	**0.0013J**	mg/L	0.030	0.00073	1	08/17/23 11:45	08/22/23 15:42	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/17/23 11:45	08/22/23 15:42	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/17/23 11:45	08/22/23 15:42	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/17/23 11:45	08/22/23 15:42	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.00013	1	08/21/23 14:15	08/21/23 16:33	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**785**	mg/L	25.0	25.0	1		08/17/23 11:12		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**111**	mg/L	5.0	5.0	1		08/17/23 18:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/17/23 18:11		
Alkalinity, Total as CaCO3	**111**	mg/L	5.0	5.0	1		08/17/23 18:11		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.022	1		08/15/23 06:51	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**6.7**	mg/L	1.0	0.60	1		08/15/23 14:16	16887-00-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWC-102 **Lab ID: 92682576002** Collected: 08/11/23 16:25 Received: 08/14/23 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	ND	mg/L	0.10	0.050	1		08/15/23 14:16	16984-48-8	
Sulfate	**370**	mg/L	7.0	3.5	7		08/16/23 05:04	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWC-103 **Lab ID: 92682576003** Collected: 08/11/23 14:25 Received: 08/14/23 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Iron	**1.6**	mg/L	0.040	0.025	1	08/16/23 11:06	08/18/23 18:07	7439-89-6	
Calcium	**139**	mg/L	1.0	0.12	1	08/16/23 11:06	08/18/23 18:07	7440-70-2	
Manganese	**1.9**	mg/L	0.040	0.011	1	08/16/23 11:06	08/17/23 22:58	7439-96-5	
Potassium	**3.9**	mg/L	0.50	0.15	1	08/16/23 11:06	08/17/23 22:58	7440-09-7	
Sodium	**23.1**	mg/L	1.0	0.58	1	08/16/23 11:06	08/17/23 22:58	7440-23-5	
Magnesium	**33.2**	mg/L	0.050	0.012	1	08/16/23 11:06	08/17/23 22:58	7439-95-4	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.0012	1	08/17/23 11:45	08/22/23 15:48	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/17/23 11:45	08/22/23 15:48	7440-38-2	
Barium	**0.035**	mg/L	0.0050	0.00067	1	08/17/23 11:45	08/22/23 15:48	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/17/23 11:45	08/22/23 15:48	7440-41-7	
Boron	**4.3**	mg/L	0.040	0.0086	1	08/17/23 11:45	08/22/23 15:48	7440-42-8	
Cadmium	**0.00070**	mg/L	0.00050	0.00011	1	08/17/23 11:45	08/22/23 15:48	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/17/23 11:45	08/22/23 15:48	7440-47-3	
Cobalt	**0.0019J**	mg/L	0.0050	0.00039	1	08/17/23 11:45	08/22/23 15:48	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/17/23 11:45	08/22/23 15:48	7439-92-1	
Lithium	**0.0014J**	mg/L	0.030	0.00073	1	08/17/23 11:45	08/22/23 15:48	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/17/23 11:45	08/22/23 15:48	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/17/23 11:45	08/22/23 15:48	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/17/23 11:45	08/22/23 15:48	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	**0.00025**	mg/L	0.00020	0.00013	1	08/21/23 14:15	08/21/23 16:49	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**808**	mg/L	25.0	25.0	1		08/17/23 11:12		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**106**	mg/L	5.0	5.0	1		08/17/23 18:32		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/17/23 18:32		
Alkalinity, Total as CaCO3	**106**	mg/L	5.0	5.0	1		08/17/23 18:32		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.022	1		08/15/23 06:51	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**7.9**	mg/L	1.0	0.60	1		08/15/23 14:31	16887-00-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWC-103 **Lab ID: 92682576003** Collected: 08/11/23 14:25 Received: 08/14/23 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	ND	mg/L	0.10	0.050	1		08/15/23 14:31	16984-48-8	
Sulfate	**382**	mg/L	8.0	4.0	8		08/16/23 05:18	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWC-105 **Lab ID: 92682576004** Collected: 08/11/23 11:02 Received: 08/14/23 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Manganese	**0.44**	mg/L	0.040	0.011	1	08/16/23 11:06	08/17/23 23:03	7439-96-5	
Potassium	**1.0**	mg/L	0.50	0.15	1	08/16/23 11:06	08/17/23 23:03	7440-09-7	
Sodium	**15.5**	mg/L	1.0	0.58	1	08/16/23 11:06	08/17/23 23:03	7440-23-5	
Magnesium	**12.4**	mg/L	0.050	0.012	1	08/16/23 11:06	08/17/23 23:03	7439-95-4	
Iron	**7.7**	mg/L	0.040	0.025	1	08/16/23 11:06	08/18/23 18:12	7439-89-6	
Calcium	**129**	mg/L	1.0	0.12	1	08/16/23 11:06	08/18/23 18:12	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.0012	1	08/17/23 11:45	08/22/23 15:54	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/17/23 11:45	08/22/23 15:54	7440-38-2	
Barium	**0.089**	mg/L	0.0050	0.00067	1	08/17/23 11:45	08/22/23 15:54	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/17/23 11:45	08/22/23 15:54	7440-41-7	
Boron	**1.4**	mg/L	0.040	0.0086	1	08/17/23 11:45	08/22/23 15:54	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/17/23 11:45	08/22/23 15:54	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/17/23 11:45	08/22/23 15:54	7440-47-3	
Cobalt	**0.00047J**	mg/L	0.0050	0.00039	1	08/17/23 11:45	08/22/23 15:54	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/17/23 11:45	08/22/23 15:54	7439-92-1	
Lithium	**0.0044J**	mg/L	0.030	0.00073	1	08/17/23 11:45	08/22/23 15:54	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/17/23 11:45	08/22/23 15:54	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/17/23 11:45	08/22/23 15:54	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/17/23 11:45	08/22/23 15:54	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.00013	1	08/21/23 14:15	08/21/23 16:51	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**630**	mg/L	25.0	25.0	1		08/17/23 11:12		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**162**	mg/L	5.0	5.0	1		08/17/23 18:43		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/17/23 18:43		
Alkalinity, Total as CaCO3	**162**	mg/L	5.0	5.0	1		08/17/23 18:43		M1
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.022	1		08/18/23 04:26	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5.6**	mg/L	1.0	0.60	1		08/15/23 15:15	16887-00-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWC-105 **Lab ID: 92682576004** Collected: 08/11/23 11:02 Received: 08/14/23 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	ND	mg/L	0.10	0.050	1		08/15/23 15:15	16984-48-8	
Sulfate	**237**	mg/L	5.0	2.5	5		08/16/23 06:02	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWC-107 **Lab ID: 92682576005** Collected: 08/11/23 14:40 Received: 08/14/23 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Manganese	**0.22**	mg/L	0.040	0.011	1	08/16/23 11:06	08/17/23 23:08	7439-96-5	
Potassium	**2.4**	mg/L	0.50	0.15	1	08/16/23 11:06	08/17/23 23:08	7440-09-7	
Sodium	**7.7**	mg/L	1.0	0.58	1	08/16/23 11:06	08/17/23 23:08	7440-23-5	
Magnesium	**8.5**	mg/L	0.050	0.012	1	08/16/23 11:06	08/17/23 23:08	7439-95-4	
Iron	ND	mg/L	0.040	0.025	1	08/16/23 11:06	08/18/23 18:17	7439-89-6	
Calcium	**56.0**	mg/L	1.0	0.12	1	08/16/23 11:06	08/18/23 18:17	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.0012	1	08/17/23 11:45	08/22/23 16:00	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/17/23 11:45	08/22/23 16:00	7440-38-2	
Barium	**0.032**	mg/L	0.0050	0.00067	1	08/17/23 11:45	08/22/23 16:00	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/17/23 11:45	08/22/23 16:00	7440-41-7	
Boron	**0.81**	mg/L	0.040	0.0086	1	08/17/23 11:45	08/22/23 16:00	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/17/23 11:45	08/22/23 16:00	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/17/23 11:45	08/22/23 16:00	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/17/23 11:45	08/22/23 16:00	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/17/23 11:45	08/22/23 16:00	7439-92-1	
Lithium	**0.00083J**	mg/L	0.030	0.00073	1	08/17/23 11:45	08/22/23 16:00	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/17/23 11:45	08/22/23 16:00	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/17/23 11:45	08/22/23 16:00	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/17/23 11:45	08/22/23 16:00	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.00013	1	08/21/23 14:15	08/21/23 16:54	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**296**	mg/L	25.0	25.0	1		08/17/23 11:13		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**79.7**	mg/L	5.0	5.0	1		08/17/23 19:10		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/17/23 19:10		
Alkalinity, Total as CaCO3	**79.7**	mg/L	5.0	5.0	1		08/17/23 19:10		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.022	1		08/18/23 04:26	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**2.7**	mg/L	1.0	0.60	1		08/15/23 15:30	16887-00-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWC-107 **Lab ID: 92682576005** Collected: 08/11/23 14:40 Received: 08/14/23 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	ND	mg/L	0.10	0.050	1		08/15/23 15:30	16984-48-8	
Sulfate	**113**	mg/L	2.0	1.0	2		08/16/23 06:17	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWC-109 **Lab ID: 92682576006** Collected: 08/11/23 11:32 Received: 08/14/23 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Manganese	**0.36**	mg/L	0.040	0.011	1	08/16/23 11:06	08/17/23 23:13	7439-96-5	
Potassium	**0.46J**	mg/L	0.50	0.15	1	08/16/23 11:06	08/17/23 23:13	7440-09-7	
Sodium	**8.3**	mg/L	1.0	0.58	1	08/16/23 11:06	08/17/23 23:13	7440-23-5	
Magnesium	**8.7**	mg/L	0.050	0.012	1	08/16/23 11:06	08/17/23 23:13	7439-95-4	
Iron	**6.4**	mg/L	0.040	0.025	1	08/16/23 11:06	08/18/23 18:22	7439-89-6	
Calcium	**44.8**	mg/L	1.0	0.12	1	08/16/23 11:06	08/18/23 18:22	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.0012	1	08/17/23 11:45	08/22/23 16:26	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/17/23 11:45	08/22/23 16:26	7440-38-2	
Barium	**0.081**	mg/L	0.0050	0.00067	1	08/17/23 11:45	08/22/23 16:26	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/17/23 11:45	08/22/23 16:26	7440-41-7	
Boron	**0.23**	mg/L	0.040	0.0086	1	08/17/23 11:45	08/22/23 16:26	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/17/23 11:45	08/22/23 16:26	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/17/23 11:45	08/22/23 16:26	7440-47-3	
Cobalt	**0.00077J**	mg/L	0.0050	0.00039	1	08/17/23 11:45	08/22/23 16:26	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/17/23 11:45	08/22/23 16:26	7439-92-1	
Lithium	**0.00076J**	mg/L	0.030	0.00073	1	08/17/23 11:45	08/22/23 16:26	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/17/23 11:45	08/22/23 16:26	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/17/23 11:45	08/22/23 16:26	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/17/23 11:45	08/22/23 16:26	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.00013	1	08/21/23 14:15	08/21/23 16:57	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**205**	mg/L	25.0	25.0	1		08/17/23 11:13		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**164**	mg/L	5.0	5.0	1		08/17/23 20:32		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/17/23 20:32		
Alkalinity, Total as CaCO3	**164**	mg/L	5.0	5.0	1		08/17/23 20:32		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.022	1		08/18/23 04:27	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**3.5**	mg/L	1.0	0.60	1		08/15/23 15:45	16887-00-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWC-109 **Lab ID: 92682576006** Collected: 08/11/23 11:32 Received: 08/14/23 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	**0.086J**	mg/L	0.10	0.050	1		08/15/23 15:45	16984-48-8	
Sulfate	**19.8**	mg/L	1.0	0.50	1		08/15/23 15:45	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWC-117A **Lab ID: 92682576007** Collected: 08/11/23 16:50 Received: 08/14/23 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Manganese	**0.18**	mg/L	0.040	0.011	1	08/16/23 11:06	08/17/23 23:18	7439-96-5	
Potassium	**0.56**	mg/L	0.50	0.15	1	08/16/23 11:06	08/17/23 23:18	7440-09-7	
Sodium	**8.9**	mg/L	1.0	0.58	1	08/16/23 11:06	08/17/23 23:18	7440-23-5	
Magnesium	**7.8**	mg/L	0.050	0.012	1	08/16/23 11:06	08/17/23 23:18	7439-95-4	
Iron	**0.13**	mg/L	0.040	0.025	1	08/16/23 11:06	08/18/23 18:27	7439-89-6	
Calcium	**61.1**	mg/L	1.0	0.12	1	08/16/23 11:06	08/18/23 18:27	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.0012	1	08/17/23 11:45	08/22/23 16:32	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/17/23 11:45	08/22/23 16:32	7440-38-2	
Barium	**0.046**	mg/L	0.0050	0.00067	1	08/17/23 11:45	08/22/23 16:32	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/17/23 11:45	08/22/23 16:32	7440-41-7	
Boron	**0.31**	mg/L	0.040	0.0086	1	08/17/23 11:45	08/22/23 16:32	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/17/23 11:45	08/22/23 16:32	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/17/23 11:45	08/22/23 16:32	7440-47-3	
Cobalt	**0.00078J**	mg/L	0.0050	0.00039	1	08/17/23 11:45	08/22/23 16:32	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/17/23 11:45	08/22/23 16:32	7439-92-1	
Lithium	**0.0041J**	mg/L	0.030	0.00073	1	08/17/23 11:45	08/22/23 16:32	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/17/23 11:45	08/22/23 16:32	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/17/23 11:45	08/22/23 16:32	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/17/23 11:45	08/22/23 16:32	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.00013	1	08/21/23 14:15	08/21/23 16:59	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**280**	mg/L	25.0	25.0	1		08/17/23 11:13		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**141**	mg/L	5.0	5.0	1		08/17/23 20:43		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/17/23 20:43		
Alkalinity, Total as CaCO3	**141**	mg/L	5.0	5.0	1		08/17/23 20:43		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.022	1		08/18/23 04:27	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**4.6**	mg/L	1.0	0.60	1		08/15/23 16:00	16887-00-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWC-117A **Lab ID: 92682576007** Collected: 08/11/23 16:50 Received: 08/14/23 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	**0.057J**	mg/L	0.10	0.050	1		08/15/23 16:00	16984-48-8	
Sulfate	**67.7**	mg/L	1.0	0.50	1		08/15/23 16:00	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWC-118 **Lab ID: 92682576008** Collected: 08/11/23 15:09 Received: 08/14/23 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Manganese	**0.13**	mg/L	0.040	0.011	1	08/16/23 11:06	08/17/23 23:22	7439-96-5	
Potassium	**0.80**	mg/L	0.50	0.15	1	08/16/23 11:06	08/17/23 23:22	7440-09-7	
Sodium	**8.8**	mg/L	1.0	0.58	1	08/16/23 11:06	08/17/23 23:22	7440-23-5	
Magnesium	**10.4**	mg/L	0.050	0.012	1	08/16/23 11:06	08/17/23 23:22	7439-95-4	
Iron	ND	mg/L	0.040	0.025	1	08/16/23 11:06	08/18/23 18:31	7439-89-6	
Calcium	**85.5**	mg/L	1.0	0.12	1	08/16/23 11:06	08/18/23 18:31	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.0012	1	08/17/23 11:45	08/22/23 16:38	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/17/23 11:45	08/22/23 16:38	7440-38-2	
Barium	**0.040**	mg/L	0.0050	0.00067	1	08/17/23 11:45	08/22/23 16:38	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/17/23 11:45	08/22/23 16:38	7440-41-7	
Boron	**0.66**	mg/L	0.040	0.0086	1	08/17/23 11:45	08/22/23 16:38	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/17/23 11:45	08/22/23 16:38	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/17/23 11:45	08/22/23 16:38	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/17/23 11:45	08/22/23 16:38	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/17/23 11:45	08/22/23 16:38	7439-92-1	
Lithium	**0.0023J**	mg/L	0.030	0.00073	1	08/17/23 11:45	08/22/23 16:38	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/17/23 11:45	08/22/23 16:38	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/17/23 11:45	08/22/23 16:38	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/17/23 11:45	08/22/23 16:38	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.00013	1	08/21/23 14:15	08/21/23 17:02	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**346**	mg/L	25.0	25.0	1		08/17/23 11:13		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**217**	mg/L	5.0	5.0	1		08/17/23 20:53		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/17/23 20:53		
Alkalinity, Total as CaCO3	**217**	mg/L	5.0	5.0	1		08/17/23 20:53		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.022	1		08/18/23 04:28	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**3.8**	mg/L	1.0	0.60	1		08/15/23 16:15	16887-00-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWC-118 **Lab ID: 92682576008** Collected: 08/11/23 15:09 Received: 08/14/23 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	**0.070J**	mg/L	0.10	0.050	1		08/15/23 16:15	16984-48-8	
Sulfate	**64.9**	mg/L	1.0	0.50	1		08/15/23 16:15	14808-79-8	M1

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-AP4-EB-04 **Lab ID: 92682576009** Collected: 08/11/23 16:45 Received: 08/14/23 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	ND	mg/L	1.0	0.12	1	08/16/23 11:06	08/18/23 18:36	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.0012	1	08/17/23 11:45	08/22/23 16:44	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/17/23 11:45	08/22/23 16:44	7440-38-2	
Barium	ND	mg/L	0.0050	0.00067	1	08/17/23 11:45	08/22/23 16:44	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/17/23 11:45	08/22/23 16:44	7440-41-7	
Boron	ND	mg/L	0.040	0.0086	1	08/17/23 11:45	08/22/23 16:44	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/17/23 11:45	08/22/23 16:44	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/17/23 11:45	08/22/23 16:44	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/17/23 11:45	08/22/23 16:44	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/17/23 11:45	08/22/23 16:44	7439-92-1	
Lithium	ND	mg/L	0.030	0.00073	1	08/17/23 11:45	08/22/23 16:44	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/17/23 11:45	08/22/23 16:44	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/17/23 11:45	08/22/23 16:44	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/17/23 11:45	08/22/23 16:44	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.00013	1	08/21/23 14:15	08/21/23 17:04	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		08/17/23 11:15		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		08/15/23 16:59	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/15/23 16:59	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		08/15/23 16:59	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-AP4-FB-04 **Lab ID: 92682576010** Collected: 08/11/23 16:40 Received: 08/14/23 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	ND	mg/L	1.0	0.12	1	08/16/23 11:06	08/18/23 18:51	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.0012	1	08/17/23 11:45	08/22/23 16:50	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/17/23 11:45	08/22/23 16:50	7440-38-2	
Barium	ND	mg/L	0.0050	0.00067	1	08/17/23 11:45	08/22/23 16:50	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/17/23 11:45	08/22/23 16:50	7440-41-7	
Boron	ND	mg/L	0.040	0.0086	1	08/17/23 11:45	08/22/23 16:50	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/17/23 11:45	08/22/23 16:50	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/17/23 11:45	08/22/23 16:50	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/17/23 11:45	08/22/23 16:50	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/17/23 11:45	08/22/23 16:50	7439-92-1	
Lithium	ND	mg/L	0.030	0.00073	1	08/17/23 11:45	08/22/23 16:50	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/17/23 11:45	08/22/23 16:50	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/17/23 11:45	08/22/23 16:50	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/17/23 11:45	08/22/23 16:50	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.00013	1	08/21/23 14:15	08/21/23 17:07	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		08/17/23 11:17		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		08/15/23 17:14	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/15/23 17:14	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		08/15/23 17:14	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-AP4-FD-04 **Lab ID: 92682576011** Collected: 08/11/23 00:00 Received: 08/14/23 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Manganese	**0.52**	mg/L	0.040	0.011	1	08/16/23 11:06	08/17/23 23:46	7439-96-5	
Potassium	**1.0**	mg/L	0.50	0.15	1	08/16/23 11:06	08/17/23 23:46	7440-09-7	
Sodium	**15.4**	mg/L	1.0	0.58	1	08/16/23 11:06	08/17/23 23:46	7440-23-5	
Magnesium	**12.6**	mg/L	0.050	0.012	1	08/16/23 11:06	08/17/23 23:46	7439-95-4	
Iron	**8.9**	mg/L	0.040	0.025	1	08/16/23 11:06	08/18/23 18:55	7439-89-6	
Calcium	**125**	mg/L	1.0	0.12	1	08/16/23 11:06	08/18/23 18:55	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.0012	1	08/17/23 11:45	08/22/23 16:56	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/17/23 11:45	08/22/23 16:56	7440-38-2	
Barium	**0.095**	mg/L	0.0050	0.00067	1	08/17/23 11:45	08/22/23 16:56	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/17/23 11:45	08/22/23 16:56	7440-41-7	
Boron	**1.4**	mg/L	0.040	0.0086	1	08/17/23 11:45	08/22/23 16:56	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/17/23 11:45	08/22/23 16:56	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/17/23 11:45	08/22/23 16:56	7440-47-3	
Cobalt	**0.00051J**	mg/L	0.0050	0.00039	1	08/17/23 11:45	08/22/23 16:56	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/17/23 11:45	08/22/23 16:56	7439-92-1	
Lithium	**0.0043J**	mg/L	0.030	0.00073	1	08/17/23 11:45	08/22/23 16:56	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/17/23 11:45	08/22/23 16:56	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/17/23 11:45	08/22/23 16:56	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/17/23 11:45	08/22/23 16:56	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.00013	1	08/21/23 14:15	08/21/23 17:15	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**579**	mg/L	25.0	25.0	1		08/17/23 11:18		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**153**	mg/L	5.0	5.0	1		08/17/23 21:14		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/17/23 21:14		
Alkalinity, Total as CaCO3	**153**	mg/L	5.0	5.0	1		08/17/23 21:14		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.022	1		08/18/23 04:29	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5.8**	mg/L	1.0	0.60	1		08/15/23 17:29	16887-00-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-AP4-FD-04 **Lab ID: 92682576011** Collected: 08/11/23 00:00 Received: 08/14/23 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	ND	mg/L	0.10	0.050	1		08/15/23 17:29	16984-48-8	
Sulfate	**226**	mg/L	5.0	2.5	5		08/16/23 07:01	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWA-113 **Lab ID: 92682392001** Collected: 08/10/23 16:22 Received: 08/11/23 13:12 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Iron	ND	mg/L	0.040	0.025	1	08/18/23 10:36	08/18/23 19:10	7439-89-6	
Manganese	ND	mg/L	0.040	0.011	1	08/18/23 10:36	08/18/23 19:10	7439-96-5	
Potassium	**0.32J**	mg/L	0.50	0.15	1	08/18/23 10:36	08/18/23 19:10	7440-09-7	
Sodium	**9.5**	mg/L	1.0	0.58	1	08/18/23 10:36	08/18/23 19:10	7440-23-5	M1
Calcium	**8.4**	mg/L	1.0	0.12	1	08/18/23 10:36	08/18/23 19:10	7440-70-2	M1
Magnesium	**3.4**	mg/L	0.050	0.012	1	08/18/23 10:36	08/18/23 19:10	7439-95-4	M1
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.0012	1	08/17/23 10:25	08/22/23 19:35	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/17/23 10:25	08/22/23 19:35	7440-38-2	
Barium	**0.028**	mg/L	0.0050	0.00067	1	08/17/23 10:25	08/22/23 19:35	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/17/23 10:25	08/22/23 19:35	7440-41-7	
Boron	**0.0091J**	mg/L	0.040	0.0086	1	08/17/23 10:25	08/22/23 19:35	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/17/23 10:25	08/22/23 19:35	7440-43-9	
Chromium	**0.0019J**	mg/L	0.0050	0.0011	1	08/17/23 10:25	08/23/23 16:58	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/17/23 10:25	08/22/23 19:35	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/17/23 10:25	08/22/23 19:35	7439-92-1	
Lithium	**0.0010J**	mg/L	0.030	0.00073	1	08/17/23 10:25	08/22/23 19:35	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/17/23 10:25	08/22/23 19:35	7439-98-7	
Selenium	**0.0027J**	mg/L	0.0050	0.0014	1	08/17/23 10:25	08/22/23 19:35	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/17/23 10:25	08/22/23 19:35	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.00013	1	08/15/23 11:30	08/15/23 15:59	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**80.0**	mg/L	25.0	25.0	1		08/16/23 14:47		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**40.3**	mg/L	5.0	5.0	1		08/16/23 20:04		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/16/23 20:04		
Alkalinity, Total as CaCO3	**40.3**	mg/L	5.0	5.0	1		08/16/23 20:04		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.022	1		08/15/23 06:36	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**1.6**	mg/L	1.0	0.60	1		08/12/23 17:02	16887-00-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Hammond AP-4
Pace Project No.: 92681884

Sample: HAM-HGWA-113 **Lab ID: 92682392001** Collected: 08/10/23 16:22 Received: 08/11/23 13:12 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	**0.19**	mg/L	0.10	0.050	1		08/12/23 17:02	16984-48-8	
Sulfate	**5.1**	mg/L	1.0	0.50	1		08/12/23 17:02	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Hammond AP-4
Pace Project No.: 92681884

QC Batch: 792418
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92681884001, 92681884002, 92681884003, 92681884004

METHOD BLANK: 4106293 Matrix: Water
Associated Lab Samples: 92681884001, 92681884002, 92681884003, 92681884004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.12	08/12/23 04:46	
Iron	mg/L	ND	0.040	0.025	08/12/23 04:46	
Magnesium	mg/L	ND	0.050	0.012	08/12/23 04:46	
Manganese	mg/L	ND	0.040	0.011	08/12/23 04:46	
Potassium	mg/L	ND	0.50	0.15	08/12/23 04:46	
Sodium	mg/L	ND	1.0	0.58	08/12/23 04:46	

LABORATORY CONTROL SAMPLE: 4106294

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	0.98J	98	80-120	
Iron	mg/L	1	1.0	103	80-120	
Magnesium	mg/L	1	1.0	105	80-120	
Manganese	mg/L	1	1.0	105	80-120	
Potassium	mg/L	1	1.1	111	80-120	
Sodium	mg/L	1	1.0	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4106295 4106296

Parameter	Units	92680804001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	40.7	1	1	41.4	41.0	71	33	75-125	1	20	M1
Iron	mg/L	0.13	1	1	1.2	1.1	111	102	75-125	8	20	
Magnesium	mg/L	22.1	1	1	22.9	22.8	81	67	75-125	1	20	M1
Manganese	mg/L	0.020J	1	1	1.1	1.1	106	105	75-125	1	20	
Potassium	mg/L	1.3	1	1	2.3	2.3	108	102	75-125	3	20	
Sodium	mg/L	1.8	1	1	2.8	2.8	100	97	75-125	1	20	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Hammond AP-4
Pace Project No.: 92681884

QC Batch: 793618
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92682392001

METHOD BLANK: 4112489 Matrix: Water
Associated Lab Samples: 92682392001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.12	08/18/23 19:00	
Iron	mg/L	ND	0.040	0.025	08/18/23 19:00	
Magnesium	mg/L	ND	0.050	0.012	08/18/23 19:00	
Manganese	mg/L	ND	0.040	0.011	08/18/23 19:00	
Potassium	mg/L	ND	0.50	0.15	08/18/23 19:00	
Sodium	mg/L	ND	1.0	0.58	08/18/23 19:00	

LABORATORY CONTROL SAMPLE: 4112490

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.1	108	80-120	
Iron	mg/L	1	1.0	102	80-120	
Magnesium	mg/L	1	1.0	101	80-120	
Manganese	mg/L	1	0.99	99	80-120	
Potassium	mg/L	1	1.1	106	80-120	
Sodium	mg/L	1	1.1	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4112491 4112492

Parameter	Units	92682392001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	8.4	1	1	8.8	9.3	35	92	75-125	6	20	M1
Iron	mg/L	ND	1	1	1.0	1.0	100	100	75-125	0	20	
Magnesium	mg/L	3.4	1	1	4.1	4.3	72	92	75-125	5	20	M1
Manganese	mg/L	ND	1	1	0.98	0.99	97	98	75-125	1	20	
Potassium	mg/L	0.32J	1	1	1.3	1.5	102	113	75-125	8	20	
Sodium	mg/L	9.5	1	1	10	10.5	44	103	75-125	6	20	M1

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Hammond AP-4
Pace Project No.: 92681884

QC Batch: 793869
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92682576001, 92682576002, 92682576003, 92682576004, 92682576005, 92682576006, 92682576007, 92682576008, 92682576009, 92682576010, 92682576011

METHOD BLANK: 4113555 Matrix: Water
Associated Lab Samples: 92682576001, 92682576002, 92682576003, 92682576004, 92682576005, 92682576006, 92682576007, 92682576008, 92682576009, 92682576010, 92682576011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.12	08/18/23 15:12	
Iron	mg/L	ND	0.040	0.025	08/18/23 15:12	
Magnesium	mg/L	ND	0.050	0.012	08/18/23 15:12	
Manganese	mg/L	ND	0.040	0.011	08/17/23 21:21	
Potassium	mg/L	ND	0.50	0.15	08/18/23 15:12	
Sodium	mg/L	ND	1.0	0.58	08/17/23 21:21	

LABORATORY CONTROL SAMPLE: 4113556

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	103	80-120	
Iron	mg/L	1	0.97	97	80-120	
Magnesium	mg/L	1	0.96	96	80-120	
Manganese	mg/L	1	0.98	98	80-120	
Potassium	mg/L	1	1.1	107	80-120	
Sodium	mg/L	1	1.2	118	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4113557 4113558

Parameter	Units	92682398002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	100	1	1	101	100	7	-30	75-125	0	20	M1
Iron	mg/L	ND	1	1	0.95	0.98	93	96	75-125	3	20	
Magnesium	mg/L	11.8	1	1	12.4	12.4	66	62	75-125	0	20	M1
Manganese	mg/L	ND	1	1	0.95	0.96	94	96	75-125	1	20	
Potassium	mg/L	2.6	1	1	3.6	3.7	104	117	75-125	4	20	
Sodium	mg/L	5.9	1	1	7.0	7.0	109	106	75-125	0	20	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Hammond AP-4
Pace Project No.: 92681884

QC Batch: 793217
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92681884001, 92681884002, 92681884003, 92681884004

METHOD BLANK: 4110532 Matrix: Water
Associated Lab Samples: 92681884001, 92681884002, 92681884003, 92681884004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.0012	08/17/23 17:51	
Arsenic	mg/L	ND	0.010	0.0037	08/17/23 17:51	
Barium	mg/L	ND	0.0050	0.00067	08/17/23 17:51	
Beryllium	mg/L	ND	0.00050	0.000054	08/17/23 17:51	
Boron	mg/L	ND	0.040	0.0086	08/17/23 17:51	
Cadmium	mg/L	ND	0.00050	0.00011	08/17/23 17:51	
Chromium	mg/L	ND	0.0050	0.0011	08/17/23 17:51	
Cobalt	mg/L	ND	0.0050	0.00039	08/17/23 17:51	
Lead	mg/L	ND	0.0010	0.00012	08/17/23 17:51	
Lithium	mg/L	ND	0.030	0.00073	08/17/23 17:51	
Molybdenum	mg/L	ND	0.010	0.00074	08/17/23 17:51	
Selenium	mg/L	ND	0.0050	0.0014	08/17/23 17:51	
Thallium	mg/L	ND	0.0010	0.00018	08/17/23 17:51	

LABORATORY CONTROL SAMPLE: 4110533

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.11	112	80-120	
Arsenic	mg/L	0.1	0.10	103	80-120	
Barium	mg/L	0.1	0.10	102	80-120	
Beryllium	mg/L	0.1	0.11	109	80-120	
Boron	mg/L	1	1.1	108	80-120	
Cadmium	mg/L	0.1	0.10	101	80-120	
Chromium	mg/L	0.1	0.11	109	80-120	
Cobalt	mg/L	0.1	0.11	111	80-120	
Lead	mg/L	0.1	0.10	102	80-120	
Lithium	mg/L	0.1	0.12	118	80-120	
Molybdenum	mg/L	0.1	0.11	106	80-120	
Selenium	mg/L	0.1	0.11	105	80-120	
Thallium	mg/L	0.1	0.099	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4110534 4110535

Parameter	Units	92680804006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.11	0.11	109	111	75-125	2	20	
Arsenic	mg/L	ND	0.1	0.1	0.10	0.10	101	102	75-125	1	20	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Hammond AP-4
Pace Project No.: 92681884

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4110534 4110535

Parameter	Units	92680804006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.033	0.1	0.1	0.13	0.14	97	106	75-125	7	20	
Beryllium	mg/L	ND	0.1	0.1	0.10	0.10	102	102	75-125	0	20	
Boron	mg/L	0.018J	1	1	1.0	1.0	100	102	75-125	2	20	
Cadmium	mg/L	ND	0.1	0.1	0.10	0.10	101	102	75-125	1	20	
Chromium	mg/L	ND	0.1	0.1	0.10	0.11	103	108	75-125	4	20	
Cobalt	mg/L	ND	0.1	0.1	0.10	0.11	103	108	75-125	5	20	
Lead	mg/L	ND	0.1	0.1	0.098	0.10	98	102	75-125	4	20	
Lithium	mg/L	0.00083J	0.1	0.1	0.11	0.11	106	106	75-125	0	20	
Molybdenum	mg/L	ND	0.1	0.1	0.11	0.11	105	109	75-125	4	20	
Selenium	mg/L	ND	0.1	0.1	0.10	0.11	103	106	75-125	3	20	
Thallium	mg/L	ND	0.1	0.1	0.096	0.10	96	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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Hammond AP-4
Pace Project No.: 92681884

QC Batch: 794177
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92682392001

METHOD BLANK: 4115107 Matrix: Water
Associated Lab Samples: 92682392001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.0012	08/22/23 18:42	
Arsenic	mg/L	ND	0.010	0.0037	08/22/23 18:42	
Barium	mg/L	ND	0.0050	0.00067	08/22/23 18:42	
Beryllium	mg/L	ND	0.00050	0.000054	08/22/23 18:42	
Boron	mg/L	ND	0.040	0.0086	08/22/23 18:42	
Cadmium	mg/L	ND	0.00050	0.00011	08/22/23 18:42	
Chromium	mg/L	ND	0.0050	0.0011	08/23/23 16:28	
Cobalt	mg/L	ND	0.0050	0.00039	08/22/23 18:42	
Lead	mg/L	ND	0.0010	0.00012	08/22/23 18:42	
Lithium	mg/L	ND	0.030	0.00073	08/22/23 18:42	
Molybdenum	mg/L	ND	0.010	0.00074	08/22/23 18:42	
Selenium	mg/L	ND	0.0050	0.0014	08/22/23 18:42	
Thallium	mg/L	ND	0.0010	0.00018	08/22/23 18:42	

LABORATORY CONTROL SAMPLE: 4115108

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	104	80-120	
Arsenic	mg/L	0.1	0.094	94	80-120	
Barium	mg/L	0.1	0.096	96	80-120	
Beryllium	mg/L	0.1	0.093	93	80-120	
Boron	mg/L	1	0.94	94	80-120	
Cadmium	mg/L	0.1	0.096	96	80-120	
Chromium	mg/L	0.1	0.10	100	80-120	
Cobalt	mg/L	0.1	0.090	90	80-120	
Lead	mg/L	0.1	0.094	94	80-120	
Lithium	mg/L	0.1	0.098	98	80-120	
Molybdenum	mg/L	0.1	0.095	95	80-120	
Selenium	mg/L	0.1	0.097	97	80-120	
Thallium	mg/L	0.1	0.093	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4115109 4115110

Parameter	Units	92681886001 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	104	103	75-125	1	20	
Arsenic	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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Hammond AP-4
Pace Project No.: 92681884

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4115109 4115110

Parameter	Units	92681886001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.039	0.1	0.1	0.14	0.14	103	103	75-125	1	20	
Beryllium	mg/L	0.000067J	0.1	0.1	0.094	0.091	94	91	75-125	4	20	
Boron	mg/L	0.029J	1	1	0.97	0.94	94	91	75-125	3	20	
Cadmium	mg/L	ND	0.1	0.1	0.098	0.099	98	99	75-125	1	20	
Chromium	mg/L	ND	0.1	0.1	0.10	0.10	102	101	75-125	1	20	
Cobalt	mg/L	0.00041J	0.1	0.1	0.092	0.091	91	91	75-125	0	20	
Lead	mg/L	ND	0.1	0.1	0.093	0.092	93	92	75-125	1	20	
Lithium	mg/L	ND	0.1	0.1	0.095	0.094	95	93	75-125	2	20	
Molybdenum	mg/L	ND	0.1	0.1	0.096	0.096	96	95	75-125	0	20	
Selenium	mg/L	ND	0.1	0.1	0.10	0.099	100	99	75-125	1	20	
Thallium	mg/L	ND	0.1	0.1	0.092	0.092	92	92	75-125	0	20	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Hammond AP-4
Pace Project No.: 92681884

QC Batch: 794178
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92682576001, 92682576002, 92682576003, 92682576004, 92682576005, 92682576006, 92682576007, 92682576008, 92682576009, 92682576010, 92682576011

METHOD BLANK: 4115112 Matrix: Water
Associated Lab Samples: 92682576001, 92682576002, 92682576003, 92682576004, 92682576005, 92682576006, 92682576007, 92682576008, 92682576009, 92682576010, 92682576011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.0012	08/22/23 15:06	
Arsenic	mg/L	ND	0.010	0.0037	08/22/23 15:06	
Barium	mg/L	ND	0.0050	0.00067	08/22/23 15:06	
Beryllium	mg/L	ND	0.00050	0.000054	08/22/23 15:06	
Boron	mg/L	ND	0.040	0.0086	08/22/23 15:06	
Cadmium	mg/L	ND	0.00050	0.00011	08/22/23 15:06	
Chromium	mg/L	ND	0.0050	0.0011	08/22/23 15:06	
Cobalt	mg/L	ND	0.0050	0.00039	08/22/23 15:06	
Lead	mg/L	ND	0.0010	0.00012	08/22/23 15:06	
Lithium	mg/L	ND	0.030	0.00073	08/22/23 15:06	
Molybdenum	mg/L	ND	0.010	0.00074	08/22/23 15:06	
Selenium	mg/L	ND	0.0050	0.0014	08/22/23 15:06	
Thallium	mg/L	ND	0.0010	0.00018	08/22/23 15:06	

LABORATORY CONTROL SAMPLE: 4115113

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.11	105	80-120	
Arsenic	mg/L	0.1	0.099	99	80-120	
Barium	mg/L	0.1	0.096	96	80-120	
Beryllium	mg/L	0.1	0.098	98	80-120	
Boron	mg/L	1	1.0	101	80-120	
Cadmium	mg/L	0.1	0.10	100	80-120	
Chromium	mg/L	0.1	0.10	100	80-120	
Cobalt	mg/L	0.1	0.10	103	80-120	
Lead	mg/L	0.1	0.10	100	80-120	
Lithium	mg/L	0.1	0.099	99	80-120	
Molybdenum	mg/L	0.1	0.10	100	80-120	
Selenium	mg/L	0.1	0.10	100	80-120	
Thallium	mg/L	0.1	0.099	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4115114 4115115

Parameter	Units	92682576001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.11	0.11	109	107	75-125	2	20	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Hammond AP-4
Pace Project No.: 92681884

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4115114 4115115

Parameter	Units	92682576001 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	99	75-125	3	20	
Barium	mg/L	0.036	0.1	0.1	0.14	0.14	105	104	75-125	1	20	
Beryllium	mg/L	0.000070J	0.1	0.1	0.10	0.098	100	98	75-125	1	20	
Boron	mg/L	0.16	1	1	1.2	1.2	104	102	75-125	2	20	
Cadmium	mg/L	0.00015J	0.1	0.1	0.10	0.099	103	99	75-125	4	20	
Chromium	mg/L	ND	0.1	0.1	0.10	0.098	104	98	75-125	6	20	
Cobalt	mg/L	0.0028J	0.1	0.1	0.11	0.10	103	98	75-125	5	20	
Lead	mg/L	ND	0.1	0.1	0.099	0.097	99	97	75-125	2	20	
Lithium	mg/L	ND	0.1	0.1	0.10	0.10	103	101	75-125	2	20	
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.10	104	104	75-125	0	20	
Selenium	mg/L	ND	0.1	0.1	0.10	0.10	102	100	75-125	2	20	
Thallium	mg/L	ND	0.1	0.1	0.099	0.096	99	96	75-125	3	20	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Hammond AP-4
Pace Project No.: 92681884

QC Batch: 793573 | Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A | Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92681884001, 92681884002, 92681884003, 92681884004, 92682392001

METHOD BLANK: 4112218 Matrix: Water
Associated Lab Samples: 92681884001, 92681884002, 92681884003, 92681884004, 92682392001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.00013	08/15/23 15:25	

LABORATORY CONTROL SAMPLE: 4112219

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0024	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4112220 4112221

Parameter	Units	92681883001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	0.0025	0.0025	0.0023	0.0021	88	81	75-125	8	20	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Hammond AP-4
Pace Project No.: 92681884

QC Batch: 794875
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92682576001, 92682576002, 92682576003, 92682576004, 92682576005, 92682576006, 92682576007, 92682576008, 92682576009, 92682576010, 92682576011

METHOD BLANK: 4118595 Matrix: Water
Associated Lab Samples: 92682576001, 92682576002, 92682576003, 92682576004, 92682576005, 92682576006, 92682576007, 92682576008, 92682576009, 92682576010, 92682576011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.00013	08/21/23 16:22	

LABORATORY CONTROL SAMPLE: 4118596

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0025	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4118597 4118598

Parameter	Units	92682576002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	0.0025	0.0025	0.0023	0.0021	92	84	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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Hammond AP-4
Pace Project No.: 92681884

QC Batch: 793055
QC Batch Method: SM 2540C-2015
Analysis Method: SM 2540C-2015
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92681884001, 92681884002, 92681884003, 92681884004

METHOD BLANK: 4109645 Matrix: Water
Associated Lab Samples: 92681884001, 92681884002, 92681884003, 92681884004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	08/11/23 13:55	

LABORATORY CONTROL SAMPLE: 4109646

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	430	108	80-120	

SAMPLE DUPLICATE: 4109647

Parameter	Units	92682122001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	184	194	5	10	

SAMPLE DUPLICATE: 4109648

Parameter	Units	92681884001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	214	264	21	10	D6

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Hammond AP-4
Pace Project No.: 92681884

QC Batch: 793918
QC Batch Method: SM 2540C-2015
Analysis Method: SM 2540C-2015
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92682392001

METHOD BLANK: 4113746 Matrix: Water
Associated Lab Samples: 92682392001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	08/16/23 14:47	

LABORATORY CONTROL SAMPLE: 4113747

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	379	95	80-120	

SAMPLE DUPLICATE: 4113748

Parameter	Units	92682392001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	80.0	75.0	6	10	

SAMPLE DUPLICATE: 4113749

Parameter	Units	92682398005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	626	638	2	10	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Hammond AP-4
Pace Project No.: 92681884

QC Batch: 794085
QC Batch Method: SM 2540C-2015
Analysis Method: SM 2540C-2015
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92682576001, 92682576002, 92682576003, 92682576004, 92682576005, 92682576006, 92682576007, 92682576008, 92682576009, 92682576010, 92682576011

METHOD BLANK: 4114862 Matrix: Water
Associated Lab Samples: 92682576001, 92682576002, 92682576003, 92682576004, 92682576005, 92682576006, 92682576007, 92682576008, 92682576009, 92682576010, 92682576011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	08/17/23 11:09	

LABORATORY CONTROL SAMPLE: 4114863

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	387	97	80-120	

SAMPLE DUPLICATE: 4114864

Parameter	Units	92682552001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	361	382	6	10	

SAMPLE DUPLICATE: 4114865

Parameter	Units	92682576008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	346	340	2	10	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Hammond AP-4
Pace Project No.: 92681884

QC Batch: 793564
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92681884001, 92681884002, 92681884003, 92681884004

METHOD BLANK: 4112177 Matrix: Water
Associated Lab Samples: 92681884001, 92681884002, 92681884003, 92681884004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	08/15/23 19:14	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	08/15/23 19:14	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	08/15/23 19:14	

LABORATORY CONTROL SAMPLE: 4112178

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	52.7	105	80-120	

LABORATORY CONTROL SAMPLE: 4112179

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.3	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4112180 4112181

Parameter	Units	92681885003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	212	50	50	267	273	109	122	80-120	2	25	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4112182 4112183

Parameter	Units	92681885004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	251	50	50	308	301	114	100	80-120	2	25	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Hammond AP-4
Pace Project No.: 92681884

QC Batch: 793988
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92682392001

METHOD BLANK: 4114120 Matrix: Water
Associated Lab Samples: 92682392001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	08/16/23 18:28	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	08/16/23 18:28	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	08/16/23 18:28	

LABORATORY CONTROL SAMPLE: 4114121

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	52.3	105	80-120	

LABORATORY CONTROL SAMPLE: 4114122

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	52.6	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4114123 4114124

Parameter	Units	92682398004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	179	50	50	238	240	116	121	80-120	1	25	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4114125 4114126

Parameter	Units	92682398005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	298	50	50	339	344	82	92	80-120	1	25	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Hammond AP-4
Pace Project No.: 92681884

QC Batch: 794234
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92682576001, 92682576002, 92682576003, 92682576004, 92682576005

METHOD BLANK: 4115455 Matrix: Water
Associated Lab Samples: 92682576001, 92682576002, 92682576003, 92682576004, 92682576005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	08/17/23 15:14	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	08/17/23 15:14	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	08/17/23 15:14	

LABORATORY CONTROL SAMPLE: 4115456

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	52.9	106	80-120	

LABORATORY CONTROL SAMPLE: 4115457

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	52.0	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4115458 4115459

Parameter	Units	92682576004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	162	50	50	221	225	117	125	80-120	2	25	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4115460 4115461

Parameter	Units	92682576005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	79.7	50	50	135	134	110	108	80-120	1	25	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Hammond AP-4
Pace Project No.: 92681884

QC Batch: 794235
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92682576006, 92682576007, 92682576008, 92682576011

METHOD BLANK: 4115463 Matrix: Water
Associated Lab Samples: 92682576006, 92682576007, 92682576008, 92682576011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	08/17/23 20:06	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	08/17/23 20:06	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	08/17/23 20:06	

LABORATORY CONTROL SAMPLE: 4115464

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	51.8	104	80-120	

LABORATORY CONTROL SAMPLE: 4115465

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	51.4	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4115466 4115467

Parameter	Units	92681886006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	246	50	50	291	299	90	106	80-120	3	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4115468 4115469

Parameter	Units	92681886007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	210	50	50	271	274	122	128	80-120	1	25	M1

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Hammond AP-4
Pace Project No.: 92681884

QC Batch: 793499
QC Batch Method: SM 4500-S2D-2011
Analysis Method: SM 4500-S2D-2011
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92681884001, 92681884002, 92681884003, 92681884004

METHOD BLANK: 4111952 Matrix: Water
Associated Lab Samples: 92681884001, 92681884002, 92681884003, 92681884004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.022	08/15/23 06:10	

LABORATORY CONTROL SAMPLE: 4111953

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.50	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4111954 4111955

Parameter	Units	92681883001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	0.16	0.5	0.5	0.68	0.59	102	84	80-120	14	10	R1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4111956 4111957

Parameter	Units	92681885005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	0.14	0.5	0.5	0.53	0.60	79	93	80-120	12	10	M1,R1

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Hammond AP-4
Pace Project No.: 92681884

QC Batch: 793500
QC Batch Method: SM 4500-S2D-2011
Analysis Method: SM 4500-S2D-2011
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92682392001

METHOD BLANK: 4111958 Matrix: Water
Associated Lab Samples: 92682392001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.022	08/15/23 06:24	

LABORATORY CONTROL SAMPLE: 4111959

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.50	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4111960 4111961

Parameter	Units	92682396005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.50	0.45	99	89	80-120	11	10	R1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4111962 4111963

Parameter	Units	92682397007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.53	0.55	104	108	80-120	4	10	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Hammond AP-4
Pace Project No.: 92681884

QC Batch: 793501
QC Batch Method: SM 4500-S2D-2011
Analysis Method: SM 4500-S2D-2011
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92682576001, 92682576002, 92682576003

METHOD BLANK: 4111964 Matrix: Water
Associated Lab Samples: 92682576001, 92682576002, 92682576003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.022	08/15/23 06:38	

LABORATORY CONTROL SAMPLE: 4111965

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.48	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4111966 4111967

Parameter	Units	92682393002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.39	0.42	77	83	80-120	7	10	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4111968 4111969

Parameter	Units	92682398007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.46	0.48	92	94	80-120	3	10	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Hammond AP-4
Pace Project No.: 92681884

QC Batch: 794102
QC Batch Method: SM 4500-S2D-2011
Analysis Method: SM 4500-S2D-2011
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92682576004, 92682576005, 92682576006, 92682576007, 92682576008, 92682576011

METHOD BLANK: 4114896 Matrix: Water
Associated Lab Samples: 92682576004, 92682576005, 92682576006, 92682576007, 92682576008, 92682576011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.022	08/18/23 04:23	

LABORATORY CONTROL SAMPLE: 4114897

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.48	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4114898 4114899

Parameter	Units	92682834002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.47	0.44	93	87	80-120	6	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4114900 4114901

Parameter	Units	92682576011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.50	0.50	98	98	80-120	1	10	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Hammond AP-4
Pace Project No.: 92681884

QC Batch: 793207
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92681884001, 92681884002, 92681884003, 92681884004

METHOD BLANK: 4110503 Matrix: Water
Associated Lab Samples: 92681884001, 92681884002, 92681884003, 92681884004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	08/12/23 16:56	
Fluoride	mg/L	ND	0.10	0.050	08/12/23 16:56	
Sulfate	mg/L	ND	1.0	0.50	08/12/23 16:56	

LABORATORY CONTROL SAMPLE: 4110504

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.8	100	90-110	
Fluoride	mg/L	2.5	2.4	96	90-110	
Sulfate	mg/L	50	49.9	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4110505 4110506

Parameter	Units	92681883001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.6	50	50	51.2	52.5	95	98	90-110	3	10	
Fluoride	mg/L	0.19	2.5	2.5	2.4	2.5	90	92	90-110	2	10	
Sulfate	mg/L	2.2	50	50	49.7	51.1	95	98	90-110	3	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4110507 4110508

Parameter	Units	92681885005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	27.0	50	50	71.4	72.9	89	92	90-110	2	10	M1
Fluoride	mg/L	1.3	2.5	2.5	3.3	3.4	83	86	90-110	2	10	M1
Sulfate	mg/L	1.3	50	50	47.3	48.3	92	94	90-110	2	10	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Hammond AP-4
Pace Project No.: 92681884

QC Batch: 793229
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92682392001

METHOD BLANK: 4110600 Matrix: Water
Associated Lab Samples: 92682392001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	08/12/23 14:53	
Fluoride	mg/L	ND	0.10	0.050	08/12/23 14:53	
Sulfate	mg/L	ND	1.0	0.50	08/12/23 14:53	

LABORATORY CONTROL SAMPLE: 4110601

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	48.8	98	90-110	
Fluoride	mg/L	2.5	2.5	98	90-110	
Sulfate	mg/L	50	48.7	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4110602 4110603

Parameter	Units	92682203010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2.7	50	50	49.7	50.7	94	96	90-110	2	10	
Fluoride	mg/L	0.12	2.5	2.5	2.3	2.4	88	90	90-110	2	10	M1
Sulfate	mg/L	3.6	50	50	50.8	51.9	94	97	90-110	2	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4110604 4110605

Parameter	Units	92682393005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	47.9	48.1	96	96	90-110	0	10	
Fluoride	mg/L	ND	2.5	2.5	2.4	2.3	95	93	90-110	1	10	
Sulfate	mg/L	ND	50	50	47.8	47.9	96	96	90-110	0	10	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Hammond AP-4
Pace Project No.: 92681884

QC Batch: 793554
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92682576001, 92682576002, 92682576003, 92682576004, 92682576005, 92682576006, 92682576007, 92682576008, 92682576009, 92682576010, 92682576011

METHOD BLANK: 4112141 Matrix: Water
Associated Lab Samples: 92682576001, 92682576002, 92682576003, 92682576004, 92682576005, 92682576006, 92682576007, 92682576008, 92682576009, 92682576010, 92682576011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	08/15/23 12:18	
Fluoride	mg/L	ND	0.10	0.050	08/15/23 12:18	
Sulfate	mg/L	ND	1.0	0.50	08/15/23 12:18	

LABORATORY CONTROL SAMPLE: 4112142

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	48.6	97	90-110	
Fluoride	mg/L	2.5	2.7	109	90-110	
Sulfate	mg/L	50	48.6	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4112143 4112144

Parameter	Units	92682572002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	157	50	50	193	200	71	86	90-110	4	10	M1
Fluoride	mg/L	0.062J	2.5	2.5	2.3	2.3	90	90	90-110	0	10	
Sulfate	mg/L	948	50	50	947	983	-1	70	90-110	4	10	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4112145 4112146

Parameter	Units	92682576008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.8	50	50	53.6	51.7	100	96	90-110	4	10	
Fluoride	mg/L	0.070J	2.5	2.5	2.4	2.3	94	90	90-110	4	10	
Sulfate	mg/L	64.9	50	50	104	106	78	82	90-110	2	10	M1

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: Hammond AP-4
Pace Project No.: 92681884

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Hammond AP-4
Pace Project No.: 92681884

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92681884001	**HAM-HGWA-47**	EPA 3010A	792418	EPA 6010D	793158
92681884002	**HAM-HGWA-48D**	EPA 3010A	792418	EPA 6010D	793158
92681884003	**HAM-HGWA-111**	EPA 3010A	792418	EPA 6010D	793158
92681884004	**HAM-HGWA-112**	EPA 3010A	792418	EPA 6010D	793158
92682392001	**HAM-HGWA-113**	EPA 3010A	793618	EPA 6010D	794582
92682576001	**HAM-HGWC-101**	EPA 3010A	793869	EPA 6010D	793991
92682576002	**HAM-HGWC-102**	EPA 3010A	793869	EPA 6010D	793991
92682576003	**HAM-HGWC-103**	EPA 3010A	793869	EPA 6010D	793991
92682576004	**HAM-HGWC-105**	EPA 3010A	793869	EPA 6010D	793991
92682576005	**HAM-HGWC-107**	EPA 3010A	793869	EPA 6010D	793991
92682576006	**HAM-HGWC-109**	EPA 3010A	793869	EPA 6010D	793991
92682576007	**HAM-HGWC-117A**	EPA 3010A	793869	EPA 6010D	793991
92682576008	**HAM-HGWC-118**	EPA 3010A	793869	EPA 6010D	793991
92682576009	**HAM-AP4-EB-04**	EPA 3010A	793869	EPA 6010D	793991
92682576010	**HAM-AP4-FB-04**	EPA 3010A	793869	EPA 6010D	793991
92682576011	**HAM-AP4-FD-04**	EPA 3010A	793869	EPA 6010D	793991
92681884001	**HAM-HGWA-47**	EPA 3005A	793217	EPA 6020B	793278
92681884002	**HAM-HGWA-48D**	EPA 3005A	793217	EPA 6020B	793278
92681884003	**HAM-HGWA-111**	EPA 3005A	793217	EPA 6020B	793278
92681884004	**HAM-HGWA-112**	EPA 3005A	793217	EPA 6020B	793278
92682392001	**HAM-HGWA-113**	EPA 3005A	794177	EPA 6020B	794304
92682576001	**HAM-HGWC-101**	EPA 3005A	794178	EPA 6020B	794303
92682576002	**HAM-HGWC-102**	EPA 3005A	794178	EPA 6020B	794303
92682576003	**HAM-HGWC-103**	EPA 3005A	794178	EPA 6020B	794303
92682576004	**HAM-HGWC-105**	EPA 3005A	794178	EPA 6020B	794303
92682576005	**HAM-HGWC-107**	EPA 3005A	794178	EPA 6020B	794303
92682576006	**HAM-HGWC-109**	EPA 3005A	794178	EPA 6020B	794303
92682576007	**HAM-HGWC-117A**	EPA 3005A	794178	EPA 6020B	794303
92682576008	**HAM-HGWC-118**	EPA 3005A	794178	EPA 6020B	794303
92682576009	**HAM-AP4-EB-04**	EPA 3005A	794178	EPA 6020B	794303
92682576010	**HAM-AP4-FB-04**	EPA 3005A	794178	EPA 6020B	794303
92682576011	**HAM-AP4-FD-04**	EPA 3005A	794178	EPA 6020B	794303
92681884001	**HAM-HGWA-47**	EPA 7470A	793573	EPA 7470A	793628
92681884002	**HAM-HGWA-48D**	EPA 7470A	793573	EPA 7470A	793628
92681884003	**HAM-HGWA-111**	EPA 7470A	793573	EPA 7470A	793628
92681884004	**HAM-HGWA-112**	EPA 7470A	793573	EPA 7470A	793628
92682392001	**HAM-HGWA-113**	EPA 7470A	793573	EPA 7470A	793628
92682576001	**HAM-HGWC-101**	EPA 7470A	794875	EPA 7470A	794979
92682576002	**HAM-HGWC-102**	EPA 7470A	794875	EPA 7470A	794979
92682576003	**HAM-HGWC-103**	EPA 7470A	794875	EPA 7470A	794979
92682576004	**HAM-HGWC-105**	EPA 7470A	794875	EPA 7470A	794979
92682576005	**HAM-HGWC-107**	EPA 7470A	794875	EPA 7470A	794979
92682576006	**HAM-HGWC-109**	EPA 7470A	794875	EPA 7470A	794979
92682576007	**HAM-HGWC-117A**	EPA 7470A	794875	EPA 7470A	794979
92682576008	**HAM-HGWC-118**	EPA 7470A	794875	EPA 7470A	794979

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Hammond AP-4
Pace Project No.: 92681884

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92682576009	**HAM-AP4-EB-04**	EPA 7470A	794875	EPA 7470A	794979
92682576010	**HAM-AP4-FB-04**	EPA 7470A	794875	EPA 7470A	794979
92682576011	**HAM-AP4-FD-04**	EPA 7470A	794875	EPA 7470A	794979
92681884001	**HAM-HGWA-47**	SM 2540C-2015	793055		
92681884002	**HAM-HGWA-48D**	SM 2540C-2015	793055		
92681884003	**HAM-HGWA-111**	SM 2540C-2015	793055		
92681884004	**HAM-HGWA-112**	SM 2540C-2015	793055		
92682392001	**HAM-HGWA-113**	SM 2540C-2015	793918		
92682576001	**HAM-HGWC-101**	SM 2540C-2015	794085		
92682576002	**HAM-HGWC-102**	SM 2540C-2015	794085		
92682576003	**HAM-HGWC-103**	SM 2540C-2015	794085		
92682576004	**HAM-HGWC-105**	SM 2540C-2015	794085		
92682576005	**HAM-HGWC-107**	SM 2540C-2015	794085		
92682576006	**HAM-HGWC-109**	SM 2540C-2015	794085		
92682576007	**HAM-HGWC-117A**	SM 2540C-2015	794085		
92682576008	**HAM-HGWC-118**	SM 2540C-2015	794085		
92682576009	**HAM-AP4-EB-04**	SM 2540C-2015	794085		
92682576010	**HAM-AP4-FB-04**	SM 2540C-2015	794085		
92682576011	**HAM-AP4-FD-04**	SM 2540C-2015	794085		
92681884001	**HAM-HGWA-47**	SM 2320B-2011	793564		
92681884002	**HAM-HGWA-48D**	SM 2320B-2011	793564		
92681884003	**HAM-HGWA-111**	SM 2320B-2011	793564		
92681884004	**HAM-HGWA-112**	SM 2320B-2011	793564		
92682392001	**HAM-HGWA-113**	SM 2320B-2011	793988		
92682576001	**HAM-HGWC-101**	SM 2320B-2011	794234		
92682576002	**HAM-HGWC-102**	SM 2320B-2011	794234		
92682576003	**HAM-HGWC-103**	SM 2320B-2011	794234		
92682576004	**HAM-HGWC-105**	SM 2320B-2011	794234		
92682576005	**HAM-HGWC-107**	SM 2320B-2011	794234		
92682576006	**HAM-HGWC-109**	SM 2320B-2011	794235		
92682576007	**HAM-HGWC-117A**	SM 2320B-2011	794235		
92682576008	**HAM-HGWC-118**	SM 2320B-2011	794235		
92682576011	**HAM-AP4-FD-04**	SM 2320B-2011	794235		
92681884001	**HAM-HGWA-47**	SM 4500-S2D-2011	793499		
92681884002	**HAM-HGWA-48D**	SM 4500-S2D-2011	793499		
92681884003	**HAM-HGWA-111**	SM 4500-S2D-2011	793499		
92681884004	**HAM-HGWA-112**	SM 4500-S2D-2011	793499		
92682392001	**HAM-HGWA-113**	SM 4500-S2D-2011	793500		
92682576001	**HAM-HGWC-101**	SM 4500-S2D-2011	793501		
92682576002	**HAM-HGWC-102**	SM 4500-S2D-2011	793501		
92682576003	**HAM-HGWC-103**	SM 4500-S2D-2011	793501		
92682576004	**HAM-HGWC-105**	SM 4500-S2D-2011	794102		
92682576005	**HAM-HGWC-107**	SM 4500-S2D-2011	794102		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Hammond AP-4
Pace Project No.: 92681884

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92682576006	**HAM-HGWC-109**	SM 4500-S2D-2011	794102		
92682576007	**HAM-HGWC-117A**	SM 4500-S2D-2011	794102		
92682576008	**HAM-HGWC-118**	SM 4500-S2D-2011	794102		
92682576011	**HAM-AP4-FD-04**	SM 4500-S2D-2011	794102		
92681884001	**HAM-HGWA-47**	EPA 300.0 Rev 2.1 1993	793207		
92681884002	**HAM-HGWA-48D**	EPA 300.0 Rev 2.1 1993	793207		
92681884003	**HAM-HGWA-111**	EPA 300.0 Rev 2.1 1993	793207		
92681884004	**HAM-HGWA-112**	EPA 300.0 Rev 2.1 1993	793207		
92682392001	**HAM-HGWA-113**	EPA 300.0 Rev 2.1 1993	793229		
92682576001	**HAM-HGWC-101**	EPA 300.0 Rev 2.1 1993	793554		
92682576002	**HAM-HGWC-102**	EPA 300.0 Rev 2.1 1993	793554		
92682576003	**HAM-HGWC-103**	EPA 300.0 Rev 2.1 1993	793554		
92682576004	**HAM-HGWC-105**	EPA 300.0 Rev 2.1 1993	793554		
92682576005	**HAM-HGWC-107**	EPA 300.0 Rev 2.1 1993	793554		
92682576006	**HAM-HGWC-109**	EPA 300.0 Rev 2.1 1993	793554		
92682576007	**HAM-HGWC-117A**	EPA 300.0 Rev 2.1 1993	793554		
92682576008	**HAM-HGWC-118**	EPA 300.0 Rev 2.1 1993	793554		
92682576009	**HAM-AP4-EB-04**	EPA 300.0 Rev 2.1 1993	793554		
92682576010	**HAM-AP4-FB-04**	EPA 300.0 Rev 2.1 1993	793554		
92682576011	**HAM-AP4-FD-04**	EPA 300.0 Rev 2.1 1993	793554		

Pace ANALYTICAL SERVICES

DC#_Title: ENV-FRM-HUN1-0083 v02_Sample Condition Upon Receipt

Effective Date: 11/14/2022

Laboratory receiving samples:

Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GA Power

Project #:

WO#:92681884

92681884

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

Custody Seal Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☐ No

Date/Initials Person Examining Contents: 8/9/23 CDL

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

Biological Tissue Frozen? ☐ Yes ☐ No ☑ N/A

Thermometer: ☑ IR Gun ID: 214

Type of Ice: ☑ Wet ☐ Blue ☐ None

Cooler Temp: 2.1 **Correction Factor:** Add/Subtract (°C) 0.0

Cooler Temp Corrected (°C): 2.1

Temp should be above freezing to 6°C

☐ Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil (☐ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: W				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: _____ **Date:** _____

Project Manager SRF Review: _____ **Date:** _____

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

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

****Bottom half of box is to list number of bottles**

*****Check all unpreserved Nitrates for chlorine**

Project #

WO#: 92681884

PM: BV Due Date: 08/23/23

CLIENT: 92-GP-HAM

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4B-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	DG94-40 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	KP7U-50 mL Plastic Unpreserved (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	BP1N	BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1		2	1			1	1																	2	1			
2		2	1			1	1																	2	1			
3		2	1			1	1																	2	1			
4		2	1			1	1																	2	1			
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

pH Adjustment Log for Preserved Samples

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

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

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

Company:	GA Power
Address:	Atlanta, GA
Email To:	SCS Contacts
Phone:	Fax:
Requested Due Date/TAT:	10 Day

Section B Required Project Information:

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Hammond AP-4
Project Number:	

Section C Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Bonnie Vang
Pace Profile #:	~~10839~~ 16485-9, 20

Page: of

REGULATORY AGENCY

NPDES | GROUND WATER | DRINKING WATER | UST | RCRA | ☑ OTHER CCR

Site Location STATE: GA

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes: MATRIX / CODE — DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE DATE	COMPOSITE TIME	COMPOSITE DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate (N)	Full App. III and IV metals (N)	RAD 226/228 (N)	TDS (N)	Major Ions (Profile 10839-2)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92681884
1	HAM-HGWA-47	WT	G	8/8/23	1625	TK 8/8/23		19	7	3		3					1		X	X	X	X	X	N	001
2	HAM-HGWA-48D	WT	G	8/8/23	1737			20	7	3		3					1		X	X	X	X	X	N	002
3	HAM-HGWA-111	WT	G	8/8/23	1853			20	7	3		3					1		X	X	X	X	X	N	003
4	HAM-HGWA-112	WT	G	8/8/23	1735			20	7	3		3					1		X	X	X	X	X	N	004
5																									
6																									
7																									
8	TK 8/8/23																								
9																									
10																									
11																									
12																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Task Code: HAM-CCR-ASSMT-2023S1	Thomas Kessler / Geosyntec	8/9/23	800	Elizabeth McDonnell (geo)	8/9/23	800	
	Elizabeth McDonnell (geo)	8/9/23	1140	Ryan William / Pace	8/9/23	1140	
	Ryan William / Pace	8/9/23	1415	[illegible signature]	8/9/23	1415	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: / Geosyntec Consultants, Inc

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-HUN1-0083 v02_Sample Condition Upon Receipt
	Effective Date: 11/14/2022

Laboratory receiving samples:

Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GA Power

Project #: WO#: 92681884

PM: BV Due Date: 08/23/23

CLIENT: 92- GP-HAM

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

Custody Seal Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☐ No

Date/Initials Person Examining Contents: 8/14/23 VH

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

Biological Tissue Frozen? ☐ Yes ☐ No ☐ N/A

Thermometer:

☐ IR Gun ID: 214 **Type of Ice:** ☑ Wet ☐ Blue ☐ None

Cooler Temp: 4.5 **Correction Factor:** Add/Subtract (°C) 0.0

Cooler Temp Corrected (°C): 4.5

Temp should be above freezing to 6°C

☐ Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil (☐ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: W				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

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

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

**Bottom half of box is to list number of bottles

***Check all unpreserved Nitrates for chlorine

Project # WO#: 92681884

PM: BV Due Date: 08/23/23

CLIENT: 92- GP-HAM

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4B-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	DG94-40 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	KP7U-50 mL Plastic Unpreserved (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	BP3N	BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1		2	1			1	1																		2				
2		2	1			1	1																		2				
3		2	1			1	1																		2				
4		2	1			1	1																		2				
5		2	1			1	1																		2				
6		2	1			1	1																		2				
7		2	1			1	1																		2				
8		2	1			1	1																		2				
9		2	1			1	1																		2				
10		2	1			1	1																		2				
11		2	1			1	1																		2				
12																													

pH Adjustment Log for Preserved Samples

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

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

CHAIN-OF-CUSTODY / Analytical Request Document

Pace Analytical — www.pacelabs.com

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

Page: 1 of 1

Section A Required Client Information:
- Company: GA Power
- Address: Atlanta, GA
- Email To: SCS Contacts
- Phone: Fax:
- Requested Due Date/TAT: 10 Day

Section B Required Project Information:
- Report To: SCS Contacts
- Copy To: Geosyntec Contacts
- Purchase Order No.:
- Project Name: Hammond AP-4
- Project Number:

Section C Invoice Information:
- Attention: Southern Co.
- Company Name:
- Address:
- Pace Quote Reference:
- Pace Project Manager: Bonnie Vang
- Pace Profile #: 10839

REGULATORY AGENCY
- ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
- ☐ UST ☐ RCRA ☑ OTHER CCR
- Site Location STATE: GA

Section D Required Client Information — Valid Matrix Codes: DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N): Chloride, Fluoride, Sulfate N; Full App. III and IV metals N; RAD 226/228 N; TDS N; Major Ions (Profile 10839-2) N

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COMPOSITE DATE	COMPOSITE TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Chloride, Fluoride, Sulfate	Full App. III and IV metals	RAD 226/228	TDS	Major Ions (Profile 10839-2)	Residual Chlorine (Y/N)	Pace Project No./Lab I.D. 92682576
1	HAM-HGWC-101	WG	G	8/11/2023	1155	TK 8/11/2023		20	7	3		3					1	X	X	X	X	X	N	001
2	HAM-HGWC-102	WG	G	8/11/2023	1625			22	7	3		3					1	X	X	X	X	X	N	002
3	HAM-HGWC-103	WG	G	8/11/2023	1425			19	7	3		3					1	X	X	X	X	X	N	003
4	HAM-HGWC-105	WG	G	8/11/2023	1102			19	7	3		3					1	X	X	X	X	X	N	004
5	HAM-HGWC-107	WG	G	8/11/2023	1440			22	7	3		3					1	X	X	X	X	X	N	005
6	HAM-HGWC-109	WG	G	8/11/2023	1132			20	7	3		3					1	X	X	X	X	X	N	006
7	HAM-HGWC-117A	WG	G	8/11/2023	1650			23	7	3		3					1	X	X	X	X	X	N	007
8	HAM-HGWC-118	WG	G	8/11/2023	1509			22	7	3		3					1	X	X	X	X	X	N	008
9	HAM-AP4-EB-04	WG	G	8/11/2023	1645			21	7	3		3					1	X	X	X	X		N	009
10	HAM-AP4-FB-04	WG	G	8/11/2023	1640			21	7	3		3					1	X	X	X	X		N	010
11	HAM-AP4-FD-04	WG	G	8/11/2023	0000			21	7	3		3					1	X	X	X	X	X	N	011
12						TK 8/11/2023																		Last Sample

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Task Code: HAM-CCR-ASSMT-2023S2O	Thomas Hussli / Geosyntec	8/14/2023	1115	Ryan Williams / Pace	8/14/2023	1115	
	Ryan Williams / Pace	8/14/2023	1332	[signature]	8/14/23	1332	

SAMPLER NAME AND SIGNATURE
- PRINT Name of SAMPLER: Thomas Hussli, Anthony Sewell, Conrad Gill Geosyntec Consultants, Inc.
- SIGNATURE of SAMPLER: [signatures]
- DATE Signed (MM/DD/YY): 08/11/23

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007

DC#_Title: ENV-FRM-HUN1-0083 v02_Sample Condition Upon Receipt

Effective Date: 11/14/2022

Laboratory receiving samples:

Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: B&A Power

Project #: WO#: 92681884

PM: BV Due Date: 08/23/23

CLIENT: 92- GP-HAM

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

Custody Seal Present? ☐ Yes ☑ No Seals Intact? ☐ Yes ☐ No

Date/Initials Person Examining Contents: 9/11/23 TM

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

Biological Tissue Frozen? ☐ Yes ☐ No ☐ N/A

Thermometer: ☑ IR Gun ID: 230

Type of Ice: ☑ Wet ☐ Blue ☐ None

Cooler Temp: 3.1 Correction Factor: Add/Subtract (°C) 0.0

Temp should be above freezing to 6°C

Cooler Temp Corrected (°C): 3.1

☐ Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil (☐ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☑ Yes	☐ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☐ Yes	☑ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: W				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date: 8/14/23

Project Manager SRF Review: Date: 8/14/23

Qualtrax ID: 69614

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

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

**Bottom half of box is to list number of bottles

***Check all unpreserved Nitrates for chlorine

Project : **WO# : 92681884**

PM: BV Due Date: 08/23/23

CLIENT: 92- GP-HAM

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4B-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	DG9H-40 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	KP7U-50 mL Plastic Unpreserved (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1		2	1		1	1	1																						
2																													
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

pH Adjustment Log for Preserved Samples

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

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

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A Required Client Information:

Company:	GA Power
Address:	Atlanta, GA
Email To:	SCS Contacts
Phone:	Fax:
Requested Due Date/TAT:	10 Day

Section B Required Project Information:

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Hammond AP-4
Project Number:	

Section C Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Bonnie Vang
Pace Profile #:	10839

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☑ OTHER CCR

Site Location STATE: GA

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE DATE	COLLECTED COMPOSITE TIME	COLLECTED COMPOSITE DATE	COLLECTED COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate	Full App. III and IV metals	RAD 226/228	TDS	Major Ions (Profile 10839-2)	Residual Chlorine (Y/N)
																		Requested Analysis Filtered (Y/N)	N	N	N	N	N	
1	HAM-HGWA-113	WG	G	8/10/2023	1622			25	7	3		3					1		X	X	X	X	X	N
2							TK 8/10/2023																	
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10							TK 8/10/2023																	
11																								
12																								

Pace Project No./ Lab I.D.: 92682392 001

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Task Code: HAM-CCR-ASSMT-2023S2	Anthony Sewart / Geosyntec	8/11/2023	1312	Ryan Williams / Pace	8/11/2023	1312	
	Ryan Williams / Pace	8/11/2023	1535	Charles Hardy	8/11/23	1537	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Anthony Sewart / Geosyntec Consultants, Inc.

SIGNATURE of SAMPLER: Anthony Sewart DATE Signed (MM/DD/YY): 08/10/2023

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

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

September 15, 2023

Kristen Jurinko
Southern Company
241 Ralph McGill Blvd NE
Bin 10160
Atlanta, GA 30308

RE: Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Dear Kristen Jurinko:

Enclosed are the analytical results for sample(s) received by the laboratory between August 09, 2023 and August 14, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Greensburg

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

Sincerely,

Bonnie Vang
bonnie.vang@pacelabs.com
(704)875-9092
Project Manager

Enclosures

cc: Kip Gray, Geosyntec
Christine Hug, Geosyntec Consultants, Inc.
Thomas Kessler, Geosyntec Consultants
Whitney Law, Geosyntec Consultants
Laura Midkiff, Southern Company
Caroline Nelson, Geosyntec

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
ANABISO/IEC 17025:2017 Rad Cert#: L24170
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 2950
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
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 Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA010
Louisiana DEQ/TNI Certification #: 04086
Maine Certification #: 2023021
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 #: PA014572023-03
New Hampshire/TNI Certification #: 297622
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 #: PA200002-015
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN02867
Texas/TNI Certification #: T104704188-22-18
Utah/TNI Certification #: PA014572223-14
USDA Soil Permit #: 525-23-67-77263
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE SUMMARY

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92681880001	**HAM-HGWA-47**	Water	08/08/23 16:25	08/09/23 11:40
92681880002	**HAM-HGWA-48D**	Water	08/08/23 17:37	08/09/23 11:40
92681880003	**HAM-HGWA-111**	Water	08/08/23 18:53	08/09/23 11:40
92681880004	**HAM-HGWA-112**	Water	08/08/23 17:35	08/09/23 11:40
92681880005	**HAM-HGWC-101**	Water	08/11/23 11:55	08/14/23 11:15
92681880006	**HAM-HGWC-102**	Water	08/11/23 16:25	08/14/23 11:15
92681880007	**HAM-HGWC-103**	Water	08/11/23 14:25	08/14/23 11:15
92681880008	**HAM-HGWC-105**	Water	08/11/23 11:02	08/14/23 11:15
92681880009	**HAM-HGWC-107**	Water	08/11/23 14:40	08/14/23 11:15
92681880010	**HAM-HGWC-109**	Water	08/11/23 11:32	08/14/23 11:15
92681880011	**HAM-HGWC-117A**	Water	08/11/23 16:50	08/14/23 11:15
92681880012	**HAM-HGWC-118**	Water	08/11/23 15:09	08/14/23 11:15
92681880013	**HAM-AP4-EB-04**	Water	08/11/23 16:45	08/14/23 11:15
92681880014	**HAM-AP4-FB-04**	Water	08/11/23 16:40	08/14/23 11:15
92681880015	**HAM-AP4-FD-04**	Water	08/11/23 00:00	08/14/23 11:15
92682400001	**HAM-HGWA-113**	Water	08/10/23 16:22	08/11/23 13:12

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92681880001	**HAM-HGWA-47**	EPA 9315	SLC	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	LAL	1	PASI-PA
92681880002	**HAM-HGWA-48D**	EPA 9315	SLC	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92681880003	**HAM-HGWA-111**	EPA 9315	SLC	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92681880004	**HAM-HGWA-112**	EPA 9315	SLC	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92681880005	**HAM-HGWC-101**	EPA 9315	SLC	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92681880006	**HAM-HGWC-102**	EPA 9315	SLC	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92681880007	**HAM-HGWC-103**	EPA 9315	SLC	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92681880008	**HAM-HGWC-105**	EPA 9315	SLC	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92681880009	**HAM-HGWC-107**	EPA 9315	SLC	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92681880010	**HAM-HGWC-109**	EPA 9315	SLC	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92681880011	**HAM-HGWC-117A**	EPA 9315	SLC	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92681880012	**HAM-HGWC-118**	EPA 9315	SLC	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92681880013	**HAM-AP4-EB-04**	EPA 9315	SLC	1	PASI-PA

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92681880014	**HAM-AP4-FB-04**	EPA 9315	SLC	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92681880015	**HAM-AP4-FD-04**	EPA 9315	SLC	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92682400001	**HAM-HGWA-113**	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SUMMARY OF DETECTION

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92681880001	**HAM-HGWA-47**					
EPA 9315	Radium-226	0.352U ± 0.302 (0.570) C:81% T:NA	pCi/L		09/13/23 10:05	
EPA 9320	Radium-228	0.150U ± 0.291 (0.642) C:82% T:88%	pCi/L		09/05/23 12:31	
Total Radium Calculation	Total Radium	0.502U ± 0.593 (1.21)	pCi/L		09/13/23 14:31	
92681880002	**HAM-HGWA-48D**					
EPA 9315	Radium-226	0.0755U ± 0.130 (0.295) C:88% T:NA	pCi/L		09/08/23 08:27	
EPA 9320	Radium-228	0.473U ± 0.389 (0.784) C:84% T:91%	pCi/L		09/05/23 12:32	
Total Radium Calculation	Total Radium	0.549U ± 0.519 (1.08)	pCi/L		09/08/23 17:15	
92681880003	**HAM-HGWA-111**					
EPA 9315	Radium-226	0.0915U ± 0.129 (0.280) C:86% T:NA	pCi/L		09/08/23 08:27	
EPA 9320	Radium-228	0.636U ± 0.386 (0.721) C:82% T:88%	pCi/L		09/05/23 12:32	
Total Radium Calculation	Total Radium	0.728U ± 0.515 (1.00)	pCi/L		09/08/23 17:15	
92681880004	**HAM-HGWA-112**					
EPA 9315	Radium-226	0.169U ± 0.143 (0.259) C:87% T:NA	pCi/L		09/08/23 08:26	
EPA 9320	Radium-228	0.554U ± 0.363 (0.697) C:84% T:93%	pCi/L		09/05/23 12:32	
Total Radium Calculation	Total Radium	0.723U ± 0.506 (0.956)	pCi/L		09/08/23 17:15	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SUMMARY OF DETECTION

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92681880005	**HAM-HGWC-101**					
EPA 9315	Radium-226	0.118U ± 0.124 (0.246) C:94% T:NA	pCi/L		09/08/23 08:28	
EPA 9320	Radium-228	0.812U ± 0.473 (0.886) C:82% T:81%	pCi/L		09/05/23 12:32	
Total Radium Calculation	Total Radium	0.930U ± 0.597 (1.13)	pCi/L		09/08/23 17:15	
92681880006	**HAM-HGWC-102**					
EPA 9315	Radium-226	0.119U ± 0.130 (0.263) C:91% T:NA	pCi/L		09/08/23 10:05	
EPA 9320	Radium-228	0.959 ± 0.464 (0.818) C:87% T:86%	pCi/L		09/05/23 15:35	
Total Radium Calculation	Total Radium	1.08U ± 0.594 (1.08)	pCi/L		09/08/23 17:15	
92681880007	**HAM-HGWC-103**					
EPA 9315	Radium-226	0.191U ± 0.138 (0.232) C:97% T:NA	pCi/L		09/08/23 10:06	
EPA 9320	Radium-228	0.658U ± 0.417 (0.787) C:82% T:83%	pCi/L		09/05/23 15:35	
Total Radium Calculation	Total Radium	0.849U ± 0.555 (1.02)	pCi/L		09/08/23 17:15	
92681880008	**HAM-HGWC-105**					
EPA 9315	Radium-226	0.292U ± 0.182 (0.297) C:87% T:NA	pCi/L		09/08/23 10:06	
EPA 9320	Radium-228	-0.0225U ± 0.343 (0.800) C:86% T:80%	pCi/L		09/05/23 15:36	
Total Radium Calculation	Total Radium	0.292U ± 0.525 (1.10)	pCi/L		09/08/23 17:15	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SUMMARY OF DETECTION

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92681880009	**HAM-HGWC-107**					
EPA 9315	Radium-226	0.166U ± 0.159 (0.312) C:84% T:NA	pCi/L		09/08/23 10:06	
EPA 9320	Radium-228	0.148U ± 0.418 (0.932) C:80% T:80%	pCi/L		09/05/23 15:36	
Total Radium Calculation	Total Radium	0.314U ± 0.577 (1.24)	pCi/L		09/08/23 17:15	
92681880010	**HAM-HGWC-109**					
EPA 9315	Radium-226	0.105U ± 0.127 (0.262) C:79% T:NA	pCi/L		09/08/23 10:07	
EPA 9320	Radium-228	-0.00707U ± 0.579 (1.34) C:81% T:83%	pCi/L		09/05/23 19:04	
Total Radium Calculation	Total Radium	0.105U ± 0.706 (1.60)	pCi/L		09/08/23 17:15	
92681880011	**HAM-HGWC-117A**					
EPA 9315	Radium-226	0.0573U ± 0.101 (0.229) C:93% T:NA	pCi/L		09/08/23 10:07	
EPA 9320	Radium-228	0.765 ± 0.395 (0.677) C:81% T:83%	pCi/L		09/05/23 15:34	
Total Radium Calculation	Total Radium	0.822U ± 0.496 (0.906)	pCi/L		09/08/23 17:15	
92681880012	**HAM-HGWC-118**					
EPA 9315	Radium-226	0.0521U ± 0.118 (0.280) C:82% T:NA	pCi/L		09/08/23 10:07	
EPA 9320	Radium-228	0.754 ± 0.404 (0.715) C:84% T:82%	pCi/L		09/05/23 15:34	
Total Radium Calculation	Total Radium	0.806U ± 0.522 (0.995)	pCi/L		09/08/23 17:15	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SUMMARY OF DETECTION

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92681880013	**HAM-AP4-EB-04**					
EPA 9315	Radium-226	0.137U ± 0.135 (0.268) C:87% T:NA	pCi/L		09/08/23 10:07	
EPA 9320	Radium-228	0.582U ± 0.354 (0.654) C:85% T:88%	pCi/L		09/05/23 15:34	
Total Radium Calculation	Total Radium	0.719U ± 0.489 (0.922)	pCi/L		09/08/23 17:15	
92681880014	**HAM-AP4-FB-04**					
EPA 9315	Radium-226	0.0807U ± 0.132 (0.296) C:94% T:NA	pCi/L		09/08/23 10:07	
EPA 9320	Radium-228	-0.0242U ± 0.290 (0.686) C:82% T:89%	pCi/L		09/05/23 15:34	
Total Radium Calculation	Total Radium	0.0807U ± 0.422 (0.982)	pCi/L		09/08/23 17:15	
92681880015	**HAM-AP4-FD-04**					
EPA 9315	Radium-226	0.0952U ± 0.122 (0.257) C:90% T:NA	pCi/L		09/08/23 10:01	
EPA 9320	Radium-228	1.31 ± 0.436 (0.572) C:90% T:88%	pCi/L		09/05/23 15:34	
Total Radium Calculation	Total Radium	1.41 ± 0.558 (0.829)	pCi/L		09/08/23 17:23	
92682400001	**HAM-HGWA-113**					
EPA 9315	Radium-226	0.244 ± 0.154 (0.214) C:92% T:NA	pCi/L		09/06/23 10:19	
EPA 9320	Radium-228	0.597U ± 0.374 (0.705) C:85% T:89%	pCi/L		08/31/23 12:14	
Total Radium Calculation	Total Radium	0.841U ± 0.528 (0.919)	pCi/L		09/06/23 15:35	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Sample: HAM-HGWA-47 **Lab ID: 92681880001** Collected: 08/08/23 16:25 Received: 08/09/23 11:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.352U ± 0.302 (0.570) C:81% T:NA**	pCi/L	09/13/23 10:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.150U ± 0.291 (0.642) C:82% T:88%**	pCi/L	09/05/23 12:31	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.502U ± 0.593 (1.21)**	pCi/L	09/13/23 14:31	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Sample: HAM-HGWA-48D **Lab ID: 92681880002** Collected: 08/08/23 17:37 Received: 08/09/23 11:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0755U ± 0.130 (0.295) C:88% T:NA**	pCi/L	09/08/23 08:27	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.473U ± 0.389 (0.784) C:84% T:91%**	pCi/L	09/05/23 12:32	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.549U ± 0.519 (1.08)**	pCi/L	09/08/23 17:15	7440-14-4	

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Sample: HAM-HGWA-111 **Lab ID: 92681880003** Collected: 08/08/23 18:53 Received: 08/09/23 11:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0915U ± 0.129 (0.280) C:86% T:NA**	pCi/L	09/08/23 08:27	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.636U ± 0.386 (0.721) C:82% T:88%**	pCi/L	09/05/23 12:32	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.728U ± 0.515 (1.00)**	pCi/L	09/08/23 17:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Sample: HAM-HGWA-112 **Lab ID: 92681880004** Collected: 08/08/23 17:35 Received: 08/09/23 11:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.169U ± 0.143 (0.259) C:87% T:NA**	pCi/L	09/08/23 08:26	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.554U ± 0.363 (0.697) C:84% T:93%**	pCi/L	09/05/23 12:32	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.723U ± 0.506 (0.956)**	pCi/L	09/08/23 17:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Sample: HAM-HGWC-101 **Lab ID: 92681880005** Collected: 08/11/23 11:55 Received: 08/14/23 11:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.118U ± 0.124 (0.246) C:94% T:NA**	pCi/L	09/08/23 08:28	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.812U ± 0.473 (0.886) C:82% T:81%**	pCi/L	09/05/23 12:32	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.930U ± 0.597 (1.13)**	pCi/L	09/08/23 17:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Sample: HAM-HGWC-102 **Lab ID: 92681880006** Collected: 08/11/23 16:25 Received: 08/14/23 11:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.119U ± 0.130 (0.263) C:91% T:NA**	pCi/L	09/08/23 10:05	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.959 ± 0.464 (0.818) C:87% T:86%**	pCi/L	09/05/23 15:35	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.08U ± 0.594 (1.08)**	pCi/L	09/08/23 17:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Sample: HAM-HGWC-103 **Lab ID: 92681880007** Collected: 08/11/23 14:25 Received: 08/14/23 11:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.191U ± 0.138 (0.232) C:97% T:NA**	pCi/L	09/08/23 10:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.658U ± 0.417 (0.787) C:82% T:83%**	pCi/L	09/05/23 15:35	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.849U ± 0.555 (1.02)**	pCi/L	09/08/23 17:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Sample: HAM-HGWC-105 **Lab ID: 92681880008** Collected: 08/11/23 11:02 Received: 08/14/23 11:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.292U ± 0.182 (0.297) C:87% T:NA**	pCi/L	09/08/23 10:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**-0.0225U ± 0.343 (0.800) C:86% T:80%**	pCi/L	09/05/23 15:36	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.292U ± 0.525 (1.10)**	pCi/L	09/08/23 17:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Sample: HAM-HGWC-107 **Lab ID: 92681880009** Collected: 08/11/23 14:40 Received: 08/14/23 11:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.166U ± 0.159 (0.312) C:84% T:NA**	pCi/L	09/08/23 10:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.148U ± 0.418 (0.932) C:80% T:80%**	pCi/L	09/05/23 15:36	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.314U ± 0.577 (1.24)**	pCi/L	09/08/23 17:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Sample: HAM-HGWC-109 **Lab ID: 92681880010** Collected: 08/11/23 11:32 Received: 08/14/23 11:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.105U ± 0.127 (0.262) C:79% T:NA**	pCi/L	09/08/23 10:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**-0.00707U ± 0.579 (1.34) C:81% T:83%**	pCi/L	09/05/23 19:04	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.105U ± 0.706 (1.60)**	pCi/L	09/08/23 17:15	7440-14-4	

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Sample: HAM-HGWC-117A **Lab ID: 92681880011** Collected: 08/11/23 16:50 Received: 08/14/23 11:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0573U ± 0.101 (0.229) C:93% T:NA**	pCi/L	09/08/23 10:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.765 ± 0.395 (0.677) C:81% T:83%**	pCi/L	09/05/23 15:34	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.822U ± 0.496 (0.906)**	pCi/L	09/08/23 17:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Sample: HAM-HGWC-118 **Lab ID: 92681880012** Collected: 08/11/23 15:09 Received: 08/14/23 11:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0521U ± 0.118 (0.280) C:82% T:NA**	pCi/L	09/08/23 10:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.754 ± 0.404 (0.715) C:84% T:82%**	pCi/L	09/05/23 15:34	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.806U ± 0.522 (0.995)**	pCi/L	09/08/23 17:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Sample: HAM-AP4-EB-04 **Lab ID: 92681880013** Collected: 08/11/23 16:45 Received: 08/14/23 11:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.137U ± 0.135 (0.268) C:87% T:NA**	pCi/L	09/08/23 10:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.582U ± 0.354 (0.654) C:85% T:88%**	pCi/L	09/05/23 15:34	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.719U ± 0.489 (0.922)**	pCi/L	09/08/23 17:15	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Sample: HAM-AP4-FB-04 **Lab ID: 92681880014** Collected: 08/11/23 16:40 Received: 08/14/23 11:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0807U ± 0.132 (0.296) C:94% T:NA**	pCi/L	09/08/23 10:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**-0.0242U ± 0.290 (0.686) C:82% T:89%**	pCi/L	09/05/23 15:34	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.0807U ± 0.422 (0.982)**	pCi/L	09/08/23 17:15	7440-14-4	

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Sample: HAM-AP4-FD-04 **Lab ID: 92681880015** Collected: 08/11/23 00:00 Received: 08/14/23 11:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0952U ± 0.122 (0.257) C:90% T:NA**	pCi/L	09/08/23 10:01	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.31 ± 0.436 (0.572) C:90% T:88%**	pCi/L	09/05/23 15:34	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.41 ± 0.558 (0.829)**	pCi/L	09/08/23 17:23	7440-14-4	

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Sample: HAM-HGWA-113 **Lab ID: 92682400001** Collected: 08/10/23 16:22 Received: 08/11/23 13:12 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.244 ± 0.154 (0.214) C:92% T:NA**	pCi/L	09/06/23 10:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.597U ± 0.374 (0.705) C:85% T:89%**	pCi/L	08/31/23 12:14	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.841U ± 0.528 (0.919)**	pCi/L	09/06/23 15:35	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL - RADIOCHEMISTRY

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

QC Batch: 612653
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92681880001

METHOD BLANK: 2982188
Matrix: Water
Associated Lab Samples: 92681880001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.265 ± 0.268 (0.528) C:84% T:NA	pCi/L	09/13/23 10:05	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL - RADIOCHEMISTRY

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

QC Batch: 610549
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92682400001

METHOD BLANK: 2971498
Matrix: Water
Associated Lab Samples: 92682400001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.453 ± 0.248 (0.409) C:88% T:87%	pCi/L	08/31/23 12:16	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL - RADIOCHEMISTRY

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

QC Batch: 611582
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92681880001, 92681880002, 92681880003, 92681880004, 92681880005, 92681880006, 92681880007, 92681880008, 92681880009, 92681880010, 92681880011, 92681880012, 92681880013, 92681880014, 92681880015

METHOD BLANK: 2976831
Matrix: Water
Associated Lab Samples: 92681880001, 92681880002, 92681880003, 92681880004, 92681880005, 92681880006, 92681880007, 92681880008, 92681880009, 92681880010, 92681880011, 92681880012, 92681880013, 92681880014, 92681880015

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.560 ± 0.317 (0.565) C:85% T:93%	pCi/L	09/05/23 12:32	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL - RADIOCHEMISTRY

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

QC Batch: 611645
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92681880002, 92681880003, 92681880004, 92681880005, 92681880006, 92681880007, 92681880008, 92681880009, 92681880010, 92681880011, 92681880012, 92681880013, 92681880014

METHOD BLANK: 2977130
Matrix: Water
Associated Lab Samples: 92681880002, 92681880003, 92681880004, 92681880005, 92681880006, 92681880007, 92681880008, 92681880009, 92681880010, 92681880011, 92681880012, 92681880013, 92681880014

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0856 ± 0.0973 (0.188) C:95% T:NA	pCi/L	09/07/23 15:00	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL - RADIOCHEMISTRY

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

QC Batch: 611647
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92681880015

METHOD BLANK: 2977138 Matrix: Water
Associated Lab Samples: 92681880015

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0931 ± 0.137 (0.301) C:88% T:NA	pCi/L	09/08/23 10:01	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL - RADIOCHEMISTRY

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

QC Batch: 610646
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92682400001

METHOD BLANK: 2971911 Matrix: Water
Associated Lab Samples: 92682400001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0783 ± 0.129 (0.288) C:89% T:NA	pCi/L	09/06/23 10:17	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92681880001	**HAM-HGWA-47**	EPA 9315	612653		
92681880002	**HAM-HGWA-48D**	EPA 9315	611645		
92681880003	**HAM-HGWA-111**	EPA 9315	611645		
92681880004	**HAM-HGWA-112**	EPA 9315	611645		
92682400001	**HAM-HGWA-113**	EPA 9315	610646		
92681880005	**HAM-HGWC-101**	EPA 9315	611645		
92681880006	**HAM-HGWC-102**	EPA 9315	611645		
92681880007	**HAM-HGWC-103**	EPA 9315	611645		
92681880008	**HAM-HGWC-105**	EPA 9315	611645		
92681880009	**HAM-HGWC-107**	EPA 9315	611645		
92681880010	**HAM-HGWC-109**	EPA 9315	611645		
92681880011	**HAM-HGWC-117A**	EPA 9315	611645		
92681880012	**HAM-HGWC-118**	EPA 9315	611645		
92681880013	**HAM-AP4-EB-04**	EPA 9315	611645		
92681880014	**HAM-AP4-FB-04**	EPA 9315	611645		
92681880015	**HAM-AP4-FD-04**	EPA 9315	611647		
92681880001	**HAM-HGWA-47**	EPA 9320	611582		
92681880002	**HAM-HGWA-48D**	EPA 9320	611582		
92681880003	**HAM-HGWA-111**	EPA 9320	611582		
92681880004	**HAM-HGWA-112**	EPA 9320	611582		
92682400001	**HAM-HGWA-113**	EPA 9320	610549		
92681880005	**HAM-HGWC-101**	EPA 9320	611582		
92681880006	**HAM-HGWC-102**	EPA 9320	611582		
92681880007	**HAM-HGWC-103**	EPA 9320	611582		
92681880008	**HAM-HGWC-105**	EPA 9320	611582		
92681880009	**HAM-HGWC-107**	EPA 9320	611582		
92681880010	**HAM-HGWC-109**	EPA 9320	611582		
92681880011	**HAM-HGWC-117A**	EPA 9320	611582		
92681880012	**HAM-HGWC-118**	EPA 9320	611582		
92681880013	**HAM-AP4-EB-04**	EPA 9320	611582		
92681880014	**HAM-AP4-FB-04**	EPA 9320	611582		
92681880015	**HAM-AP4-FD-04**	EPA 9320	611582		
92681880001	**HAM-HGWA-47**	Total Radium Calculation	615224		
92681880002	**HAM-HGWA-48D**	Total Radium Calculation	614326		
92681880003	**HAM-HGWA-111**	Total Radium Calculation	614326		
92681880004	**HAM-HGWA-112**	Total Radium Calculation	614326		
92682400001	**HAM-HGWA-113**	Total Radium Calculation	613658		
92681880005	**HAM-HGWC-101**	Total Radium Calculation	614326		
92681880006	**HAM-HGWC-102**	Total Radium Calculation	614326		
92681880007	**HAM-HGWC-103**	Total Radium Calculation	614326		
92681880008	**HAM-HGWC-105**	Total Radium Calculation	614326		
92681880009	**HAM-HGWC-107**	Total Radium Calculation	614326		
92681880010	**HAM-HGWC-109**	Total Radium Calculation	614326		

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Hammond AP-4- RADs
Pace Project No.: 92681880

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92681880011	**HAM-HGWC-117A**	Total Radium Calculation	614326		
92681880012	**HAM-HGWC-118**	Total Radium Calculation	614326		
92681880013	**HAM-AP4-EB-04**	Total Radium Calculation	614326		
92681880014	**HAM-AP4-FB-04**	Total Radium Calculation	614326		
92681880015	**HAM-AP4-FD-04**	Total Radium Calculation	614331		

Pace ANALYTICAL SERVICES

DC#_Title: ENV-FRM-HUN1-0083 v02_Sample Condition Upon Receipt

Effective Date: 11/14/2022

Laboratory receiving samples:

Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GA Power

Project #: WO#:92681880

92681880

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

Custody Seal Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☐ No

Date/Initials Person Examining Contents: 8/9/23 CDL

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

Biological Tissue Frozen? ☐ Yes ☐ No ☑ N/A

Thermometer: ☑ IR Gun ID: 214

Type of ice: ☑ Wet ☐ Blue ☐ None

Cooler Temp: 2.1 **Correction Factor:** Add/Subtract (°C) 0.0

Cooler Temp Corrected (°C): 2.1

Temp should be above freezing to 6°C

☐ Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil (☐ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: W				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

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

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

****Bottom half of box is to list number of bottles**

*****Check all unpreserved Nitrates for chlorine**

Project # WO#:92681880

PM: BV Due Date: 08/30/23

CLIENT: 92-GP-HAM

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4B-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	DG9A-40 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	KP7U-50 mL Plastic Unpreserved (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	BP3N	BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1		2	1			1	1																		2				
2		2	1			1	1																		2				
3		2	1			1	1																		2				
4		2	1			1	1																		2				
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

pH Adjustment Log for Preserved Samples

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

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

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: of

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: GA Power	Report To: SCS Contacts	Attention: Southern Co.
Address: Atlanta, GA	Copy To: Geosyntec Contacts	Company Name:
		Address:
Email To: SCS Contacts	Purchase Order No.:	Pace Quote Reference:
Phone: Fax	Project Name: Hammond AP-4	Pace Project Manager: Bonnie Vang
Requested Due Date/TAT: 10 Day	Project Number:	Pace Profile #: 10839 ~~16503-3,6~~ 16483-9, 20

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☑ OTHER CCR

Site Location STATE: GA

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	Valid Matrix Codes MATRIX / CODE: DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END DATE	COLLECTED COMPOSITE END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate	Full App. III and IV metals	[redacted]	TDS	Major Ions (Profile 10839-2)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																				N	N	N	N	N	N		
1	HAM-HGWA-47		WT	G	8/8/23	1625				19	7	3		3				1		X	X	X	X	X		N	001
2	HAM-HGWA-48D		WT	G	8/8/23	1737	TK 8/8/23			20	7	3		3				1		X	X	X	X	X		N	002
3	HAM-HGWA-111		WT	G	8/8/23	1853				20	7	3		3				1		X	X	X	X	X		N	003
4	HAM-HGWA-112		WT	G	8/8/23	1735				20	7	3		3				1		X	X	X	X	X		N	004
5																											
6																											
7																											
8							TK 8/8/23																				
9																											
10																											
11																											
12																											

92681880 Pace Project No./ Lab I.D.

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Task Code: HAM-CCR-ASSMT-2023S1	Thomas Kessler / GEOSYNTEC	8/9/23	0800	Elizabeth McDonnell (GPC)	8/9/23	800	
	Elizabeth McDonnell (GPC)	8/9/23	1190	Ryan William / Pace	8/9/23	1140	
	Ryan William / Pace	8/9/23	1415	Claudia Hanks	8/9/23	1415	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: / Geosyntec Consultants, Inc

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical Services	DC#_Title: ENV-FRM-HUN1-0083 v02_Sample Condition Upon Receipt
	Effective Date: 11/14/2022

Laboratory receiving samples:

Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GA Power

Project #: WO#: 92681880

PM: BV Due Date: 08/30/23

CLIENT: 92- GP-HAM

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

Custody Seal Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☐ No

Date/Initials Person Examining Contents: 8/14/23 VB

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

Biological Tissue Frozen? ☐ Yes ☐ No ☑ N/A

Thermometer: ☐ IR Gun ID: 214

Type of Ice: ☑ Wet ☐ Blue ☐ None

Cooler Temp: 4.5 **Correction Factor:** Add/Subtract (°C) 0.0

Cooler Temp Corrected (°C): 4.5

Temp should be above freezing to 6°C

☐ Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil (☐ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: W				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

WO# : 92681880

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

Project #

PM: BV Due Date: 08/30/23

CLIENT: 92- GP-HAM

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

****Bottom half of box is to list number of bottles**

*****Check all unpreserved Nitrates for chlorine**

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4B-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	DG94-40 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	KP7U-50 mL Plastic Unpreserved (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A - lab)	SP2T-250 mL Sterile Plastic (N/A - lab)	BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1		2	1			1	1																	2				
2		2	1			1	1																	2				
3		2	1			1	1																	2				
4		2	1			1	1																	2				
5		2	1			1	1																	2				
6		2	1			1	1																	2				
7		2	1			1	1																	2				
8		2	1			1	1																	2				
9		2	1			1	1																	2				
10		2	1			1	1																	2				
11		2	1			1	1																	2				
12																												

pH Adjustment Log for Preserved Samples

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

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

Pace Analytical™
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A Required Client Information:
- Company: GA Power
- Address: Atlanta, GA
- Email To: SCS Contacts
- Phone:
- Fax:
- Requested Due Date/TAT: 10 Day

Section B Required Project Information:
- Report To: SCS Contacts
- Copy To: Geosyntec Contacts
- Purchase Order No.:
- Project Name: Hammond AP-4
- Project Number:

Section C Invoice Information:
- Attention: Southern Co.
- Company Name:
- Address:
- Pace Quote Reference:
- Pace Project Manager: Bonnie Vang
- Pace Profile #: 10839

REGULATORY AGENCY
- ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
- ☐ UST ☐ RCRA ☑ OTHER CCR
- Site Location STATE: GA

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes: MATRIX / CODE — DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE DATE	COLLECTED COMPOSITE TIME	COLLECTED COMPOSITE DATE	COLLECTED COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate (N)	Full App. III and IV metals (N)	RAD 226/228 (N)	TDS (N)	Major Ions (Profile 10839-2) (N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92681880
1	HAM-HGWC-101	WG	G	8/11/2023	1155	TK 8/11/2023		20	7	3		3					1		X	X	X	X	X	N	003
2	HAM-HGWC-102	WG	G	8/11/2023	1625			22	7	3		3					1		X	X	X	X	X	N	006
3	HAM-HGWC-103	WG	G	8/11/2023	1425			19	7	3		3					1		X	X	X	X	X	N	007
4	HAM-HGWC-105	WG	G	8/11/2023	1102			19	7	3		3					1		X	X	X	X	X	N	008
5	HAM-HGWC-107	WG	G	8/11/2023	1440			22	7	3		3					1		X	X	X	X	X	N	009
6	HAM-HGWC-109	WG	G	8/11/2023	1132			20	7	3		3					1		X	X	X	X	X	N	010
7	HAM-HGWC-117A	WG	G	8/11/2023	1650			23	7	3		3					1		X	X	X	X	X	N	011
8	HAM-HGWC-118	WG	G	8/11/2023	1509			22	7	3		3					1		X	X	X	X	X	N	012
9	HAM-AP4-EB-04	WQ	G	8/11/2023	1845			21	7	3		3					1		X	X	X	X		N	013
10	HAM-AP4-FB-04	WQ	G	8/11/2023	1840			21	7	3		3					1		X	X	X	X		N	014
11	HAM-AP4-FD-04	WG	G	8/11/2023	0000			21	7	3		3					1		X	X	X	X	X	N	015
12						TK 8/11/2023																			Last Sample

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Task Code: HAM-CCR-ASSMT-2023S2	Thomas Hussle / Geosyntec	8/14/2023	1115	Ryan Williams / Pace	8/14/2023	1115	
	Ryan Williams / Pace	8/14/2023	1332	[signature]	8/14/23	1332	

SAMPLER NAME AND SIGNATURE
- PRINT Name of SAMPLER: Thomas Hussle, Anthony Seward, Connell Geosyntec Consultants, Inc.
- SIGNATURE of SAMPLER: [signatures]
- DATE Signed (MM/DD/YY): 08/11/23

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

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007

DC#_Title: ENV-FRM-HUN1-0083 v02_Sample Condition Upon Receipt

Effective Date: 11/14/2022

Laboratory receiving samples:

Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GA Power

Project #: WO#: 92681880

PM: BV Due Date: 08/30/23

CLIENT: 92- GP-HAM

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

Custody Seal Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☐ No

Date/Initials Person Examining Contents: Y/11/23 TH

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

Biological Tissue Frozen? ☐ Yes ☐ No ☐ N/A

Thermometer: ☑ IR Gun ID: 230

Type of Ice: ☑ Wet ☐ Blue ☐ None

Cooler Temp: 3.1 **Correction Factor:** Add/Subtract (°C) 0.0

Cooler Temp Corrected (°C): 3.1

Temp should be above freezing to 6°C

☐ Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil (☐ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☑ Yes	☐ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☐ Yes	☑ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: W				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

WO# : 92681880

PM: BV Due Date: 08/30/23

CLIENT: 92- GP-HAM

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

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

Project #

**Bottom half of box is to list number of bottles

***Check all unpreserved Nitrates for chlorine

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4B-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	DG94-40 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	KP7U-50 mL Plastic Unpreserved (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	BP1N	BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1																													
2																													
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

pH Adjustment Log for Preserved Samples

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

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

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A Required Client Information:

Company:	GA Power
Address:	Atlanta, GA
Email To:	SCS Contacts
Phone:	Fax:
Requested Due Date/TAT:	10 Day

Section B Required Project Information:

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Hammond AP-4
Project Number:	

Section C Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Bonnie Vang
Pace Profile #:	10839

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☑ OTHER CCR

Site Location STATE: GA

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE DATE	COLLECTED COMPOSITE TIME	COLLECTED COMPOSITE DATE	COLLECTED COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate	Full App. III and IV metals	RAD 226/228	TDS	Major Ions (Profile 10838-2)	Residual Chlorine (Y/N)
																		Y/N	N	N	N	N	N	
1	HAM-HGWA-113	WG	G	8/10/2023	1622				25	7	3		3				1		X	X	X	X	X	N
2						TK 8/10/2023																		
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10						TK 8/10/2023																		
11																								
12																								

Requested Analysis Filtered (Y/N)

92682400 Pace Project No./ Lab I.D.

001

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Task Code: HAM-CCR-ASSMT-2023S2	Anthony Sennett / Geosyntec	8/11/2023	1312	Ryan Williams / Pace	8/11/2023	1312	
	Ryan Williams / Pace	8/11/2023	1535	Charles Hanks	8/11/23		

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Anthony Sennett / Geosyntec Consultants, Inc.

SIGNATURE of SAMPLER: Anthony Sennett DATE Signed (MM/DD/YY): 08/10/2023

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-228
Analyst:	JJS1
Date:	8/28/2023
Worklist:	74945
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2971498
MB concentration:	0.453
M/B 2 Sigma CSU:	0.248
MB MDC:	0.409
MB Numerical Performance Indicator:	3.58
MB Status vs Numerical Indicator:	Fail*
MB Status vs. MDC:	See Comment*

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS74945	LCSD74945
Count Date:	8/31/2023	8/31/2023
Spike I.D.:	23-043	23-043
Decay Corrected Spike Concentration (pCi/mL):	40.012	40.012
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.818	0.818
Target Conc. (pCi/L, g, F):	4.890	4.890
Uncertainty (Calculated):	0.240	0.240
Result (pCi/L, g, F):	3.106	4.025
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	0.732	0.889
Numerical Performance Indicator:	-4.54	-1.84
Percent Recovery:	63.51%	82.32%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

Duplicate Sample Assessment		
Sample I.D.:	LCS74945	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD74945	
Sample Result (pCi/L, g, F):	3.106	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.732	
Sample Duplicate Result (pCi/L, g, F):	4.025	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	0.889	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-1.565	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	25.80%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	36%	

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

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

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

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

VAM 9/5/23

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-228
Analyst:	VAL
Date:	8/31/2023
Worklist:	75027
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2976831
MB concentration:	0.560
M/B 2 Sigma CSU:	0.317
MB MDC:	0.565
MB Numerical Performance Indicator:	3.47
MB Status vs Numerical Indicator:	Fail*
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS75027	LCSD75027
Count Date:	9/5/2023	9/5/2023
Spike I.D.:	23-043	23-043
Decay Corrected Spike Concentration (pCi/mL):	39.944	39.944
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.817	0.816
Target Conc. (pCi/L, g, F):	4.886	4.896
Uncertainty (Calculated):	0.239	0.240
Result (pCi/L, g, F):	5.058	4.517
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.099	1.018
Numerical Performance Indicator:	0.30	-0.71
Percent Recovery:	103.51%	92.25%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

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

Duplicate Sample Assessment		
Sample I.D.:	LCS75027	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD75027	
Sample Result (pCi/L, g, F):	5.058	
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.099	
Sample Duplicate Result (pCi/L, g, F):	4.517	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.018	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	0.708	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	11.51%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	36%	

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

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

Comments:

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

VAL 9/8/23 9/8/23

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test: Ra-228
Analyst: JJS1
Date: 8/31/2023
Worklist: 75028
Matrix: WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2976835
MB concentration:	0.100
M/B 2 Sigma CSU:	0.312
MB MDC:	0.703
MB Numerical Performance Indicator:	0.63
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS75028	LCSD75028
Count Date:	9/6/2023	9/6/2023
Spike I.D.:	23-043	23-043
Decay Corrected Spike Concentration (pCi/mL):	39.931	39.931
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.820	0.817
Target Conc. (pCi/L, g, F):	4.871	4.885
Uncertainty (Calculated):	0.239	0.239
Result (pCi/L, g, F):	4.767	3.683
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.036	0.867
Numerical Performance Indicator:	-0.19	-2.62
Percent Recovery:	97.85%	75.39%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

Duplicate Sample Assessment		
Sample I.D.:	LCS75028	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD75028	
Sample Result (pCi/L, g, F):	4.767	
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.036	
Sample Duplicate Result (pCi/L, g, F):	3.683	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	0.867	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	1.573	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	25.93%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	36%	

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

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

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

Comments:

VAL
9/8/23

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Test:	Ra-226
Analyst:	SLC
Date:	9/2/2023
Worklist:	74954
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2971911
MB concentration:	0.078
M/B 2 Sigma CSU:	0.129
MB MDC:	0.288
MB Numerical Performance Indicator:	1.19
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	N/A

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS74954	LCSD74954
Count Date:	9/6/2023	9/6/2023
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.014	24.014
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.503	0.505
Target Conc. (pCi/L, g, F):	4.775	4.753
Uncertainty (Calculated):	0.057	0.057
Result (pCi/L, g, F):	5.365	5.002
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.001	0.935
Numerical Performance Indicator:	1.15	0.52
Percent Recovery:	112.37%	105.23%
Status vs Numerical Indicator:	Pass	Pass
Status vs Recovery:	N/A	N/A
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

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

Duplicate Sample Assessment		
Sample I.D.:	LCS74954	92681881004
Duplicate Sample I.D.	LCSD74954	92681881004DUP
Sample Result (pCi/L, g, F):	5.365	0.377
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.001	0.213
Sample Duplicate Result (pCi/L, g, F):	5.002	0.203
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	0.935	0.178
Are sample and/or duplicate results below RL?	NO	See Below ##
Duplicate Numerical Performance Indicator:	0.520	1.231
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	6.56%	60.17%
Duplicate Status vs Numerical Indicator:	Pass	Pass
Duplicate Status vs RPD:	N/A	N/A
% RPD Limit:	25%	25%

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

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

Comments:

LAM 9/7/23

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Test:	Ra-226
Analyst:	SLC
Date:	9/2/2023
Worklist:	75040
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2977130
MB concentration:	0.086
M/B 2 Sigma CSU:	0.097
MB MDC:	0.188
MB Numerical Performance Indicator:	1.72
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	N/A

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS75040	LCSD75040
Count Date:	9/8/2023	9/8/2023
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.013	24.013
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.503	0.503
Target Conc. (pCi/L, g, F):	4.779	4.771
Uncertainty (Calculated):	0.057	0.057
Result (pCi/L, g, F):	5.033	5.858
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	0.911	1.031
Numerical Performance Indicator:	0.55	2.06
Percent Recovery:	105.33%	122.77%
Status vs Numerical Indicator:	Pass	Warning
Status vs Recovery:	N/A	N/A
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

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

Duplicate Sample Assessment		
Sample I.D.:	LCS75040	92681880014
Duplicate Sample I.D.	LCSD75040	92681880014DUP
Sample Result (pCi/L, g, F):	5.033	0.081
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.911	0.132
Sample Duplicate Result (pCi/L, g, F):	5.858	0.046
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.031	0.115
Are sample and/or duplicate results below RL?	NO	See Below ##
Duplicate Numerical Performance Indicator:	-1.175	0.388
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	15.30%	54.79%
Duplicate Status vs Numerical Indicator:	Pass	Pass
Duplicate Status vs RPD:	N/A	N/A
% RPD Limit:	25%	25%

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

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

Comments:

9/8/23

VAN 9/8/23

Quality Control Sample Performance Assessment

Pace Analytical™
www.pacelabs.com

Test:	Ra-226
Analyst:	SLC
Date:	9/2/2023
Worklist:	75041
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2977138
MB concentration:	0.093
M/B 2 Sigma CSU:	0.137
MB MDC:	0.301
MB Numerical Performance Indicator:	1.33
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	N/A

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS75041	LCSD75041
Count Date:	9/8/2023	9/8/2023
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.013	24.013
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.508	0.509
Target Conc. (pCi/L, g, F):	4.723	4.719
Uncertainty (Calculated):	0.057	0.057
Result (pCi/L, g, F):	6.089	5.435
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.073	0.974
Numerical Performance Indicator:	2.49	1.44
Percent Recovery:	128.92%	115.19%
Status vs Numerical Indicator:	Warning	Pass
Status vs Recovery:	N/A	N/A
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

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

Duplicate Sample Assessment		
Sample I.D.:	LCS75041	92683138001
Duplicate Sample I.D.	LCSD75041	92683138001DUP
Sample Result (pCi/L, g, F):	6.089	0.119
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.073	0.138
Sample Duplicate Result (pCi/L, g, F):	5.435	0.263
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	0.974	0.147
Are sample and/or duplicate results below RL?	NO	See Below ##
Duplicate Numerical Performance Indicator:	0.884	-1.390
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	11.25%	74.93%
Duplicate Status vs Numerical Indicator:	Pass	Pass
Duplicate Status vs RPD:	N/A	N/A
% RPD Limit:	25%	25%

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

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

Comments:

9/8/23

LAM 9/8/23

Quality Control Sample Performance Assessment

Pace Analytical™
www.pacelabs.com

Test:	Ra-226
Analyst:	SLC
Date:	9/12/2023
Worklist:	75104
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2982188
MB concentration:	0.265
M/B 2 Sigma CSU:	0.268
MB MDC:	0.528
MB Numerical Performance Indicator:	1.94
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	N/A

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS75104	LCSD75104
Count Date:	9/13/2023	9/13/2023
Spike I.D.:	23-014	23-014
Decay Corrected Spike Concentration (pCi/mL):	25.031	25.031
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.503	0.502
Target Conc. (pCi/L, g, F):	4.980	4.989
Uncertainty (Calculated):	0.234	0.234
Result (pCi/L, g, F):	5.174	4.966
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.095	1.046
Numerical Performance Indicator:	0.34	-0.04
Percent Recovery:	103.89%	99.54%
Status vs Numerical Indicator:	Pass	Pass
Status vs Recovery:	N/A	N/A
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

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

Duplicate Sample Assessment		
Sample I.D.:	LCS75104	92683386017
Duplicate Sample I.D.	LCSD75104	92683386017DUP
Sample Result (pCi/L, g, F):	5.174	0.347
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.095	0.284
Sample Duplicate Result (pCi/L, g, F):	4.966	0.058
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.046	0.237
Are sample and/or duplicate results below RL?	NO	See Below ##
Duplicate Numerical Performance Indicator:	0.269	1.535
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	4.27%	143.18%
Duplicate Status vs Numerical Indicator:	Pass	Pass
Duplicate Status vs RPD:	N/A	N/A
% RPD Limit:	25%	25%

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

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

Comments:

VAM 9/13/23

VALIDATION REPORTS

Geosyntec consultants

180A Marketplace Blvd
Knoxville, TN 37922
PH 865.330.0037
www.geosyntec.com

Date:	10 January 2024
To:	Thomas Kessler
From:	Derek Yeadon
CC:	Kristoffer Henderson
Subject:	**Hammond AP-4 - Stages 2A Validation - Level II Data Deliverable – Pace Analytical Services, Project Number: 92681884**

SITE: Plant Hammond AP-4

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of thirteen aqueous samples, one field duplicate, one field blank, and one equipment blank, collected 3 and 10-11 August 2023, as part of the Plant Hammond AP on-site sampling event.

The samples were analyzed at Pace Analytical Services Atlanta, Peachtree Corners, Georgia, for the following analytical tests:

- Metals by United States Environmental Protection Agency (US EPA) Methods 3010A/6010D
- Metals by USEPA Methods 3005A/6020B
- Mercury by USEPA Method 7470A
- Total Dissolved Solids (TDS) by Standard Method (SM) 2540C

The samples were analyzed at Pace Analytical Services Asheville, North Carolina, for the following analytical test:

- Alkalinity by SM 400-S2D-2011
- Anions (Chloride, Fluoride and Sulfate) by USEPA Method 300.0
- Sulfide by SM 4500-S2D

EXECUTIVE SUMMARY

Overall, based on this Stage 2A data validation covering the quality control (QC) parameters listed below and based on the information provided, the data as qualified are usable for supporting project objectives. The qualified data should be used within the limitations of the qualifications. If there are results with two or more different qualifications due to multiple QC failures, the final qualification is reconciled in the electronic data deliverable (EDD) with qualifications.

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, November 2020 (EPA 542-R-20-006); 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
92681884001	HAM-HGWA-47
92681884002	HAM-HGWA-48D
92681884003	HAM-HGWA-111
92681884004	HAM-HGWA-112
92682576001	HAM-HGWC-101
92682576002	HAM-HGWC-102
92682576003	HAM-HGWC-103
92682576004	HAM-HGWC-105

Laboratory ID	Client ID
92682576005	HAM-HGWC-107
92682576006	HAM-HGWC-109
92682576007	HAM-HGWC-117A
92682576008	HAM-HGWC-118
92682576009	HAM-AP4-EB-04
92682576010	HAM-AP4-FB-04
92682576011	HAM-AP4-FD-04
92682392001	HAM-HGWA-113

The samples were received within 0-6 degrees Celsius (°C). No sample preservation issues were noted by the laboratory.

Sample HAM-AP4-FD-04 was not listed on the COC; sample was noted on Pace sample receipt form and logged in by the lab with a sampling time of 00:00.

The laboratory report revised on 25 August 2023 was used for data validation.

A stage 1 data validation was completed for the field pH data included in the laboratory report.

1.0 METALS

The samples were analyzed for metals by USEPA methods 3010A/6010D and USEPA methods 3005A/6020B. (Mercury was evaluated separately in Section 2.0, below).

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Time

✓ Method Blank Matrix
⊗ 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 this data set are considered usable for supporting 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 data set 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). The metals were not detected in the method blanks at or above the method detection limit (MDL).

1.4 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two sample set specific MS/MSD pairs were reported, using samples HAM-HGWA-113 and HAM-HGWC-101. The recovery and relative percent difference (RPD) results were within the laboratory specified acceptance criteria, with the following exceptions.

The recoveries of calcium and sodium in the MS/MSD pair using sample HAM-HGWA-113 were low and outside the laboratory specified acceptance criteria. Since the calcium and sodium concentrations in sample HAM-HGWC-113 were greater than four times the spiked amount, no qualifications were applied to the data.

The recovery of magnesium in the MSD for sample HAM-HGWC-113 was low and outside of the laboratory specified acceptance criteria. Therefore, the result for magnesium in sample HAM-HGWC-113 was J- qualified as estimated with low bias.

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.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier	Reason Code
HAM-HGWC-113	Magnesium	3.4	M1	3.4	J-	4

mg/L-milligrams per liter
J- analyte concentration is estimated.
M1- Matrix spike recovery exceeded QC limits.

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). The recovery results were within the laboratory specified acceptance criteria.

1.6 Equipment Blank

One equipment blank was collected with the sample set, HAM-AP4-EB-04. Metals were not detected in the equipment blank at or above the MDLs.

.

1.7 Field Blank

One field blank was collected with the sample set, HAM-AP4-FB-04. Metals were not detected in the field blank above the MDLs. No qualifications were applied to the data.

1.8 Field Duplicate

One field duplicate sample was collected with the sample set, HAM-AP4-FD-04. Acceptable precision (RPD $\leq$ 30%) was demonstrated between the field duplicate and the original sample, HGWC-105.

1.9 Sensitivity

The samples were reported to the MDLs. No elevated non-detect results were reported.

1.10 Electronic Data Deliverable Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

2.0 MERCURY

The samples were analyzed for mercury by USEPA method 7470A.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Time
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Equipment Blank
- ✓ Field Blank
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

2.1 Overall Assessment

The mercury data reported in this data set are considered usable for supporting 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 data set 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). 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). One sample set specific MS/MSD pairs was reported, using sample HAM-HGWC-102. The recovery and RPD results were within the laboratory specified acceptance criteria.

One batch MS/MSD pair was 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 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). The recovery results were within the laboratory specified acceptance criteria.

2.6 Equipment Blank

One equipment blank was collected with the sample set, HAM-AP4-EB-04. Mercury was not detected in the equipment blank above the MDL.

2.7 Field Blank

One field blank was collected with the sample set, HAM-AP-FB-04. Mercury was not detected in the field blank above the MDL.

2.8 Field Duplicate

One field duplicate sample was collected with the sample set, HAM-AP-FD-04. Acceptable precision (RPD $\leq$ 30%) was demonstrated between the field duplicate and the original sample, HAM-HGWC-105.

2.9 Sensitivity

The samples were reported to the MDL. No elevated non-detect results were reported.

2.10 Electronic Data Deliverable Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

3.0 WET CHEMISTRY

The samples were analyzed for TDS by Standard method 2540C, alkalinity by Standard method 2320B, TDS by Standard method 2540C, sulfides by Standard method 4500-S2D, and anions by USEPA method 300.0.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Time and Preservation

✓ 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 this data set are considered usable for supporting 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 data set is 100%.

3.2 Holding Time & Preservation

The holding times for the wet chemistry parameters are listed below.

Analyte	Method	Holding Time
Anions	US EPA Method 300	28 days from collection to analysis
Alkalinity	SM 2320B	14 days from collection to analysis
TDS	SM 2540C	7 days from collection to analysis
Sulfide	SM 4500-S2D	28 days from 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). The wet chemistry parameters were not detected in the method blanks above the MDLs.

3.4 Matrix Spike/Matrix Spike Duplicate

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two sample set specific MS/MSD pairs were reported for alkalinity, using samples HAM-HGWC-105 and HAM-HGWC-107. One sample set specific MS/MSD pair was reported for sulfide, using sample HAM-AP4-FD-04. One sample set specific MS/MSD pair was reported for anions, using samples HAM-HGWC-118. The recovery and RPD results were within the laboratory specified acceptance criteria with the following exceptions:

The recovery of alkalinity in the MSD using sample HAM-HGWC-105 was high and outside of the laboratory specified acceptance criteria. Therefore, the result for alkalinity in sample HAM-HGWC-105 was J+ qualified as estimated with high bias.

The recoveries of sulfate in the MS/MSD pair using sample HAM-HGWC-118 were low and outside of the laboratory specified acceptance criteria. Therefore, the sulfate result in sample HAM-HGWC-118 was J- qualified as estimated with low bias.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier	Reason Code
HAM-HGWC-105	Alkalinity	162	M1	162	J+	4
HAM-HGWC-118	Sulfate	64.9	M1	64.9	J-	4

mg/L-milligrams per liter
M1- Matrix spike recovery exceeded QC limits.

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 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). The recovery results were within the laboratory specified acceptance criteria.

3.6 Laboratory Duplicate

Two sample set specific laboratory duplicates were reported for TDS, using samples HAM-HGWA-47 and HAM-HGWA-113, were within the laboratory specified acceptance criteria with the following exceptions.

The RPD between the TDS concentration in the laboratory duplicate using sample HAM-HGWA-47 was greater than 10%; therefore, the TDS concentration in sample HAM-HGWA-47 was J qualified as estimated.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	RPD	Validation Result (mg/L)	Validation Qualifier	Reason Code
HAM-HGWA-47	TDS	214	D6	21	214	J	7

mg/L-milligrams per liter
D6- The precision between the sample and sample duplicate exceeded laboratory control limits.

Six batch 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, HAM-AP4-EB-04. The wet chemistry parameters were not detected in the equipment blank above the MDLs.

3.8 Field Blank

One field blank was collected with the sample set, HAM-AP4-FB-04. The wet chemistry parameters were not detected in the field blank above the MDLs.

3.9 Field Duplicate

One field duplicate sample was collected with the sample set, HAM-AP4-FD-04. Acceptable precision (RPD $\leq$ 30%) was demonstrated between the field duplicate and the original sample, HAM-HGWC-105.

3.10 Sensitivity

The samples were reported to the MDLs for the anions and the RL for TDS. No elevated non-detect results were reported.

3.11 Electronic Data Deliverable Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

---

* * * * *

ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

U The analyte was analyzed for but was not detected at or above the reported sample quantitation limit. Upon application of the U qualifier to a reported result, the definition changes to "not detected at or above the reported result."

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ The analyte was positively identified; however, the associated numerical value is likely to be higher than the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.

J- The analyte was positively identified; however, the associated numerical value is likely to be lower than the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.

UJ The analyte was not detected at or above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure 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

Valid Value	Description
1	Preservation requirement not met
2	Analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS or RPD recovery outside limits (LCS/LCSD)
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other
14	Lab flag removed or modified: no validation qualification required

LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample duplicate
RPD - Relative percent difference

Geosyntec consultants

180A Market Place Boulevard
Knoxville, TN 37922
PH 865.330.0037
www.geosyntec.com

Memorandum

Date:	10 January 2024
To:	Whitney Law
From:	Matthew Richardson
CC:	Kristoffer Henderson
Subject:	**Stage 2A Data Validation - Level II Data Deliverable – Pace Analytical Services, LLC Project Number 92681880**

SITE: Plant Hammond AP-4

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of thirteen aqueous samples, one field duplicate sample, one field blank, and one equipment blank, collected 8 and 10-11 August 2023, as part of the Plant Hammond AP on-site sampling event.

The samples were analyzed at Pace Analytical Services, LLC, Greensburg, Pennsylvania, for the following analytical tests:

- Radium-226 by United States (US) Environmental Protection Agency (EPA) Method 9315
- Radium-228 by US EPA Method 9320
- Total Radium by Calculation

EXECUTIVE SUMMARY

Overall, based on this Stage 2A data validation covering the quality control (QC) parameters listed below and the information provided, the data are usable for supporting project objectives.

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, November 2020 (EPA 542-R-20-006); 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
92681880001	HAM-HGWA-47
92681880002	HAM-HGWA-48D
92681880003	HAM-HGWA-111
92681880004	HAM-HGWA-112
92681880005	HAM-HGWC-101
92681880006	HAM-HGWC-102
92681880007	HAM-HGWC-103
92681880008	HAM-HGWC-105

Laboratory ID	Client ID
92681880009	HAM-HGWC-107
92681880010	HAM-HGWC-109
92681880011	HAM-HGWC-117A
92681880012	HAM-HGWC-118
92681880013	HAM-AP4-EB-04
92681880014	HAM-AP4-FB-04
92681880015	HAM-AP4-FD-04
92682400001	HAM-HGWA-113

The samples were received within 0-6 degrees Celsius (ºC). No sample preservation issues were noted by the laboratory.

1.0 RADIOCHEMISTRY

The samples were analyzed for radium-226 by US EPA method 9315, radium-228 by US EPA method 9320 and total radium by calculation.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Laboratory Duplicate
- ✓ Tracers and Carriers
- ✓ Equipment Blank
- ✓ Field Blank
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

1.1 Overall Assessment

The radium-226 and radium-228 data reported in this data set are considered usable for supporting 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 data set is 100%.

1.2 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.

1.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two method blanks were reported for the radium-228 data (batches 610549 and 611582). Four method blanks were reported for the radium-226 data (batches 612653, 611645, 611647 and 610646). Radium-226 and radium-228 were not detected in the method blanks above the minimum detectable concentrations (MDCs), with the following exception.

92681880: Radium-228 was detected in the method blank in batch 610549 (0.453 pCi/L) at a concentration greater than the MDC. Since radium-228 was not detected in the associated samples, no qualifications were applied to the data.

1.4 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were not reported with the data.

1.5 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 LCS/LCS duplicate (LCSD) pairs were reported for radium-226. Two LCS/LCSD pairs were reported for radium-228. The recovery and replicate error ratio (RER) [1 sigma (1σ)] results were within the laboratory specified acceptance criteria, with the following exception.

92681880: The LCS recovery of radium-226 in the LCS/LCSD pair in batch 611647 was high and outside of the laboratory specified acceptance criteria. Since radium-226 was not detected in the associated samples, no qualifications were applied to the data.

1.6 Laboratory Duplicate

One sample set specific laboratory duplicate was reported for radium-226 using sample HAM-AP4-FB-04. The RER was within the laboratory specified acceptance criteria.

Three batch laboratory duplicates were 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.

1.7 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.

1.8 Equipment Blank

One equipment blank, HAM-AP4-EB-04, was collected with the sample set. Radium-226 and radium-228 were not detected in the equipment blank above the MDCs.

1.9 Field Blank

One field blank, HAM-AP4-FB-04, was collected with the sample set. Radium-226 and radium-228 were not detected in the field blank above the MDCs.

1.10 Field Duplicate

One field duplicate sample was collected with the sample set, HAM-AP4-FD-04. Acceptable precision (RER (1σ) < 3) was demonstrated between the field duplicate and the original sample, HAM-HGWC-105.

However, radium-228 and combined radium-226 and radium-228 were detected in field duplicate sample HAM-AP4-FD-04 at a concentration greater than the MDA and not detected in the parent sample HAM-HGWC-105, resulting in noncalculable RPDs. Since the RERs were less than three, no qualifications were applied to the data.

1.11 Sensitivity

The samples were reported to the MDCs. No elevated non-detect results were reported.

1.12 Electronic Data Deliverable (EDD) Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

---

* * * * *

ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

U The analyte was analyzed for but was not detected above the reported sample quantitation limit. Upon application of the U qualifier to a reported result, the definition changes to "not detected at or above the reported result."

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ The analyte was positively identified; however, the associated numerical value is likely to be higher than the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.

J- The analyte was positively identified; however, the associated numerical value is likely to be lower than the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure 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

Valid Value	Description
1	Preservation requirement not met
2	Analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS or RPD recovery outside limits (LCS/LCSD)
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other
14	Lab flag removed or modified: no validation qualification required

LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
RPD - Relative Percent Difference

FIELD SAMPLING REPORTS

Low-Flow Test Report:

Test Date / Time: 8/8/2023 3:51:27 PM
Project: GP-Plant Hammond **Operator Name:** Elisabeth McDonnell

Location Name: HGWA-47 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 33.74 ft** **Total Depth: 43.27 ft** **Initial Depth to Water: 9.10 ft**	**Pump Type: Peri pump** **Tubing Type: Poly** **Pump Intake From TOC: 38.47 ft** **Estimated Total Volume Pumped: 8.6 Liter** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min Final Draw Down: 0.05 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 989630**

Test Notes:
Seven bottles: Full app. III and IV and Major Ions.

Weather Conditions:
Cloudy, 74 degrees F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
8/8/2023 3:51 PM	00:00	7.25 pH	20.12 °C	382.03 µS/cm	0.40 mg/L	1.71 NTU	60.7 mV	9.15 ft	200.00 ml/min
8/8/2023 3:56 PM	05:00	7.27 pH	19.90 °C	385.42 µS/cm	0.26 mg/L	1.94 NTU	43.4 mV	9.15 ft	200.00 ml/min
8/8/2023 4:01 PM	10:00	7.26 pH	19.77 °C	371.35 µS/cm	0.25 mg/L	3.45 NTU	47.2 mV	9.15 ft	200.00 ml/min
8/8/2023 4:06 PM	15:00	7.28 pH	19.62 °C	378.75 µS/cm	0.29 mg/L	2.59 NTU	46.2 mV	9.15 ft	200.00 ml/min
8/8/2023 4:11 PM	20:00	7.28 pH	19.56 °C	377.79 µS/cm	0.29 mg/L	1.89 NTU	45.2 mV	9.15 ft	200.00 ml/min
8/8/2023 4:16 PM	25:00	7.28 pH	19.54 °C	377.04 µS/cm	0.31 mg/L	1.15 NTU	37.5 mV	9.15 ft	200.00 ml/min
8/8/2023 4:20 PM	28:45	7.27 pH	19.59 °C	381.36 µS/cm	0.25 mg/L	1.34 NTU	37.2 mV	9.15 ft	200.00 ml/min
8/8/2023 4:25 PM	33:45	7.27 pH	19.54 °C	377.60 µS/cm	0.26 mg/L	1.54 NTU	36.0 mV	9.15 ft	200.00 ml/min

Samples

Sample ID:	Description:
HAM-HGWA-47	Grab

Low-Flow Test Report:

Test Date / Time: 8/8/2023 4:56:07 PM
Project: GP-Plant Hammond **Operator Name:** Elisabeth McDonnell

Location Name: HGWA-48D **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 62.92 ft** **Total Depth: 72.95 ft** **Initial Depth to Water: 9.02 ft**	**Pump Type: Bladder pump** **Tubing Type: Poly** **Pump Intake From TOC: 67.97 ft** **Estimated Total Volume Pumped: 7.2 Liter** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min Final Draw Down: 4.89 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 989630**

Test Notes:
Seven bottles: Full app. III and IV and Major Ions.

Weather Conditions:
Cloudy, 74 degrees F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
8/8/2023 4:56 PM	00:00	7.34 pH	20.45 °C	384.65 µS/cm	1.21 mg/L	4.97 NTU	-62.9 mV	10.61 ft	200.00 ml/min
8/8/2023 5:01 PM	05:00	7.34 pH	19.94 °C	339.12 µS/cm	1.47 mg/L	0.37 NTU	-65.4 mV	11.70 ft	200.00 ml/min
8/8/2023 5:02 PM	06:11	7.34 pH	19.89 °C	394.80 µS/cm	1.51 mg/L	0.40 NTU	-106.6 mV	11.81 ft	200.00 ml/min
8/8/2023 5:07 PM	11:11	7.34 pH	19.86 °C	401.16 µS/cm	1.07 mg/L	1.37 NTU	-66.4 mV	12.54 ft	200.00 ml/min
8/8/2023 5:12 PM	16:11	7.35 pH	19.72 °C	401.22 µS/cm	1.21 mg/L	1.22 NTU	-66.9 mV	13.28 ft	200.00 ml/min
8/8/2023 5:17 PM	21:11	7.36 pH	19.90 °C	403.02 µS/cm	1.42 mg/L	1.49 NTU	-66.2 mV	13.50 ft	200.00 ml/min
8/8/2023 5:22 PM	26:11	7.36 pH	19.86 °C	398.01 µS/cm	1.44 mg/L	2.67 NTU	-63.2 mV	13.67 ft	200.00 ml/min
8/8/2023 5:27 PM	31:11	7.37 pH	19.77 °C	405.87 µS/cm	1.44 mg/L	2.90 NTU	-61.0 mV	13.79 ft	200.00 ml/min
8/8/2023 5:32 PM	36:11	7.37 pH	19.65 °C	396.81 µS/cm	1.32 mg/L	3.68 NTU	-96.0 mV	13.91 ft	200.00 ml/min

Samples

Sample ID:	Description:
HAM-HGWA-48	Grab

Low-Flow Test Report:

Test Date / Time: 8/8/2023 5:35:17 PM
Project: GP-Plant Hammond
Operator Name: Connor Cain

Location Name: HGWA-111 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 33.67 ft** **Total Depth: 43.22 ft** **Initial Depth to Water: 12.77 ft**	**Pump Type: Bladder** **Tubing Type: Poly** **Pump Intake From TOC: 22.95 ft** **Estimated Total Volume Pumped: 16 Liter** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 1.25 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 883553**

Test Notes:
Seven bottles: Full app. III and IV and Major Ions.

Weather Conditions:
Cloudy, 74 degrees F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
8/8/2023 5:35 PM	00:00	6.09 pH	22.18 °C	114.12 µS/cm	4.34 mg/L	0.29 NTU	127.2 mV	13.36 ft	200.00 ml/min
8/8/2023 5:40 PM	05:00	6.11 pH	21.08 °C	118.15 µS/cm	4.12 mg/L	0.14 NTU	97.7 mV	13.58 ft	200.00 ml/min
8/8/2023 5:41 PM	06:08	6.12 pH	21.03 °C	118.24 µS/cm	4.10 mg/L	0.14 NTU	96.6 mV	13.58 ft	200.00 ml/min
8/8/2023 5:46 PM	11:08	6.15 pH	20.78 °C	121.51 µS/cm	4.06 mg/L	0.09 NTU	93.5 mV	13.70 ft	200.00 ml/min
8/8/2023 5:51 PM	16:08	6.22 pH	20.57 °C	132.28 µS/cm	4.04 mg/L	0.10 NTU	92.9 mV	13.83 ft	200.00 ml/min
8/8/2023 5:56 PM	21:08	6.50 pH	20.41 °C	194.86 µS/cm	3.91 mg/L	0.16 NTU	82.7 mV	13.91 ft	200.00 ml/min
8/8/2023 6:01 PM	26:08	6.58 pH	20.44 °C	205.17 µS/cm	3.78 mg/L	0.20 NTU	78.6 mV	13.93 ft	200.00 ml/min
8/8/2023 6:06 PM	31:08	6.65 pH	20.36 °C	220.49 µS/cm	3.71 mg/L	0.13 NTU	76.0 mV	13.95 ft	200.00 ml/min
8/8/2023 6:10 PM	35:00	6.71 pH	20.53 °C	235.09 µS/cm	3.64 mg/L	0.15 NTU	76.6 mV	13.95 ft	200.00 ml/min
8/8/2023 6:15 PM	40:00	6.74 pH	20.35 °C	238.99 µS/cm	3.60 mg/L	0.12 NTU	106.8 mV	14.02 ft	200.00 ml/min
8/8/2023 6:20 PM	45:00	6.81 pH	20.30 °C	254.97 µS/cm	3.58 mg/L	0.14 NTU	104.5 mV	14.02 ft	200.00 ml/min
8/8/2023 6:25 PM	50:00	6.87 pH	20.40 °C	270.13 µS/cm	3.51 mg/L	0.10 NTU	72.8 mV	14.02 ft	200.00 ml/min
8/8/2023 6:28 PM	53:33	6.88 pH	20.37 °C	274.32 µS/cm	3.49 mg/L	0.12 NTU	76.6 mV	14.02 ft	200.00 ml/min

8/8/2023 6:33 PM	58:33	6.93 pH	20.48 °C	280.15 µS/cm	3.45 mg/L	0.11 NTU	71.4 mV	14.02 ft	200.00 ml/min
8/8/2023 6:38 PM	01:03:25	6.94 pH	20.39 °C	282.25 µS/cm	3.44 mg/L	0.17 NTU	76.3 mV	14.02 ft	200.00 ml/min
8/8/2023 6:43 PM	01:08:25	7.00 pH	20.50 °C	293.96 µS/cm	3.41 mg/L	0.14 NTU	96.9 mV	14.02 ft	200.00 ml/min
8/8/2023 6:48 PM	01:13:25	7.01 pH	20.49 °C	294.01 µS/cm	3.38 mg/L	0.13 NTU	97.6 mV	14.02 ft	200.00 ml/min

Samples

Sample ID:	Description:
HAM-HGWA-111	Grab

Low-Flow Test Report:

Test Date / Time: 8/8/2023 4:59:48 PM
Project: GP-Plant Hammond
Operator Name: Thomas Kessler

Location Name: HGWA-112 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 30.15 ft** **Total Depth: 39.88 ft** **Initial Depth to Water: 13.25 ft**	**Pump Type: Bladder** **Tubing Type: Poly** **Pump Intake From TOC: 35.15 ft** **Estimated Total Volume Pumped: 8 liter** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min Final Draw Down: 1.45 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 850724**

Test Notes:
Seven bottles: Full app. III and IV and Major Ions.

Weather Conditions:
Cloudy, 75 degrees F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
8/8/2023 4:59 PM	00:00	6.26 pH	22.07 °C	79.40 µS/cm	2.52 mg/L	3.57 NTU	141.6 mV	14.10 ft	200.00 ml/min
8/8/2023 5:04 PM	05:00	5.85 pH	20.50 °C	80.50 µS/cm	1.63 mg/L	4.52 NTU	150.6 mV	14.40 ft	200.00 ml/min
8/8/2023 5:09 PM	10:00	5.79 pH	20.35 °C	80.28 µS/cm	1.46 mg/L	3.37 NTU	147.9 mV	14.55 ft	200.00 ml/min
8/8/2023 5:14 PM	15:00	5.77 pH	20.30 °C	80.58 µS/cm	1.32 mg/L	2.80 NTU	143.0 mV	14.60 ft	200.00 ml/min
8/8/2023 5:19 PM	20:00	5.75 pH	20.20 °C	80.56 µS/cm	1.35 mg/L	2.21 NTU	139.8 mV	14.65 ft	200.00 ml/min
8/8/2023 5:24 PM	25:00	5.78 pH	20.13 °C	80.76 µS/cm	1.30 mg/L	2.36 NTU	134.3 mV	14.70 ft	200.00 ml/min
8/8/2023 5:29 PM	30:00	5.77 pH	20.03 °C	80.63 µS/cm	1.30 mg/L	1.58 NTU	170.6 mV	14.70 ft	200.00 ml/min

Samples

Sample ID:	Description:
HAM-HGWA-112	Grab

Low-Flow Test Report:

Test Date / Time: 8/10/2023 1:52:06 PM
Project: GP-Plant Hammond
Operator Name: Anthony Szwast

Location Name: HGWA-113 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 26.11 ft** **Total Depth: 36.11 ft** **Initial Depth to Water: 12.08 ft**	**Pump Type: Peri** **Tubing Type: Poly** **Pump Intake From TOC: 31.11 ft** **Estimated Total Volume Pumped: 16 liter** **Flow Cell Volume: 90 ml** **Final Flow Rate: 100 ml/min** **Final Draw Down: 13.94 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 883530**

Test Notes:
Seven bottles: Full app. III and IV and Major Ions.

Weather Conditions:
Partly cloudy, 70 degrees F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 10	+/- 10	+/- 0.3	
8/10/2023 1:52 PM	00:00	6.06 pH	22.09 °C	102.99 µS/cm	1.29 mg/L	2.73 NTU	157.1 mV	16.70 ft	100.00 ml/min
8/10/2023 1:57 PM	05:00	6.07 pH	22.19 °C	99.73 µS/cm	1.31 mg/L	2.95 NTU	522.1 mV	17.27 ft	100.00 ml/min
8/10/2023 2:02 PM	10:00	6.08 pH	21.99 °C	100.54 µS/cm	1.33 mg/L	3.15 NTU	417.3 mV	17.90 ft	100.00 ml/min
8/10/2023 2:07 PM	15:00	6.08 pH	21.93 °C	101.26 µS/cm	1.31 mg/L	2.95 NTU	434.3 mV	18.52 ft	100.00 ml/min
8/10/2023 2:12 PM	20:00	6.07 pH	23.21 °C	102.36 µS/cm	1.33 mg/L	1.81 NTU	442.3 mV	18.90 ft	100.00 ml/min
8/10/2023 2:17 PM	25:00	6.08 pH	22.37 °C	100.65 µS/cm	1.22 mg/L	4.46 NTU	464.7 mV	19.39 ft	100.00 ml/min
8/10/2023 2:22 PM	30:00	6.08 pH	22.38 °C	102.44 µS/cm	1.19 mg/L	2.43 NTU	473.4 mV	19.81 ft	100.00 ml/min
8/10/2023 2:27 PM	35:00	6.09 pH	22.50 °C	103.26 µS/cm	1.14 mg/L	1.49 NTU	476.5 mV	20.26 ft	100.00 ml/min
8/10/2023 2:32 PM	40:00	6.06 pH	23.03 °C	104.84 µS/cm	1.19 mg/L	1.27 NTU	483.3 mV	20.49 ft	100.00 ml/min
8/10/2023 2:37 PM	45:00	6.07 pH	22.50 °C	101.83 µS/cm	1.19 mg/L	3.15 NTU	626.9 mV	21.05 ft	100.00 ml/min
8/10/2023 2:42 PM	50:00	6.07 pH	22.23 °C	103.67 µS/cm	1.26 mg/L	4.79 NTU	498.7 mV	21.60 ft	100.00 ml/min
8/10/2023 2:47 PM	55:00	6.07 pH	22.36 °C	104.78 µS/cm	1.28 mg/L	0.68 NTU	503.0 mV	22.15 ft	100.00 ml/min
8/10/2023 2:52 PM	01:00:00	6.10 pH	24.16 °C	109.66 µS/cm	5.88 mg/L	1.46 NTU	500.5 mV	22.20 ft	100.00 ml/min

8/10/2023 2:57 PM	01:05:00	6.06 pH	23.53 °C	101.97 µS/cm	1.74 mg/L		513.0 mV	22.51 ft	100.00 ml/min
8/10/2023 3:02 PM	01:10:00	6.07 pH	22.82 °C	103.01 µS/cm	1.38 mg/L	3.76 NTU	654.7 mV	22.85 ft	100.00 ml/min
8/10/2023 3:07 PM	01:15:00	6.07 pH	23.17 °C	105.34 µS/cm	1.38 mg/L	2.40 NTU	532.7 mV	23.18 ft	100.00 ml/min
8/10/2023 3:12 PM	01:20:00	6.07 pH	23.44 °C	105.46 µS/cm	1.42 mg/L	1.73 NTU	531.5 mV	23.44 ft	100.00 ml/min
8/10/2023 3:17 PM	01:25:00	6.06 pH	23.95 °C	104.34 µS/cm	1.40 mg/L	1.38 NTU	665.4 mV	23.61 ft	100.00 ml/min
8/10/2023 3:22 PM	01:30:00	6.06 pH	24.45 °C	105.31 µS/cm	1.46 mg/L	1.62 NTU	544.7 mV	23.74 ft	100.00 ml/min
8/10/2023 3:27 PM	01:35:00	6.07 pH	24.34 °C	104.50 µS/cm	1.12 mg/L	0.72 NTU	547.2 mV	24.02 ft	100.00 ml/min
8/10/2023 3:32 PM	01:40:00	6.08 pH	23.57 °C	105.84 µS/cm	1.14 mg/L	0.04 NTU	558.1 mV	24.24 ft	100.00 ml/min
8/10/2023 3:37 PM	01:45:00	6.08 pH	23.98 °C	106.14 µS/cm	1.16 mg/L	1.68 NTU	561.0 mV	24.45 ft	100.00 ml/min
8/10/2023 3:42 PM	01:50:00	6.07 pH	23.80 °C	104.33 µS/cm	1.18 mg/L	1.84 NTU	571.8 mV	24.66 ft	100.00 ml/min
8/10/2023 3:47 PM	01:55:00	6.07 pH	23.80 °C	104.27 µS/cm	1.20 mg/L	0.98 NTU	577.6 mV	24.92 ft	100.00 ml/min
8/10/2023 3:52 PM	02:00:00	6.07 pH	24.02 °C	104.17 µS/cm	1.22 mg/L	1.62 NTU	578.7 mV	25.17 ft	100.00 ml/min
8/10/2023 3:57 PM	02:05:00	6.07 pH	24.15 °C	103.77 µS/cm	1.22 mg/L	3.67 NTU	706.6 mV	25.38 ft	100.00 ml/min
8/10/2023 4:02 PM	02:10:00	6.07 pH	23.96 °C	103.80 µS/cm	1.22 mg/L	1.77 NTU	595.9 mV	25.57 ft	100.00 ml/min
8/10/2023 4:07 PM	02:15:00	6.08 pH	24.52 °C	103.90 µS/cm	1.22 mg/L	1.77 NTU	598.8 mV	25.73 ft	100.00 ml/min
8/10/2023 4:12 PM	02:20:00	6.06 pH	24.61 °C	102.87 µS/cm	1.21 mg/L	1.79 NTU	718.4 mV	25.89 ft	100.00 ml/min
8/10/2023 4:17 PM	02:25:00	6.07 pH	24.65 °C	103.39 µS/cm	1.23 mg/L	1.68 NTU	610.4 mV	26.02 ft	100.00 ml/min

Samples

Sample ID:	Description:
HAM-HGWA-113	Grab

Low-Flow Test Report:

Test Date / Time: 8/11/2023 10:45:21 AM
Project: GP-Plant Hammond
Operator Name: Anthony Szwast

Location Name: HGWC-101 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 27.94 ft** **Total Depth: 37.95 ft** **Initial Depth to Water: 13.34 ft**	**Pump Type: Bladder** **Tubing Type: Poly** **Pump Intake From TOC: 32.94 ft** **Estimated Total Volume Pumped: 14 liter** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 5.94 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 883530**

Test Notes:
Seven bottles: Full app. III and IV and Major Ions.

Weather Conditions:
Sunny, 75 degrees F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 10	+/- 10	+/- 0.3	
8/11/2023 10:45 AM	00:00	5.38 pH	20.17 °C	269.01 µS/cm	0.53 mg/L	0.85 NTU	176.1 mV	15.32 ft	200.00 ml/min
8/11/2023 10:50 AM	05:00	5.36 pH	20.15 °C	271.24 µS/cm	0.52 mg/L	0.32 NTU	212.2 mV	15.98 ft	200.00 ml/min
8/11/2023 10:55 AM	10:00	5.36 pH	20.11 °C	277.34 µS/cm	0.63 mg/L	0.30 NTU	202.2 mV	16.44 ft	200.00 ml/min
8/11/2023 11:00 AM	15:00	5.37 pH	19.97 °C	290.02 µS/cm	0.47 mg/L	0.56 NTU	190.8 mV	16.96 ft	200.00 ml/min
8/11/2023 11:05 AM	20:00	5.40 pH	19.95 °C	299.22 µS/cm	0.40 mg/L	0.13 NTU	178.8 mV	17.32 ft	200.00 ml/min
8/11/2023 11:10 AM	25:00	5.42 pH	20.05 °C	303.88 µS/cm	0.48 mg/L	2.33 NTU	177.9 mV	17.65 ft	200.00 ml/min
8/11/2023 11:15 AM	30:00	5.43 pH	20.14 °C	307.81 µS/cm	0.36 mg/L	0.23 NTU	175.7 mV	17.95 ft	200.00 ml/min
8/11/2023 11:20 AM	35:00	5.44 pH	20.04 °C	311.60 µS/cm	0.31 mg/L	0.28 NTU	174.5 mV	18.20 ft	200.00 ml/min
8/11/2023 11:25 AM	40:00	5.44 pH	20.02 °C	313.74 µS/cm	0.34 mg/L	0.53 NTU	168.6 mV	18.43 ft	200.00 ml/min
8/11/2023 11:30 AM	45:00	5.45 pH	20.09 °C	314.51 µS/cm	0.31 mg/L	2.05 NTU	168.7 mV	18.68 ft	200.00 ml/min
8/11/2023 11:35 AM	50:00	5.44 pH	20.11 °C	313.31 µS/cm	0.34 mg/L	0.19 NTU	170.8 mV	18.82 ft	200.00 ml/min
8/11/2023 11:40 AM	55:00	5.44 pH	20.17 °C	309.79 µS/cm	0.30 mg/L	0.02 NTU	173.7 mV	19.00 ft	200.00 ml/min
8/11/2023 11:45 AM	01:00:00	5.44 pH	20.09 °C	309.08 µS/cm	0.26 mg/L	0.17 NTU	176.0 mV	19.12 ft	200.00 ml/min

8/11/2023 11:50 AM	01:05:00	5.44 pH	20.14 °C	306.06 µS/cm	0.25 mg/L	0.06 NTU	177.8 mV	19.28 ft	200.00 ml/min

Samples

Sample ID:	Description:
HAM-HGWC-101	Grab

Low-Flow Test Report:

Test Date / Time: 8/11/2023 3:51:11 PM
Project: GP-Plant Hammond **Operator Name:** Elisabeth McDonnell

Location Name: HGWC-102 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 27.43 ft** **Total Depth: 36.88 ft** **Initial Depth to Water: 12.88 ft**	**Pump Type: Peri** **Tubing Type: Poly** **Pump Intake From TOC: 32.43 ft** **Estimated Total Volume Pumped: 7 Liter** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 0.32 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 989630**

Test Notes:
Seven bottles: Full app. III and IV and Major Ions.

Weather Conditions:
Sunny, 75 degrees F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
8/11/2023 3:51 PM	00:00	5.80 pH	21.88 °C	906.49 µS/cm	0.92 mg/L	2.32 NTU	61.7 mV	13.18 ft	200.00 ml/min
8/11/2023 3:56 PM	05:00	5.80 pH	21.73 °C	908.40 µS/cm	1.21 mg/L	1.70 NTU	68.9 mV	13.17 ft	200.00 ml/min
8/11/2023 4:01 PM	10:00	5.80 pH	21.91 °C	911.58 µS/cm	0.78 mg/L	0.00 NTU	57.7 mV	13.20 ft	200.00 ml/min
8/11/2023 4:06 PM	15:00	5.80 pH	22.12 °C	874.21 µS/cm	1.74 mg/L	0.08 NTU	60.6 mV	13.19 ft	200.00 ml/min
8/11/2023 4:11 PM	20:00	5.80 pH	21.46 °C	908.07 µS/cm	0.92 mg/L	2.79 NTU	62.8 mV	13.20 ft	200.00 ml/min
8/11/2023 4:16 PM	25:00	5.79 pH	21.38 °C	907.45 µS/cm	0.74 mg/L	0.00 NTU	64.7 mV	13.20 ft	200.00 ml/min
8/11/2023 4:21 PM	30:00	5.79 pH	21.97 °C	900.57 µS/cm	0.85 mg/L	0.33 NTU	66.0 mV	13.20 ft	200.00 ml/min

Samples

Sample ID:	Description:
HAM-HGWC-102	Grab

Low-Flow Test Report:

Test Date / Time: 8/11/2023 12:39:13 PM
Project: GP-Plant Hammond
Operator Name: Elisabeth McDonnell

Location Name: HGWC-103 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 27.68 ft** **Total Depth: 37.58 ft** **Initial Depth to Water: 13.85 ft**	**Pump Type: Bladder** **Tubing Type: Poly** **Pump Intake From TOC: 32.68 ft** **Estimated Total Volume Pumped: 21 Liter** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min Final Draw Down: 0.19 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 989630**

Test Notes:
Seven bottles: Full app. III and IV and Major Ions.

Weather Conditions:
Sunny, 75 degrees F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
8/11/2023 12:39 PM	00:00	5.82 pH	19.68 °C	956.25 µS/cm	1.15 mg/L	66.40 NTU	90.9 mV	14.02 ft	200.00 ml/min
8/11/2023 12:44 PM	05:00	5.82 pH	19.66 °C	954.83 µS/cm	1.38 mg/L	91.60 NTU	87.4 mV	14.03 ft	200.00 ml/min
8/11/2023 12:48 PM	09:43	5.80 pH	19.36 °C	948.05 µS/cm	1.45 mg/L	55.20 NTU	90.5 mV	14.05 ft	200.00 ml/min
8/11/2023 12:53 PM	14:43	5.80 pH	19.43 °C	953.67 µS/cm	1.39 mg/L	40.60 NTU	117.0 mV	14.05 ft	200.00 ml/min
8/11/2023 12:58 PM	19:43	5.80 pH	19.44 °C	951.34 µS/cm	1.36 mg/L	25.30 NTU	116.6 mV	14.01 ft	200.00 ml/min
8/11/2023 1:03 PM	24:43	5.80 pH	19.34 °C	664.88 µS/cm	1.26 mg/L	20.40 NTU	118.0 mV	14.04 ft	200.00 ml/min
8/11/2023 1:08 PM	29:43	5.80 pH	19.40 °C	939.10 µS/cm	1.35 mg/L	15.00 NTU	118.0 mV	14.05 ft	200.00 ml/min
8/11/2023 1:13 PM	34:43	5.80 pH	19.50 °C	953.31 µS/cm	1.13 mg/L	13.70 NTU	117.7 mV	14.05 ft	200.00 ml/min
8/11/2023 1:18 PM	39:43	5.79 pH	19.37 °C	952.54 µS/cm	1.39 mg/L	10.50 NTU	90.7 mV	14.05 ft	200.00 ml/min
8/11/2023 1:23 PM	44:43	5.80 pH	19.32 °C	952.99 µS/cm	1.45 mg/L	8.83 NTU	90.7 mV	14.04 ft	200.00 ml/min
8/11/2023 1:28 PM	49:43	5.80 pH	19.31 °C	954.80 µS/cm	1.24 mg/L	7.62 NTU	90.5 mV	14.05 ft	200.00 ml/min
8/11/2023 1:33 PM	54:43	5.81 pH	19.25 °C	958.17 µS/cm	1.19 mg/L	8.61 NTU	90.4 mV	14.05 ft	200.00 ml/min
8/11/2023 1:38 PM	59:43	5.81 pH	19.45 °C	951.22 µS/cm	1.26 mg/L	5.37 NTU	89.4 mV	14.04 ft	200.00 ml/min
8/11/2023 1:43 PM	01:04:43	5.80 pH	19.61 °C	951.89 µS/cm	1.07 mg/L	4.29 NTU	90.6 mV	14.05 ft	200.00 ml/min

8/11/2023 1:48 PM	01:09:43	5.81 pH	19.45 °C	953.33 µS/cm	1.28 mg/L	3.47 NTU	117.3 mV	14.04 ft	200.00 ml/min
8/11/2023 1:53 PM	01:14:43	5.80 pH	19.32 °C	958.43 µS/cm	1.21 mg/L	4.52 NTU	117.6 mV	14.04 ft	200.00 ml/min
8/11/2023 1:58 PM	01:19:43	5.81 pH	19.24 °C	952.99 µS/cm	1.47 mg/L	2.67 NTU	89.8 mV	14.04 ft	200.00 ml/min
8/11/2023 2:03 PM	01:24:43	5.81 pH	19.28 °C	956.35 µS/cm	1.16 mg/L	2.53 NTU	117.9 mV	14.05 ft	200.00 ml/min
8/11/2023 2:08 PM	01:29:43	5.81 pH	19.24 °C	944.58 µS/cm	1.28 mg/L	2.74 NTU	91.6 mV	14.05 ft	200.00 ml/min
8/11/2023 2:13 PM	01:34:43	5.80 pH	19.14 °C	953.42 µS/cm	1.41 mg/L	2.33 NTU	89.9 mV	14.05 ft	200.00 ml/min
8/11/2023 2:18 PM	01:39:43	5.80 pH	19.25 °C	956.72 µS/cm	1.34 mg/L	3.74 NTU	89.4 mV	14.04 ft	200.00 ml/min

Samples

Sample ID:	Description:
HAM-HGWC-103	Grab

Low-Flow Test Report:

Test Date / Time: 8/11/2023 10:20:44 AM
Project: GP-Plant Hammond
Operator Name: Elisabeth McDonnelll

Location Name: HGWC-105 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 34.67 ft** **Total Depth: 44.89 ft** **Initial Depth to Water: 17.80 ft**	**Pump Type: Bladder** **Tubing Type: Poly** **Pump Intake From TOC: 39.67 ft** **Estimated Total Volume Pumped: 8 Liter** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min Final Draw Down: 0.33 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 989630**

Test Notes:
Seven bottles: Full app. III and IV and Major Ions.

Weather Conditions:
Sunny, 75 degrees F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
8/11/2023 10:20 AM	00:00	6.77 pH	20.48 °C	3.08 µS/cm	2.24 mg/L	18.20 NTU	54.6 mV	18.12 ft	200.00 ml/min
8/11/2023 10:25 AM	05:00	6.52 pH	19.68 °C	1.99 µS/cm	2.52 mg/L	14.40 NTU	40.5 mV	18.13 ft	200.00 ml/min
8/11/2023 10:30 AM	10:00	6.65 pH	19.53 °C	14.18 µS/cm	2.32 mg/L	4.97 NTU	29.6 mV	18.12 ft	200.00 ml/min
8/11/2023 10:35 AM	15:00	6.62 pH	19.41 °C	5.05 µS/cm	2.16 mg/L	3.65 NTU	26.9 mV	18.13 ft	200.00 ml/min
8/11/2023 10:40 AM	20:00	6.19 pH	19.45 °C	3.73 µS/cm	2.33 mg/L	2.84 NTU	25.9 mV	18.13 ft	200.00 ml/min
8/11/2023 10:45 AM	25:00	6.48 pH	19.28 °C	800.96 µS/cm	0.80 mg/L	2.60 NTU	4.8 mV	18.12 ft	200.00 ml/min
8/11/2023 10:50 AM	30:00	6.47 pH	19.22 °C	798.25 µS/cm	0.95 mg/L	2.01 NTU	-4.7 mV	18.13 ft	200.00 ml/min
8/11/2023 10:55 AM	35:00	6.47 pH	19.37 °C	794.52 µS/cm	0.93 mg/L	3.13 NTU	-7.4 mV	18.13 ft	200.00 ml/min

Samples

Sample ID:	Description:
HAM-HGWC-105	Grab
HAM-AP4-FD-04	Grab

Low-Flow Test Report:

Test Date / Time: 8/11/2023 2:05:39 PM
Project: GP-Plant Hammond
Operator Name: C. Cain

Location Name: HGWC-107 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 28.20 ft** **Total Depth: 38.08 ft** **Initial Depth to Water: 15.10 ft**	**Pump Type: Bladder** **Tubing Type: Poly** **Pump Intake From TOC: 33.2 ft** **Estimated Total Volume Pumped: 7 liter** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 883553**

Test Notes:
Seven bottles: Full app. III and IV and Major Ions.

Weather Conditions:
Cloudy, 75 degrees F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
8/11/2023 2:05 PM	00:00	6.25 pH	22.27 °C	404.34 µS/cm	1.00 mg/L	1.24 NTU	76.7 mV	15.10 ft	200.00 ml/min
8/11/2023 2:10 PM	05:00	6.23 pH	22.29 °C	401.91 µS/cm	0.76 mg/L	1.28 NTU	72.1 mV	15.10 ft	200.00 ml/min
8/11/2023 2:15 PM	10:00	6.21 pH	22.70 °C	400.19 µS/cm	0.56 mg/L	1.17 NTU	75.8 mV	15.10 ft	200.00 ml/min
8/11/2023 2:20 PM	15:00	6.19 pH	22.85 °C	397.83 µS/cm	0.45 mg/L	1.09 NTU	73.2 mV	15.10 ft	200.00 ml/min
8/11/2023 2:25 PM	20:00	6.17 pH	22.76 °C	395.86 µS/cm	0.39 mg/L	0.87 NTU	105.0 mV	15.10 ft	200.00 ml/min
8/11/2023 2:30 PM	25:00	6.16 pH	22.42 °C	394.18 µS/cm	0.39 mg/L	1.02 NTU	76.5 mV	15.10 ft	200.00 ml/min
8/11/2023 2:35 PM	30:00	6.16 pH	22.33 °C	396.12 µS/cm	0.33 mg/L	1.03 NTU	102.4 mV	15.10 ft	200.00 ml/min

Samples

Sample ID:	Description:
HAM-HGWC-107	Grab

Low-Flow Test Report:

Test Date / Time: 8/11/2023 10:22:08 AM
Project: GP-Plant Hammond
Operator Name: Connor Cain

Location Name: HGWC-109 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 21.36 ft** **Total Depth: 30.99 ft** **Initial Depth to Water: 9.41 ft**	**Pump Type: Bladder** **Tubing Type: Poly** **Pump Intake From TOC: 26.36 ft** **Estimated Total Volume Pumped: 14 liter** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 0.02 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 883553**

Test Notes:
Seven bottles: Full app. III and IV and Major Ions.

Weather Conditions:
Cloudy, 75 degrees F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
8/11/2023 10:22 AM	00:00	6.79 pH	20.44 °C	353.27 µS/cm	1.53 mg/L	49.10 NTU	-38.8 mV	9.43 ft	200.00 ml/min
8/11/2023 10:27 AM	05:00	6.83 pH	19.68 °C	363.56 µS/cm	0.85 mg/L	39.70 NTU	-48.3 mV	9.43 ft	200.00 ml/min
8/11/2023 10:32 AM	10:00	6.83 pH	19.77 °C	363.95 µS/cm	0.65 mg/L	34.20 NTU	-52.2 mV	9.43 ft	200.00 ml/min
8/11/2023 10:37 AM	15:00	6.81 pH	20.17 °C	362.23 µS/cm	0.47 mg/L	24.10 NTU	-54.5 mV	9.43 ft	200.00 ml/min
8/11/2023 10:42 AM	20:00	6.81 pH	20.58 °C	359.09 µS/cm	0.61 mg/L	22.60 NTU	-54.6 mV	9.43 ft	200.00 ml/min
8/11/2023 10:47 AM	25:00	6.81 pH	19.84 °C	356.73 µS/cm	0.74 mg/L	15.40 NTU	-54.6 mV	9.43 ft	200.00 ml/min
8/11/2023 10:52 AM	30:00	6.80 pH	19.99 °C	357.34 µS/cm	0.41 mg/L	11.30 NTU	-55.9 mV	9.43 ft	200.00 ml/min
8/11/2023 10:57 AM	35:00	6.79 pH	20.33 °C	355.39 µS/cm	0.60 mg/L	10.28 NTU	-55.9 mV	9.43 ft	200.00 ml/min
8/11/2023 11:02 AM	40:00	6.78 pH	20.57 °C	300.91 µS/cm	0.81 mg/L	8.91 NTU	-57.0 mV	9.43 ft	200.00 ml/min
8/11/2023 11:07 AM	45:00	6.78 pH	21.04 °C	354.52 µS/cm	0.47 mg/L	7.86 NTU	-56.8 mV	9.43 ft	200.00 ml/min
8/11/2023 11:12 AM	50:00	6.78 pH	21.14 °C	355.47 µS/cm	0.67 mg/L	6.73 NTU	-56.2 mV	9.43 ft	200.00 ml/min
8/11/2023 11:17 AM	55:00	6.77 pH	21.44 °C	355.23 µS/cm	0.62 mg/L	6.22 NTU	-56.6 mV	9.43 ft	200.00 ml/min
8/11/2023 11:22 AM	01:00:00	6.77 pH	21.42 °C	355.55 µS/cm	0.69 mg/L	6.49 NTU	-72.9 mV	9.43 ft	200.00 ml/min

8/11/2023 11:27 AM	01:05:00	6.80 pH	20.02 °C	353.81 µS/cm	0.53 mg/L	4.50 NTU	-55.9 mV	9.43 ft	200.00 ml/min

Samples

Sample ID:	Description:
HAM-HGWC-109	Grab

Low-Flow Test Report:

Test Date / Time: 8/11/2023 4:09:19 PM
Project: GP-Plant Hammond
Operator Name: Anthony Szwast

Location Name: HGWC-117A **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 30.31 ft** **Total Depth: 40.37 ft** **Initial Depth to Water: 16.92 ft**	**Pump Type: Peri** **Tubing Type: Poly** **Pump Intake From TOC: 35.31 ft** **Estimated Total Volume Pumped: 8.2 liter** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 0.02 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 883530**

Test Notes:
Seven bottles: Full app. III and IV and Major Ions.

Weather Conditions:
Sunny, 80 degrees F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 10	+/- 10	+/- 0.3	
8/11/2023 4:09 PM	00:00	6.23 pH	22.05 °C	246.79 µS/cm	0.10 mg/L	1.43 NTU	194.4 mV	16.94 ft	200.00 ml/min
8/11/2023 4:11 PM	02:09	6.24 pH	21.69 °C	250.67 µS/cm	0.10 mg/L	2.09 NTU	211.1 mV	16.94 ft	200.00 ml/min
8/11/2023 4:15 PM	06:05	6.27 pH	21.88 °C	249.24 µS/cm	0.09 mg/L	0.77 NTU	196.4 mV	16.94 ft	200.00 ml/min
8/11/2023 4:20 PM	11:05	6.40 pH	22.59 °C	258.14 µS/cm	0.07 mg/L	2.92 NTU	214.2 mV	16.94 ft	200.00 ml/min
8/11/2023 4:25 PM	16:05	6.65 pH	22.99 °C	291.94 µS/cm	0.06 mg/L	1.22 NTU	185.9 mV	16.94 ft	200.00 ml/min
8/11/2023 4:30 PM	21:05	6.88 pH	22.22 °C	336.35 µS/cm	0.06 mg/L	1.09 NTU	219.9 mV	16.94 ft	200.00 ml/min
8/11/2023 4:35 PM	26:05	6.99 pH	22.51 °C	348.10 µS/cm	0.05 mg/L	2.39 NTU	204.5 mV	16.94 ft	200.00 ml/min
8/11/2023 4:40 PM	31:05	7.06 pH	22.60 °C	359.55 µS/cm	0.04 mg/L	3.71 NTU	234.2 mV	16.94 ft	200.00 ml/min
8/11/2023 4:45 PM	36:05	7.09 pH	22.82 °C	356.48 µS/cm	0.04 mg/L	3.35 NTU	360.3 mV	16.94 ft	200.00 ml/min

Samples

Sample ID:	Description:
HAM-HGWC-117A	Grab

Low-Flow Test Report:

Test Date / Time: 8/11/2023 2:24:15 PM
Project: GP-Plant Hammond
Operator Name: Anthony Szwast

Location Name: HGWC-118 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 30.91 ft** **Total Depth: 40.71 ft** **Initial Depth to Water: 13.67 ft**	**Pump Type: Peri** **Tubing Type: Poly** **Pump Intake From TOC: 35.91 ft** **Estimated Total Volume Pumped: 9 liter** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min Final Draw Down: 0.08 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 883530**

Test Notes:
Seven bottles: Full app. III and IV and Major Ions.

Weather Conditions:
Sunny, 78 degrees F

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 10	+/- 10	+/- 0.3	
8/11/2023 2:24 PM	00:00	7.46 pH	21.61 °C	495.51 µS/cm	0.13 mg/L	0.68 NTU	107.8 mV	13.76 ft	200.00 ml/min
8/11/2023 2:29 PM	05:00	7.48 pH	21.69 °C	504.64 µS/cm	0.10 mg/L	0.64 NTU	468.9 mV	13.75 ft	200.00 ml/min
8/11/2023 2:34 PM	10:00	7.48 pH	22.14 °C	506.35 µS/cm	0.14 mg/L	0.36 NTU	552.7 mV	13.76 ft	200.00 ml/min
8/11/2023 2:39 PM	15:00	7.49 pH	22.46 °C	503.96 µS/cm	0.16 mg/L	0.83 NTU	548.7 mV	13.76 ft	200.00 ml/min
8/11/2023 2:44 PM	20:00	7.49 pH	21.91 °C	500.45 µS/cm	0.28 mg/L	0.40 NTU	516.0 mV	13.75 ft	200.00 ml/min
8/11/2023 2:49 PM	25:00	7.45 pH	22.54 °C	527.68 µS/cm	0.27 mg/L	0.09 NTU	475.4 mV	13.75 ft	200.00 ml/min
8/11/2023 2:54 PM	30:00	7.49 pH	21.74 °C	499.27 µS/cm	0.23 mg/L	1.49 NTU	505.0 mV	13.75 ft	200.00 ml/min
8/11/2023 2:59 PM	35:00	7.49 pH	21.66 °C	505.26 µS/cm	0.19 mg/L	1.02 NTU	465.2 mV	13.75 ft	200.00 ml/min
8/11/2023 3:04 PM	40:00	7.49 pH	21.59 °C	498.59 µS/cm	0.18 mg/L	0.28 NTU	506.2 mV	13.75 ft	200.00 ml/min

Samples

Sample ID:	Description:
HAM-HGWC-118	Grab

CALIBRATION REPORTS

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: C.CAIN | Date: 8/8/23 | Time (start): 0844 | Time (finish): 0904

smarTroll SN: 883553 | Turbidity Meter Type: LaMotte 2020t | SN: 4121-2623

Weather Conditions: Sunny 72 | Facility and Unit: Plant Hammond | Project No.: 60676571

Calibration log

	Standard Lot # / Date of Expiration	Temp of Standard (°C)	Value of Standard	Initial Reading	Post-Cal Reading	Acceptable Range	Pass?	Comments
Specific Conductance (µS/cm)	22250153 11/23	24.60	~~4.0~~ 4490 cc	4445.9 ~~4.26~~ cc	~~4.0~~ 4490 cc	+/- 5 %	Yes No	
pH (4)			4.0	~~4.25~~ 4.25	4.0	+/- 0.1 SU	Yes No	
Mid-Day pH (4) check			4.0	3.99		+/- 0.1 SU	Yes No	
pH (7)	22216893 11/23	25.16	7.0	7.18	7.0	+/- 0.1 SU	Yes No	
Mid-Day pH (7) check			7.0	7.02		+/- 0.1 SU	Yes No	
pH (10)	22110130 8/23	25.28	10.0	10.48	10.0	+/- 0.1 SU	Yes No	
Mid-Day pH (10) check			10.	10.0		+/- 0.1 SU	Yes No	
ORP (mV)	21890144 11/23	25.33	228	219.9	228	+/- 20mV	Yes No	
DO (%) (1pt, 100% water saturated air cal)			100	97.99	100	+/- 6 % saturation	Yes No	
Turbidity 0 NTU			0	0.05	0.04	+/- 0.5 NTU	Yes No	
Turbidity 1 NTU			1	0.99	0.99	+/- 0.5 NTU	Yes No	
Turbidity 10 NTU			10	10.54	10.0	+/- 0.5 NTU	Yes No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Thomas Wiegert

Date: 8/8/23

Time (start): 0843

Time (finish): 0857

smarTroll SN: 85072241

Turbidity Meter Type: Lamotte 2020

SN: L475-4011

Weather Conditions: Clear, 75°

Facility and Unit: Hammond,

Project No.: GWC5881

Calibration log

	Standard Lot # / Date of Expiration	Temp of Standard (°C)	Value of Standard	Initial Reading	Post-Cal Reading	Acceptable Range	Pass?	Comments
Specific Conductance (µS/cm)	22750153 11/23	24.22	4490	4351.6	4440	+/- 5 %	Yes No	
pH (4)	↓		4	4.07	4.0	+/- 0.1 SU	Yes No	
Mid-Day pH (4) check			4.03	—	—	+/- 0.1 SU	Yes No	
pH (7)	22165C3 11/23	24.74	7.0	7.02	7.0	+/- 0.1 SU	Yes No	
Mid-Day pH (7) check	↓		6.99	—	—	+/- 0.1 SU	Yes No	
pH (10)	21370202 12/23	24.82	10	10.23	10.0	+/- 0.1 SU	Yes No	
Mid-Day pH (10) check	↓		10.07	—	—	+/- 0.1 SU	Yes No	
ORP (mV)	22700865 8/23	24.85	228	225.4	228	+/- 20mV	Yes No	
DO (%) (1pt, 100% water saturated air cal)			100	100.40	100	+/- 6 % saturation	Yes No	
Turbidity 0 NTU			0	1.25	0	+/- 0.5 NTU	Yes No	
Turbidity 1 NTU			1	3.23	0.97	+/- 0.5 NTU	Yes No	
Turbidity 10 NTU			10	9.73	9.97	+/- 0.5 NTU	Yes No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Elisabeth McDonnell | Date: 08/08/23 | Time (start): 840 | Time (finish): 910

smarTroll SN: 989630 | Turbidity Meter Type: LaMotte 2020t | SN: 4109-2623

Weather Conditions: Sunny 85 | Facility and Unit: plant hammond | Project No.: 6W6581

Calibration log

	Standard Lot # / Date of Expiration	Temp of Standard (°C)	Value of Standard	Initial Reading	Post-Cal Reading	Acceptable Range	Pass?	Comments
Specific Conductance (µS/cm)	2225153 11/23	25.5°	4,490	4,550	4510	+/- 5 %	Yes No	
pH (4)	↓		4.00	4.13	4.00	+/- 0.1 SU	Yes No	
Mid-Day pH (4) check	↓					~~+/- 0.1 SU~~	~~Yes~~ No	
pH (7)	2216893 4/23	26.65	7.0	7.81	7.0	+/- 0.1 SU	Yes No	
Mid-Day pH (7) check	↓					~~+/- 0.1 SU~~	Yes No	
pH (10)	21320202 12/23		10.0	9.82	10.0	+/- 0.1 SU	Yes No	
Mid-Day pH (10) check	↓					~~+/- 0.1 SU~~	Yes No	
ORP (mV)	21390144 11/23	25.56	228	228.2	228.1	+/- 20mV	Yes No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100%	102.95%	100%	+/- 6 % saturation	Yes No	
Turbidity 0 NTU	[redacted]		0.0	0.51	0.00	+/- 0.5 NTU	Yes No	
Turbidity 1 NTU	[redacted]		1.0	1.45	1.05	+/- 0.5 NTU	Yes No	
Turbidity 10 NTU	[redacted]		10.0	13.3	10.4	+/- 0.5 NTU	Yes No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: A. Szwast | Date: 8-10-2023 | Time (start): 805 | Time (finish): 835

smarTroll SN: 883530 | Turbidity Meter Type: LaMotte 2020t | SN: 7139-2623

Weather Conditions: Rainy, 70° F | Facility and Unit: Plant Hammond | Project No.: GW6581

Calibration log

	Standard Lot # / Date of Expiration	Temp of Standard (°C)	Value of Standard	Initial Reading	Post-Cal Reading	Acceptable Range	Pass?	Comments
Specific Conductance (µS/cm)	22250153 11/2023	22.60	4490.0	4672.9	4490.0	+/- 5 %	(Yes) No	
pH (4)		23.62	4.00	3.92	4.00	+/- 0.1 SU	(Yes) No	
Mid-Day pH (4) check						+/- 0.1 SU	Yes No	
pH (7)	2216893 11/2023	24.55	7.00	7.10	7.00	+/- 0.1 SU	(Yes) No	
Mid-Day pH (7) check						+/- 0.1 SU	Yes No	
pH (10)	21320202 12/2023	24.37	10.00	10.26	10.00	+/- 0.1 SU	(Yes) No	
Mid-Day pH (10) check						+/- 0.1 SU	Yes No	
ORP (mV)	21390144 11/2023	@ 8-10-23 ~~229~~ 24.61	228.0	225.3	228.0	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]	[redacted]	100.0	97.84	100.0	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU	[redacted]	[redacted]	0.00	0.05	—	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU	[redacted]	[redacted]	1.00	1.23	1.18	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU	[redacted]	[redacted]	10.0	9.33	10.23	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Thomas Kressler | Date: 8/10/23 | Time (start): 0815 | Time (finish): 0830

smarTroll SN: 850724 | Turbidity Meter Type: Lamotte 2020we | SN: 7475 - 4011

Weather Conditions: Rainy, 69° | Facility and Unit: Hammond | Project No.: GWC581

Calibration log

	Standard Lot # / Date of Expiration	Temp of Standard (°C)	Value of Standard	Initial Reading	Post-Cal Reading	Acceptable Range	Pass?	Comments
Specific Conductance (µS/cm)	22250153 11/23	22.58	4490	21482	41,010	+/- 5 %	Yes No	
pH (4)	↓		4	4.03	4.0	+/- 0.1 SU	Yes No	
Mid-Day pH (4) check	↓	—	—	4.01	—	+/- 0.1 SU	Yes No	
pH (7)	22b893 11/23	22.84	7	6.99	7.0	+/- 0.1 SU	Yes No	
Mid-Day pH (7) check	↓	—	—	7.06	—	+/- 0.1 SU	Yes No	
pH (10)	213022 12/23	22.89	10	9.92	10.0	+/- 0.1 SU	Yes No	
Mid-Day pH (10) check	↓	—	—	10.03	—	+/- 0.1 SU	Yes No	
ORP (mV)	22260085 8/23	22.90	228	225.9	228	+/- 20mV	Yes No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100	97.59	100	+/- 6 % saturation	Yes No	
Turbidity 0 NTU	[redacted]		0	0.82	0	+/- 0.5 NTU	Yes No	
Turbidity 1 NTU	[redacted]		1	0.72	0.89	+/- 0.5 NTU	Yes No	
Turbidity 10 NTU	[redacted]		10	10.39	10.1	+/- 0.5 NTU	Yes No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Elisabeth McDonnell

Date: 8/10/23

Time (start): 808

Time (finish): 838

smarTroll SN: 989630

Turbidity Meter Type: La Motte 2020 we

SN: 4109-2623

Weather Conditions: Rainy 75

Facility and Unit: Plant Hammond

Project No.: GW6581

Calibration log

	Standard Lot # / Date of Expiration	Temp of Standard (°C)	Value of Standard	Initial Reading	Post-Cal Reading	Acceptable Range	Pass?	Comments
Specific Conductance (µS/cm)	2226053 11/23	23	4490	4548	4490	+/- 5 %	(Yes) No	
pH (4)	↓		4.0	4.06	4.0	+/- 0.1 SU	(Yes) No	
Mid-Day pH (4) check		24.68	4.0	4.04	4.0	+/- 0.1 SU	(Yes) No	
pH (7)	2216893 11/23	24.33	7.0	7.02	7.0	+/- 0.1 SU	(Yes) No	
Mid-Day pH (7) check	↓	24.53	7.0	6.97	7.0	+/- 0.1 SU	(Yes) No	
pH (10)	21320202 12/23	24.37	10.0	9.99	10.0	+/- 0.1 SU	(Yes) No	
Mid-Day pH (10) check	↓	24.50	10.0	9.96	10.0	+/- 0.1 SU	(Yes) No	
ORP (mV)	21390144 11/23	24.58	228	227.2	228	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100%	96.97	100%	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU	[redacted]		0.0	0.0	0.0	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU	[redacted]		1.0	.75	.89	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU	[redacted]		10.0	11.1	10.4	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: C.CAIN | Date: 8/10/23 | Time (start): 0830 | Time (finish): 0845

smarTroll SN: 883553 | Turbidity Meter Type: 2020 T | SN: 4121-2623

Weather Conditions: Rain 68 | Facility and Unit: Plant Hammond | Project No.: GW6587

Calibration log

	Standard Lot # / Date of Expiration	Temp of Standard (°C)	Value of Standard	Initial Reading	Post-Cal Reading	Acceptable Range	Pass?	Comments
Specific Conductance (µS/cm)	22250153 11/23	23.43	4490	4564.8	4490	+/- 5 %	Yes / No	
pH (4)			4.0	4.01	4.0	+/- 0.1 SU	Yes / No	
Mid-Day pH (4) check			4.0	3.99		+/- 0.1 SU	Yes / No	
pH (7)	22168493 11/23	24.36	7.0	6.96	7.0	+/- 0.1 SU	Yes / No	
Mid-Day pH (7) check			7.0	7.0		+/- 0.1 SU	Yes / No	
pH (10)	22110136	24.26	10.0	10.0	10.0	+/- 0.1 SU	Yes / No	
Mid-Day pH (10) check			10.0	10.0		+/- 0.1 SU	Yes / No	
ORP (mV)	21390144 11/23	24.15	228	225.5	228	+/- 20mV	Yes / No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100	103.24	100	+/- 6 % saturation	Yes / No	
Turbidity 0 NTU	[redacted]		0	0	0	+/- 0.5 NTU	Yes / No	
Turbidity 1 NTU	[redacted]		1	0.91	1	+/- 0.5 NTU	Yes / No	
Turbidity 10 NTU	[redacted]		10	9.60	10	+/- 0.5 NTU	Yes / No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: A. Szwast | Date: 8-11-2023 | Time (start): 815 | Time (finish): 830

smarTroll SN: 889590 | Turbidity Meter Type: LaMotte 2020t | SN: 4139-2623

Weather Conditions: Cloudy, 75° F | Facility and Unit: Plant Harmony | Project No.: GW6581

Calibration log

	Standard Lot # / Date of Expiration	Temp of Standard (°C)	Value of Standard	Initial Reading	Post-Cal Reading	Acceptable Range	Pass?	Comments
Specific Conductance (µS/cm)	22250153 11/2023	23.24	4490.0	4495.8	4490.0	+/- 5 %	(Yes) No	
pH (4)		25.61	4.00	4.12	4.00	+/- 0.1 SU	(Yes) No	
Mid-Day pH (4) check	22250153 11/2023	29.65	4.00	4.20	4.00	+/- 0.1 SU	(Yes) No	
pH (7)	2216893 11/2023	25.92	7.00	6.96	7.00	+/- 0.1 SU	(Yes) No	
Mid-Day pH (7) check	2216893 11/2023	28.09	7.00 8-11-23	6.50	7.00	+/- 0.1 SU	(Yes) No	
pH (10)	21320202 12/2023	26.03	10.00	9.86	10.00	+/- 0.1 SU	(Yes) No	
Mid-Day pH (10) check	21320202 12/2023	27.53	10.00	9.49	10.00	+/- 0.1 SU	(Yes) No	
ORP (mV)	21396144 11/2023	26.01	228.0	226.3	228.0	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100.0	99.15	100.0	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0.00	0.00	—	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1.00	1.53	1.08	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10.0	9.41	10.32	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: C. CHAIN | Date: 8/11/23 | Time (start): 0820 | Time (finish): 0845

smarTroll SN: 883553 | Turbidity Meter Type: 2020T | SN: 4/21-2623

Weather Conditions: Cloudy 72 | Facility and Unit: Plant Hammond | Project No.: GW6581

Calibration log

	Standard Lot # / Date of Expiration	Temp of Standard (°C)	Value of Standard	Initial Reading	Post-Cal Reading	Acceptable Range	Pass?	Comments
Specific Conductance (µS/cm)	22250153 11/23	24.61	4490	4424.8	4490	+/- 5 %	Yes / No	
pH (4)			4.0	4.06	4.0	+/- 0.1 SU	Yes / No	
Mid-Day pH (4) check			4.0	4.0		+/- 0.1 SU	Yes / No	
pH (7)	2266893 11/23	24.64	7.0	7.02	7.0	+/- 0.1 SU	Yes / No	
Mid-Day pH (7) check			7.0	7.02		+/- 0.1 SU	Yes / No	
pH (10)	22110130 6/23	24.66	10.0	10.02	10	+/- 0.1 SU	Yes / No	
Mid-Day pH (10) check			10.0	10.01		+/- 0.1 SU	Yes / No	
ORP (mV)	21790144 11/23	24.75	228	225.0	228	+/- 20mV	Yes / No	
DO (%) (1pt, 100% water saturated air cal)			100	96.33	100	+/- 6 % saturation	Yes / No	
Turbidity 0 NTU			0	0.02	0.01	+/- 0.5 NTU	Yes / No	
Turbidity 1 NTU			1.0 cc 8/11/23	~~1.02~~ 0.97 cc 8/11/23	~~1.0~~ 1.0 8/11/23	+/- 0.5 NTU	Yes / No	
Turbidity 10 NTU			10 cc 8/11/23	10.02	10	+/- 0.5 NTU	Yes / No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Elisabeth McDonnell | Date: 8/11/23 | Time (start): 756 | Time (finish): 816

smarTroll SN: 989630 | Turbidity Meter Type: La Motte 2020t | SN: 4109-2623

Weather Conditions: 70-90 Sunny | Facility and Unit: Plant Hammond | Project No.: GW6581

Calibration log

	Standard Lot # / Date of Expiration	Temp of Standard (°C)	Value of Standard	Initial Reading	Post-Cal Reading	Acceptable Range	Pass?	Comments
Specific Conductance (µS/cm)	22250153 11/23	25.94	4490	4481.9	4490	+/- 5 %	Yes / No	
pH (4)	↓		4.0	4.0	4.0	+/- 0.1 SU	Yes / No	
Mid-Day pH (4) check		30.88	4.0	4.04	4.0	+/- 0.1 SU	Yes / No	
pH (7)	22168993 11/23	26.90	7.0	6.98	7.0	+/- 0.1 SU	Yes / No	
Mid-Day pH (7) check	↓	31.63	7.0	6.97	7.0	+/- 0.1 SU	Yes / No	
pH (10)	21320202 12/23	27.13	10.0	9.98	10.0	+/- 0.1 SU	Yes / No	
Mid-Day pH (10) check	↓	32.09	10.0	10.10	10.0	+/- 0.1 SU	Yes / No	
ORP (mV)	21390149 11/23	26.7	228	225	228	+/- 20mV	Yes / No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100%	99.39	100	+/- 6 % saturation	Yes / No	
Turbidity 0 NTU			0.0	0.0	0.0	+/- 0.5 NTU	Yes / No	
Turbidity 1 NTU			1.0	.89	.48	+/- 0.5 NTU	Yes / No	
Turbidity 10 NTU			10.0	10.6	10.4	+/- 0.5 NTU	Yes / No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Thomas Hessler | Date: 8/11/2012 | Time (start): 0800 | Time (finish): 0833

smarTroll SN: 550174 | Turbidity Meter Type: Lamotte 2020 we | SN: 12175 41011

Weather Conditions: Rainy, 75° | Facility and Unit: Plant Hammond | Project No.: GXC881

Calibration log

	Standard Lot # / Date of Expiration	Temp of Standard (°C)	Value of Standard	Initial Reading	Post-Cal Reading	Acceptable Range	Pass?	Comments
Specific Conductance (µS/cm)	22250153	24.37	4490	4611.2	4490	+/- 5 %	(Yes) No	
pH (4)			4.00	4.04	4.0	+/- 0.1 SU	(Yes) No	
Mid-Day pH (4) check	—	—	—	4.01	—	+/- 0.1 SU	(Yes) No	
pH (7)	2216843 11/13	24.69	7.00	7.02	7.00	+/- 0.1 SU	(Yes) No	
Mid-Day pH (7) check	—	—	—	6.97	—	+/- 0.1 SU	(Yes) No	
pH (10)	21302012 12/13	24.38	10.00	9.93	10.0	+/- 0.1 SU	(Yes) No	
Mid-Day pH (10) check	—	—	—	10.08	—	+/- 0.1 SU	(Yes) No	
ORP (mV)	22700085 8/13	24.60	228	223.5	225	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]	[redacted]	100	98.2	100	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU	[redacted]	[redacted]	0	1.07	0.0	+/- 0.5 NTU	Yes No	
Turbidity 1 NTU	[redacted]	[redacted]	1	1.10	1.05	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU	[redacted]	[redacted]	10	9.76	9.85	+/- 0.5 NTU	(Yes) No	

APPENDIX C

Statistical Analyses Report

GROUNDWATER STATS CONSULTING

February 28, 2024

Southern Company Services
Attn: Ms. Kristen Jurinko
241 Ralph McGill Blvd. NE, Bin 10160
Atlanta, Georgia 30308

Re: Plant Hammond Ash Pond 4 (AP-4)
August 2023 Semi-Annual Statistical Analysis

Dear Ms. Jurinko,

Groundwater Stats Consulting, formerly the statistical consulting division of Sanitas Technologies, is pleased to provide the August 2023 Semi-Annual Groundwater Detection and Assessment Monitoring Statistical summary of groundwater data for Georgia Power Company's Plant Hammond AP-4. The analysis complies with the federal rule for the Disposal of Coal Combustion Residuals from Electric Utilities (CCR Rule, 2015), the Georgia Environmental Protection Division (EPD) Rules for Solid Waste Management Chapter 391-3-4-.10 and follows the United States Environmental Protection Agency (USEPA) Unified Guidance (2009).

Sampling began for Hammond AP-4 in 2016, and at least 8 background samples have been collected at each of the groundwater monitoring wells analyzed in this report. The monitoring well network, as provided by Southern Company Services, consists of the following:

- **Upgradient well:** HGWA-47, HGWA-48D, HGWA-111, HGWA-112, and HGWA-113
- **Downgradient wells:** HGWC-101, HGWC-102, HGWC-103, HGWC-105, HGWC-107, HGWC-109, HGWC-117A, and HGWC-118
- **Piezometer:** HGWC-117

Note that downgradient well HGWC-102 was first sampled in October 2019 and upgradient wells HGWA-47 and HGWA-48D were first sampled in September 2020 and

currently have at least 8 samples; therefore, data from this well were evaluated during this statistical analysis. Upgradient well data are included in construction of interwell prediction limits when a minimum of 2 samples are available and downgradient wells are evaluated with prediction limits once they have reached a minimum of 8 samples.

Note that HGWC-117 was reclassified as a piezometer; therefore, it is not included in this analysis. Well HGWC-117A was reclassified as a downgradient well was first sampled in February 2021 and currently has four samples. Therefore, this well is included on the time series graphs and box plots, and also has reached the minimum number of samples for Appendix IV parameters to be evaluated with confidence intervals. Once it has been sampled 8 times, it will be evaluated with interwell prediction limits.

Data were sent electronically to Groundwater Stats Consulting, and the statistical analysis was reviewed by Andrew Collins, Project Manager of Groundwater Stats Consulting.

The Coal Combustion Residuals (CCR) program consists of the following constituents listed below. The terms "constituent" and "parameter" are interchangeable.

- **Appendix III** (Detection Monitoring) **-** boron, calcium, chloride, fluoride, pH, sulfate, and TDS
- **Appendix IV** (Assessment Monitoring) **–** antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, combined radium 226 + 228, fluoride, lead, lithium, mercury, molybdenum, selenium, and thallium

Note that when there are no detections present in downgradient wells for a given constituent, statistical analyses are not required. A summary of Appendix IV downgradient well/constituent pairs with 100% non-detects follows this letter.

For all constituents, a substitution of the most recent reporting limit is used for non-detect data. In the cases of lithium, historical reporting limits vary among the wells. Therefore, the reporting limits of 0.030 mg/L, respectively, were substituted across all wells, which is the most recent reporting limit provided by the laboratory. Note that the reporting limit for arsenic during this event increased to 0.01 mg/L; therefore, the historic reporting limit of 0.005 mg/L was substituted across all wells in order to maintain statistical limits that are conservative from a regulatory perspective.

Time series plots for Appendix III and IV parameters at all wells are provided for the purpose of screening data at these wells (Figure A). Additionally, a separate section of box plots is included for all constituents at upgradient and downgradient wells (Figure B). The time series plots are used to initially screen for suspected outliers and trends, while the

box plots provide visual representation of variation within individual wells and between all wells. Values in background which have been flagged as outliers may be seen in a lighter font and as a disconnected symbol on the graphs. A summary of flagged outliers follows this report (Figure C).

Data at all wells were initially evaluated during the background screening described below for the following: 1) outliers; 2) trends; 3) most appropriate statistical method for Appendix III parameters based on site characteristics of groundwater data upgradient of the facility; and 4) eligibility of downgradient wells when intrawell statistical methods are recommended. Power curves were provided with the screening and demonstrated that the selected statistical methods for Appendix III parameters comply with the USEPA Unified Guidance. The EPA suggests the selected statistical method should provide at least 55% power at 3 standard deviations or at least 80% power at 4 standard deviations.

Statistical Methods – Appendix III Parameters

Appendix III parameters are evaluated using interwell prediction limits combined with a 1-of-2 resample plan for all constituents: boron, calcium, chloride, fluoride, pH, sulfate, and TDS.

Parametric prediction limits are utilized when the screened historical data follow a normal or transformed-normal distribution. When data cannot be normalized or the majority of data are non-detects, a nonparametric test is utilized. While the false positive rate associated with the parametric limits is based on an annual 10% (5% per semi-annual event) as recommended by the EPA Unified Guidance (2009), the false positive rate associated with the nonparametric limits is dependent upon the available background sample size, number of future comparisons, and verification resample plan. The distribution of data is tested using the Shapiro-Wilk/Shapiro-Francia test for normality. After testing for normality and performing any adjustments as discussed below (US EPA, 2009), data are analyzed using either parametric or non-parametric prediction limits.

- No statistical analyses are required on wells and analytes containing 100% non-detects (USEPA Unified Guidance, 2009, Chapter 6).
- When data contain <15% non-detects, simple substitution of one-half the reporting limit is utilized in the statistical analysis. The reporting limit utilized for non-detects is the most recent practical quantification limit (PQL) as reported by the laboratory.
- When data contain between 15-50% non-detects, the Kaplan-Meier non-detect adjustment is applied to the background data for parametric limits. This

technique adjusts the mean and standard deviation of the historical concentrations to account for concentrations below the reporting limit.

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

Note that values shown on data pages reflect raw data and any non-detects that have been substituted with one-half of the reporting limit will be shown as the original reporting limit.

Natural systems continuously evolve due to physical changes made to the environment. Examples include capping a landfill, paving areas near a well, or lining a drainage channel to prevent erosion. Periodic updating of background statistical limits is necessary to accommodate these types of changes. In the interwell case, prediction limits are updated with upgradient well data during each event after careful screening for any new outliers. In some cases, an earlier portion of data may require deselection prior to construction of limits to provide sensitive limits that will rapidly detect changes in groundwater quality. Even though the data are excluded from the calculation, the values will continue to be reported and shown in tables and graphs. When this step is required a summary of any adjusted records will be provided. No records were adjusted at this time.

Summary of Background Screening Conducted in April 2019

Outlier Analysis

Time series plots were used to identify suspected outliers, or extreme values that would result in limits that are not representative of the current background data population. Suspected outliers at all wells for Appendix III and Appendix IV parameters were formally tested using Tukey's box plot method and, when identified, flagged in the computer database with "o" and deselected prior to construction of statistical limits.

Using the Tukey box plot method, a few outliers were identified. Often, when the most recent value is identified as an outlier, values are not flagged in the database at this time as they may represent a possible trend. If future values do not remain at similar concentrations, these values will be flagged as outliers and deselected. Several low values exist in the data sets and appear on the graphs as possible low outliers relative to the laboratory's Practical Quantitation Limit. However, these values are observed trace values (i.e., measurements reported by the laboratory between the Method Detection Limit and the Practical Quantitation Limit) and, therefore, were not flagged as outliers.

Of the outliers identified by Tukey's method, only one outlier was flagged as all other values are similar to remaining measurements within a given well or neighboring wells, or were reported non-detects.

Additionally, when any values are flagged in the database as outliers, they are plotted in a disconnected and lighter symbol on the time series graph. The accompanying data pages display the flagged value in a lighter font as well. A substitution of the most recent reporting limit was applied when varying detection limits existed in data.

Seasonality

No obvious seasonal patterns were observed on the time series plots for any of the detected data; therefore, no deseasonalizing adjustments were made to the data. When seasonal patterns are observed, data may be deseasonalized so that the resulting limits will correctly account for the seasonality as a predictable pattern rather than random variation or a release.

Trend Tests

While trends may be identified by visual inspection, a quantification of the trend and its significance is needed. The Sen's Slope/Mann Kendall trend test was used to evaluate all data at each well to identify statistically significant increasing or decreasing trends. In the absence of suspected contamination, significant trending data are typically not included as part of the background data used for construction of prediction limits. This step serves to eliminate the trend and, thus, reduce variation in background. When statistically significant decreasing trends are present, all available data are evaluated to determine whether earlier concentration levels are significantly different than current reported concentrations and will be deselected as necessary. When any records of data are truncated for the reasons above, a summary report will be provided to show the date ranges used in construction of the statistical limits.

The results of the trend analyses were included with the screening and showed a few statistically significant decreasing and increasing trends for the Appendix III parameters. Most trends noted were relatively low in magnitude when compared to average concentrations, and the background period is short; therefore, no adjustments were made to the data sets.

Appendix III – Determination of Spatial Variation

The Analysis of Variance (ANOVA) is typically used to statistically evaluate differences in average concentrations among upgradient wells, which assists in identifying the most appropriate statistical approach. However, interwell methods are currently implemented in accordance with the Georgia EPD regulations and are used to evaluate compliance samples in downgradient wells.

Statistical Evaluation of Appendix III Parameters – August 2023

All Appendix III parameters were analyzed using interwell prediction limits. Background (upgradient) well data were reassessed for potential outliers during this analysis. Values in background which have been flagged as outliers may be seen in a lighter font and as a disconnected symbol on the graphs. No additional values were flagged and a summary of previously flagged outliers follows this report (Figure C).

Interwell Prediction Limits

Interwell prediction limits, combined with a 1-of-2 resample plan, were constructed using all historical upgradient well data through August 2023 (Figure D). Interwell prediction limits pool upgradient well data to establish a background limit for an individual constituent. The August 2023 sample from each downgradient well is compared to the background limit to determine whether initial exceedances are present.

In the event of an initial exceedance of compliance well data, the 1-of-2 resample plan allows for collection of one additional sample to determine whether the initial exceedance is confirmed. When a resample confirms the initial exceedance, a statistically significant increase is identified and further research would be required to identify the cause of the exceedance (i.e., impact from the site, natural variation, or an off-site source). If the resample falls within the statistical limit, the initial exceedance is considered to be a false positive result and, therefore, no exceedance is noted and no further action is necessary. If no resample is collected, the original result is considered a confirmed exceedance. A summary table of the interwell prediction limits follows this letter. Exceedances were identified for the following well/constituent pairs:

- Boron: HGWC-101, HGWC-102, HGWC-103, HGWC-105, HGWC-107, HGWC-109, HGWC-117A and HGWC-118
- Calcium: HGWC-102, HGWC-103, HGWC-105, and HGWC-118
- Chloride: HGWC-102 and HGWC-103

- Sulfate: HGWC-101, HGWC-102, HGWC-103, HGWC-105, HGWC-107, HGWC-109, HGWC-117A, and HGWC-118
- TDS: HGWC-102, HGWC-103, HGWC-105, and HGWC-118

Trend Test Evaluation – Appendix III

When prediction limit exceedances are identified in downgradient wells, data are further evaluated using the Sen's Slope/Mann Kendall trend test to determine whether concentrations are statistically increasing, decreasing, or stable at the 99% confidence level (Figure E). Upgradient wells are included in the trend analyses for all parameters found to exceed their prediction limit in downgradient wells to identify whether similar patterns exist upgradient of the site. When trends are present in upgradient trends, it is an indication of variability in groundwater unrelated to practices at the site. A summary of the trend test results follows this letter. Statistically significant trends were noted for the following well/constituent pairs:

Increasing trends:
- Boron: HGWC-101 and HGWC-103
- Calcium: HGWA-113 (upgradient), HGWC-103, and HGWC-105
- Chloride: HGWC-103
- TDS: HGWC-105

Decreasing trends:
- Boron: HGWC-109
- Sulfate: HGWA-113 (upgradient), HGWC-107, and HGWC-109

Statistical Methods – Appendix IV Parameters

Appendix IV parameters are evaluated by statistically comparing the mean or median of each downgradient well/constituent pair against corresponding Groundwater Protection Standards (GWPS). The GWPS may be either regulatory (Maximum Containment Limits (MCL) or CCR rule-specified limits) or site-specific limits that are based on upgradient background groundwater quality. Site-specific background limits are determined using tolerance limits, and the comparison of downgradient means or medians to GWPS is performed using confidence intervals. The methods are described below.

Statistical Evaluation of Appendix IV Parameters – August 2023

For Appendix IV parameters, confidence intervals for each downgradient well/constituent pair were compared against corresponding Groundwater Protection Standards (GWPS).

GWPS were developed as described below. Well/constituent pairs that have 100% non-detects do not require analysis. Data from upgradient wells for Appendix IV parameters are reassessed for outliers during each analysis. No additional values were flagged and a summary of previously flagged outliers follows this report (Figure C).

Interwell Upper Tolerance Limits

Interwell upper tolerance limits were used to calculate site-specific background limits from all available pooled upgradient well data through August 2023 for Appendix IV constituents (Figure F). As mentioned above, a reporting limit of 0.005 mg/L was substituted for arsenic and a reporting limit of 0.030 mg/L was substituted for lithium. Parametric tolerance limits are used when data follow a normal or transformed-normal distribution. When data contained greater than 50% non-detects or did not follow a normal or transformed-normal distribution, non-parametric tolerance limits were used.

Groundwater Protection Standards

The background limits were then used when determining the groundwater protection standard (GWPS) under 40 CFR §257.95(h) and Georgia EPD Rule 391-3-4-.10(6)(a). On July 30, 2018, US EPA revised the Federal CCR rule updating GWPS for cobalt, lead, lithium, and molybdenum as described above in 40 CFR §257.95(h)(2). Effective on February 22, 2022, Georgia EPD incorporated the updated GWPS into the current Georgia EPD Rules for Solid Waste Management 391-3-4-.10(6)(a). In accordance with the updated Rules, the GWPS is:

- The maximum contaminant level (MCL) established under §141.62 and §141.66 of this title
- Where an MCL has not been established for a constituent, Federal and State CCR Rules specify levels for cobalt (0.006 mg/L), lead (0.015 mg/L), lithium (0.040 mg/L), and molybdenum (0.100 mg/L)
- The respective background level for a constituent when the background level is higher than the MCL or Federal CCR Rule identified GWPS

Following Georgia EPD Rule requirements and the Federal CCR requirements, GWPS were established for statistical comparison of Appendix IV constituents for this sample event (Figure G).

Confidence Intervals

To complete the statistical comparison to GWPS, confidence intervals were constructed for the Appendix IV constituents in each downgradient well (Figure H). As mentioned

above, well/constituent pairs with 100% non-detects did not require statistics, which includes all downgradient wells for molybdenum.

The Sanitas software was used to calculate the tolerance limits and the confidence intervals. These intervals were constructed as either parametric or nonparametric confidence intervals depending on the data distribution and percentage of non-detects. When data followed a normal or transformed-normal distribution, parametric confidence intervals were used for Appendix IV parameters. Nonparametric confidence intervals, which use the appropriate order statistics, depending on the sample size, as interval limits, were constructed when data did not follow a normal or transformed-normal distribution or when there were greater than 50% non-detects. The lower confidence limit, which is constructed with 99% confidence for parametric confidence intervals, is compared to the GWPS prepared as described above. The achievable confidence level associated with nonparametric confidence intervals is dependent upon the number samples available.

Only when the entire confidence interval is above a GWPS is the downgradient well/constituent pair considered to exceed its respective standard. If there is an exceedance of the GWPS, a statistically significant level (SSL) exceedance is identified. A summary of the confidence intervals follows this letter. When the entire records were evaluated, no exceedances were identified.

Trend Test Evaluation – Appendix IV

Data at wells with confidence interval exceedances are further evaluated using the Sen's Slope/Mann Kendall trend test at the 95% confidence level to determine whether concentrations are statistically increasing, decreasing, or stable. Although the trend tests for Assessment monitoring pairs were previously evaluated using 99% confidence, the 95% confidence level more rapidly identifies statistically significant trends. Additionally, the 95% confidence is recommended in cases with limited sample sizes and, particularly, for new assessment wells. Upgradient wells are included in the trend analyses to identify whether similar patterns exist upgradient of the site for the same constituents. When trends are present in upgradient wells, it is an indication of variability in groundwater quality unrelated to practices at the site. Since no confidence interval exceedances were identified, no trend tests were required.

Thank you for the opportunity to assist you in the statistical analysis of groundwater quality for Hammond AP-4. If you have any questions or comments, please feel free to contact us.

For Groundwater Stats Consulting,

Tristan Clark
Groundwater Analyst

Andrew T. Collins
Project Manager

100% Non-Detects: Appendix IV Downgradient

Analysis Run 10/19/2023 2:23 PM View: AIV
Plant Hammond Client: Southern Company Data: Hammond AP-4

Antimony (mg/L)
HGWC-101, HGWC-105, HGWC-109, HGWC-117A, HGWC-118

Arsenic (mg/L)
HGWC-103, HGWC-105, HGWC-107, HGWC-117A

Beryllium (mg/L)
HGWC-102, HGWC-105, HGWC-107, HGWC-109, HGWC-117A

Cadmium (mg/L)
HGWC-105, HGWC-109, HGWC-118

Chromium (mg/L)
HGWC-117A

Cobalt (mg/L)
HGWC-107

Lead (mg/L)
HGWC-117A

Lithium (mg/L)
HGWC-101

Molybdenum (mg/L)
HGWC-101, HGWC-102, HGWC-103, HGWC-105, HGWC-107, HGWC-109, HGWC-117A, HGWC-118

Selenium (mg/L)
HGWC-101, HGWC-103, HGWC-105, HGWC-107, HGWC-109, HGWC-117A, HGWC-118

Thallium (mg/L)
HGWC-101, HGWC-103, HGWC-105, HGWC-107, HGWC-109, HGWC-117A, HGWC-118

Appendix III Interwell Prediction Limit - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-4 Printed 10/19/2023, 2:09 PM

Constituent	Well	Upper Lim	Lower Lim	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	HGWC-101	0.04	n/a	8/11/2023	0.16	Yes	74	n/a	n/a	32.43	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-102	0.04	n/a	8/11/2023	3.2	Yes	74	n/a	n/a	32.43	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-103	0.04	n/a	8/11/2023	4.3	Yes	74	n/a	n/a	32.43	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-105	0.04	n/a	8/11/2023	1.4	Yes	74	n/a	n/a	32.43	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-107	0.04	n/a	8/11/2023	0.81	Yes	74	n/a	n/a	32.43	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-109	0.04	n/a	8/11/2023	0.23	Yes	74	n/a	n/a	32.43	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-117A	0.04	n/a	8/11/2023	0.31	Yes	74	n/a	n/a	32.43	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-118	0.04	n/a	8/11/2023	0.66	Yes	74	n/a	n/a	32.43	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-102	73.8	n/a	8/11/2023	134	Yes	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-103	73.8	n/a	8/11/2023	139	Yes	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-105	73.8	n/a	8/11/2023	129	Yes	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-118	73.8	n/a	8/11/2023	85.5	Yes	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-102	5.7	n/a	8/11/2023	6.7	Yes	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-103	5.7	n/a	8/11/2023	7.9	Yes	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-101	14	n/a	8/11/2023	102	Yes	74	n/a	n/a	5.405	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-102	14	n/a	8/11/2023	370	Yes	74	n/a	n/a	5.405	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-103	14	n/a	8/11/2023	382	Yes	74	n/a	n/a	5.405	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-105	14	n/a	8/11/2023	237	Yes	74	n/a	n/a	5.405	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-107	14	n/a	8/11/2023	113	Yes	74	n/a	n/a	5.405	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-109	14	n/a	8/11/2023	19.8	Yes	74	n/a	n/a	5.405	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-117A	14	n/a	8/11/2023	67.7	Yes	74	n/a	n/a	5.405	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-118	14	n/a	8/11/2023	64.9	Yes	74	n/a	n/a	5.405	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-102	345	n/a	8/11/2023	785	Yes	73	n/a	n/a	0	n/a	n/a	0.0003595	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-103	345	n/a	8/11/2023	808	Yes	73	n/a	n/a	0	n/a	n/a	0.0003595	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-105	345	n/a	8/11/2023	630	Yes	73	n/a	n/a	0	n/a	n/a	0.0003595	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-118	345	n/a	8/11/2023	346	Yes	73	n/a	n/a	0	n/a	n/a	0.0003595	NP Inter (normality) 1 of 2

Appendix III Interwell Prediction Limit - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-4 Printed 10/19/2023, 2:09 PM

Constituent	Well	Upper Lim	Lower Lim	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	**HGWC-101**	**0.04**	**n/a**	**8/11/2023**	**0.16**	**Yes**	**74**	**n/a**	**n/a**	**32.43**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**HGWC-102**	**0.04**	**n/a**	**8/11/2023**	**3.2**	**Yes**	**74**	**n/a**	**n/a**	**32.43**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**HGWC-103**	**0.04**	**n/a**	**8/11/2023**	**4.3**	**Yes**	**74**	**n/a**	**n/a**	**32.43**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**HGWC-105**	**0.04**	**n/a**	**8/11/2023**	**1.4**	**Yes**	**74**	**n/a**	**n/a**	**32.43**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**HGWC-107**	**0.04**	**n/a**	**8/11/2023**	**0.81**	**Yes**	**74**	**n/a**	**n/a**	**32.43**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**HGWC-109**	**0.04**	**n/a**	**8/11/2023**	**0.23**	**Yes**	**74**	**n/a**	**n/a**	**32.43**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**HGWC-117A**	**0.04**	**n/a**	**8/11/2023**	**0.31**	**Yes**	**74**	**n/a**	**n/a**	**32.43**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**HGWC-118**	**0.04**	**n/a**	**8/11/2023**	**0.66**	**Yes**	**74**	**n/a**	**n/a**	**32.43**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	HGWC-101	73.8	n/a	8/11/2023	24.1	No	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Calcium (mg/L)	**HGWC-102**	**73.8**	**n/a**	**8/11/2023**	**134**	**Yes**	**74**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**HGWC-103**	**73.8**	**n/a**	**8/11/2023**	**139**	**Yes**	**74**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**HGWC-105**	**73.8**	**n/a**	**8/11/2023**	**129**	**Yes**	**74**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	HGWC-107	73.8	n/a	8/11/2023	56	No	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-109	73.8	n/a	8/11/2023	44.8	No	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-117A	73.8	n/a	8/11/2023	61.1	No	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Calcium (mg/L)	**HGWC-118**	**73.8**	**n/a**	**8/11/2023**	**85.5**	**Yes**	**74**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	HGWC-101	5.7	n/a	8/11/2023	4.9	No	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Chloride (mg/L)	**HGWC-102**	**5.7**	**n/a**	**8/11/2023**	**6.7**	**Yes**	**74**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**HGWC-103**	**5.7**	**n/a**	**8/11/2023**	**7.9**	**Yes**	**74**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	HGWC-105	5.7	n/a	8/11/2023	5.6	No	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-107	5.7	n/a	8/11/2023	2.7	No	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-109	5.7	n/a	8/11/2023	3.5	No	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-117A	5.7	n/a	8/11/2023	4.6	No	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-118	5.7	n/a	8/11/2023	3.8	No	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-101	0.2	n/a	8/11/2023	0.1ND	No	80	n/a	n/a	21.25	n/a	n/a	0.0002979	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-102	0.2	n/a	8/11/2023	0.1ND	No	80	n/a	n/a	21.25	n/a	n/a	0.0002979	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-103	0.2	n/a	8/11/2023	0.1ND	No	80	n/a	n/a	21.25	n/a	n/a	0.0002979	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-105	0.2	n/a	8/11/2023	0.1ND	No	80	n/a	n/a	21.25	n/a	n/a	0.0002979	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-107	0.2	n/a	8/11/2023	0.1ND	No	80	n/a	n/a	21.25	n/a	n/a	0.0002979	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-109	0.2	n/a	8/11/2023	0.086J	No	80	n/a	n/a	21.25	n/a	n/a	0.0002979	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-117A	0.2	n/a	8/11/2023	0.057J	No	80	n/a	n/a	21.25	n/a	n/a	0.0002979	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-118	0.2	n/a	8/11/2023	0.07J	No	80	n/a	n/a	21.25	n/a	n/a	0.0002979	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-101	7.54	5.43	8/11/2023	5.44	No	80	n/a	n/a	0	n/a	n/a	0.0005958	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-102	7.54	5.43	8/11/2023	5.79	No	80	n/a	n/a	0	n/a	n/a	0.0005958	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-103	7.54	5.43	8/11/2023	5.8	No	80	n/a	n/a	0	n/a	n/a	0.0005958	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-105	7.54	5.43	8/11/2023	6.47	No	80	n/a	n/a	0	n/a	n/a	0.0005958	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-107	7.54	5.43	8/11/2023	6.16	No	80	n/a	n/a	0	n/a	n/a	0.0005958	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-109	7.54	5.43	8/11/2023	6.8	No	80	n/a	n/a	0	n/a	n/a	0.0005958	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-117A	7.54	5.43	8/11/2023	7.09	No	80	n/a	n/a	0	n/a	n/a	0.0005958	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-118	7.54	5.43	8/11/2023	7.49	No	80	n/a	n/a	0	n/a	n/a	0.0005958	NP Inter (normality) 1 of 2
Sulfate (mg/L)	**HGWC-101**	**14**	**n/a**	**8/11/2023**	**102**	**Yes**	**74**	**n/a**	**n/a**	**5.405**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-102**	**14**	**n/a**	**8/11/2023**	**370**	**Yes**	**74**	**n/a**	**n/a**	**5.405**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-103**	**14**	**n/a**	**8/11/2023**	**382**	**Yes**	**74**	**n/a**	**n/a**	**5.405**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-105**	**14**	**n/a**	**8/11/2023**	**237**	**Yes**	**74**	**n/a**	**n/a**	**5.405**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-107**	**14**	**n/a**	**8/11/2023**	**113**	**Yes**	**74**	**n/a**	**n/a**	**5.405**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-109**	**14**	**n/a**	**8/11/2023**	**19.8**	**Yes**	**74**	**n/a**	**n/a**	**5.405**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-117A**	**14**	**n/a**	**8/11/2023**	**67.7**	**Yes**	**74**	**n/a**	**n/a**	**5.405**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-118**	**14**	**n/a**	**8/11/2023**	**64.9**	**Yes**	**74**	**n/a**	**n/a**	**5.405**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Total Dissolved Solids (mg/L)	HGWC-101	345	n/a	8/11/2023	250	No	73	n/a	n/a	0	n/a	n/a	0.0003595	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	**HGWC-102**	**345**	**n/a**	**8/11/2023**	**785**	**Yes**	**73**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0003595**	**NP Inter (normality) 1 of 2**
Total Dissolved Solids (mg/L)	**HGWC-103**	**345**	**n/a**	**8/11/2023**	**808**	**Yes**	**73**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0003595**	**NP Inter (normality) 1 of 2**
Total Dissolved Solids (mg/L)	**HGWC-105**	**345**	**n/a**	**8/11/2023**	**630**	**Yes**	**73**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0003595**	**NP Inter (normality) 1 of 2**
Total Dissolved Solids (mg/L)	HGWC-107	345	n/a	8/11/2023	296	No	73	n/a	n/a	0	n/a	n/a	0.0003595	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-109	345	n/a	8/11/2023	205	No	73	n/a	n/a	0	n/a	n/a	0.0003595	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-117A	345	n/a	8/11/2023	280	No	73	n/a	n/a	0	n/a	n/a	0.0003595	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	**HGWC-118**	**345**	**n/a**	**8/11/2023**	**346**	**Yes**	**73**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0003595**	**NP Inter (normality) 1 of 2**

Appendix III Trend Tests - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-4 Printed 10/19/2023, 2:16 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	**HGWC-101**	**0.009779**	**87**	**68**	**Yes**	**18**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	**HGWC-103**	**0.1375**	**85**	**74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	**HGWC-109**	**-0.03064**	**-118**	**-74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**HGWA-113 (bg)**	**0.2844**	**92**	**68**	**Yes**	**18**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**HGWC-103**	**6.488**	**103**	**74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**HGWC-105**	**6.968**	**137**	**74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	**HGWC-103**	**0.3971**	**99**	**74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**HGWA-113 (bg)**	**-0.9433**	**-96**	**-68**	**Yes**	**18**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**HGWC-107**	**-1.814**	**-77**	**-74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**HGWC-109**	**-2.891**	**-101**	**-74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Total Dissolved Solids (mg/L)	**HGWC-105**	**24.62**	**101**	**74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**

Appendix III Trend Tests - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-4 Printed 10/19/2023, 2:16 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	HGWA-111 (bg)	0.0002457	33	68	No	18	33.33	n/a	n/a	0.01	NP
Boron (mg/L)	HGWA-112 (bg)	0	11	68	No	18	33.33	n/a	n/a	0.01	NP
Boron (mg/L)	HGWA-113 (bg)	0.0007341	30	68	No	18	22.22	n/a	n/a	0.01	NP
Boron (mg/L)	HGWA-47 (bg)	0.01101	20	30	No	10	60	n/a	n/a	0.01	NP
Boron (mg/L)	HGWA-48D (bg)	0	3	30	No	10	20	n/a	n/a	0.01	NP
Boron (mg/L)	**HGWC-101**	**0.009779**	**87**	**68**	**Yes**	**18**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	HGWC-102	-0.1535	-26	-48	No	14	0	n/a	n/a	0.01	NP
Boron (mg/L)	**HGWC-103**	**0.1375**	**85**	**74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	HGWC-105	0.00908	30	68	No	18	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWC-107	0.01658	51	74	No	19	0	n/a	n/a	0.01	NP
Boron (mg/L)	**HGWC-109**	**-0.03064**	**-118**	**-74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	HGWC-117A	-0.01502	-4	-14	No	6	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWC-118	-0.005615	-15	-68	No	18	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-111 (bg)	1.8	29	68	No	18	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-112 (bg)	0.06404	44	68	No	18	0	n/a	n/a	0.01	NP
Calcium (mg/L)	**HGWA-113 (bg)**	**0.2844**	**92**	**68**	**Yes**	**18**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	HGWA-47 (bg)	-0.4983	-5	-30	No	10	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-48D (bg)	0	0	30	No	10	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWC-102	2.11	8	48	No	14	0	n/a	n/a	0.01	NP
Calcium (mg/L)	**HGWC-103**	**6.488**	**103**	**74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**HGWC-105**	**6.968**	**137**	**74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	HGWC-118	0.8924	63	74	No	19	0	n/a	n/a	0.01	NP
Chloride (mg/L)	HGWA-111 (bg)	0	-2	-68	No	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	HGWA-112 (bg)	0	-10	-68	No	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	HGWA-113 (bg)	-0.03375	-48	-68	No	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	HGWA-47 (bg)	0	4	30	No	10	0	n/a	n/a	0.01	NP
Chloride (mg/L)	HGWA-48D (bg)	0	1	30	No	10	0	n/a	n/a	0.01	NP
Chloride (mg/L)	HGWC-102	0	4	48	No	14	0	n/a	n/a	0.01	NP
Chloride (mg/L)	**HGWC-103**	**0.3971**	**99**	**74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	HGWA-111 (bg)	0	-9	-68	No	18	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-112 (bg)	0.02747	27	68	No	18	22.22	n/a	n/a	0.01	NP
Sulfate (mg/L)	**HGWA-113 (bg)**	**-0.9433**	**-96**	**-68**	**Yes**	**18**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	HGWA-47 (bg)	-0.2246	-17	-30	No	10	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-48D (bg)	-0.7264	-24	-30	No	10	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-101	-1.808	-50	-74	No	19	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-102	-3.65	-8	-48	No	14	7.143	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-103	7.11	46	74	No	19	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-105	2.019	14	74	No	19	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	**HGWC-107**	**-1.814**	**-77**	**-74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**HGWC-109**	**-2.891**	**-101**	**-74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	HGWC-117A	2.408	4	14	No	6	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-118	-2.105	-72	-74	No	19	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-111 (bg)	5.263	28	68	No	18	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-112 (bg)	-0.799	-12	-63	No	17	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-113 (bg)	0.3489	4	68	No	18	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-47 (bg)	3.593	7	30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-48D (bg)	-0.365	-4	-30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWC-102	-13.69	-8	-48	No	14	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWC-103	19.95	53	74	No	19	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	**HGWC-105**	**24.62**	**101**	**74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Total Dissolved Solids (mg/L)	HGWC-118	-2.595	-25	-74	No	19	0	n/a	n/a	0.01	NP

Upper Tolerance Limit Summary Table

Plant Hammond Data: Hammond AP-4 Printed 10/26/2023, 1:43 PM

Constituent	Upper Lim.	Date	Observ.	Sig.	Bg N	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	0.003	n/a	n/a	n/a	63	93.65	n/a	n/a	0.0395	NP Inter(NDs)
Arsenic (mg/L)	0.005	n/a	n/a	n/a	77	93.51	n/a	n/a	0.01926	NP Inter(NDs)
Barium (mg/L)	0.11	n/a	n/a	n/a	77	0	n/a	n/a	0.01926	NP Inter(normality)
Beryllium (mg/L)	0.0019	n/a	n/a	n/a	77	90.91	n/a	n/a	0.01926	NP Inter(NDs)
Cadmium (mg/L)	0.0005	n/a	n/a	n/a	77	100	n/a	n/a	0.01926	NP Inter(NDs)
Chromium (mg/L)	0.0061	n/a	n/a	n/a	77	38.96	n/a	n/a	0.01926	NP Inter(normality)
Cobalt (mg/L)	0.005	n/a	n/a	n/a	77	89.61	n/a	n/a	0.01926	NP Inter(NDs)
Combined Radium 226 & 228 (pCi/L)	1.259	n/a	n/a	n/a	77	0	None	No	0.05	Inter
Fluoride (mg/L)	0.1685	n/a	n/a	n/a	80	21.25	Kaplan-Meier	sqrt(x)	0.05	Inter
Lead (mg/L)	0.0016	n/a	n/a	n/a	77	72.73	n/a	n/a	0.01926	NP Inter(NDs)
Lithium (mg/L)	0.03	n/a	n/a	n/a	77	36.36	n/a	n/a	0.01926	NP Inter(normality)
Mercury (mg/L)	0.0002	n/a	n/a	n/a	63	80.95	n/a	n/a	0.0395	NP Inter(NDs)
Molybdenum (mg/L)	0.01	n/a	n/a	n/a	63	84.13	n/a	n/a	0.0395	NP Inter(NDs)
Selenium (mg/L)	0.005	n/a	n/a	n/a	63	79.37	n/a	n/a	0.0395	NP Inter(NDs)
Thallium (mg/L)	0.001	n/a	n/a	n/a	63	100	n/a	n/a	0.0395	NP Inter(NDs)

PLANT HAMMOND AP-4 GWPS				
Constituent Name	**MCL**	**CCR-Rule Specified**	**Background Limit**	**GWPS**
Antimony, Total (mg/L)	0.006		0.003	0.006
Arsenic, Total (mg/L)	0.01		0.005	0.01
Barium, Total (mg/L)	2		0.11	2
Beryllium, Total (mg/L)	0.004		0.0019	0.004
Cadmium, Total (mg/L)	0.005		0.0005	0.005
Chromium, Total (mg/L)	0.1		0.0061	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.005	0.006
Combined Radium, Total (pCi/L)	5		1.26	5
Fluoride, Total (mg/L)	4		0.17	4
Lead, Total (mg/L)	n/a	0.015	0.0016	0.015
Lithium, Total (mg/L)	n/a	0.040	0.030	0.040
Mercury, Total (mg/L)	0.002		0.0002	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.01	0.1
Selenium, Total (mg/L)	0.05		0.005	0.05
Thallium, Total (mg/L)	0.002		0.001	0.002

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residuals*

**GWPS = Groundwater Protection Standard*

Confidence Intervals - All Results (No Significant)

Plant Hammond Client: Southern Company Data: Hammond AP-4 Printed 10/26/2023, 11:28 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	HGWC-102	0.003	0.003	0.006	No	13	84.62	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-103	0.003	0.0022	0.006	No	15	93.33	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-107	0.003	0.0011	0.006	No	15	93.33	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-101	0.005	0.00039	0.01	No	19	94.74	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-102	0.005	0.00083	0.01	No	14	71.43	None	No	0.01	NP (normality)
Arsenic (mg/L)	HGWC-109	0.002308	0.001423	0.01	No	19	15.79	Kaplan-Meier	ln(x)	0.01	Param.
Arsenic (mg/L)	HGWC-118	0.005	0.001	0.01	No	19	94.74	Kaplan-Meier	No	0.01	NP (NDs)
Barium (mg/L)	HGWC-101	0.04489	0.03883	2	No	19	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-102	0.03228	0.02715	2	No	14	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-103	0.03985	0.03495	2	No	19	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-105	0.088	0.0668	2	No	19	0	None	No	0.01	NP (normality)
Barium (mg/L)	HGWC-107	0.03881	0.03577	2	No	19	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-109	0.08688	0.08044	2	No	19	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-118	0.06041	0.04955	2	No	19	0	None	No	0.01	Param.
Beryllium (mg/L)	HGWC-101	0.0005	0.000062	0.004	No	19	47.37	None	No	0.01	NP (normality)
Beryllium (mg/L)	HGWC-103	0.0005	0.000088	0.004	No	19	78.95	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-118	0.0005	0.000093	0.004	No	19	94.74	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-101	0.0003	0.00011	0.005	No	19	15.79	None	No	0.01	NP (normality)
Cadmium (mg/L)	HGWC-102	0.000665	0.0003407	0.005	No	14	0	None	No	0.01	Param.
Cadmium (mg/L)	HGWC-103	0.0007837	0.0006805	0.005	No	19	0	None	No	0.01	Param.
Cadmium (mg/L)	HGWC-107	0.0005	0.0001	0.005	No	19	63.16	None	No	0.01	NP (normality)
Chromium (mg/L)	HGWC-101	0.005	0.00098	0.1	No	19	78.95	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-102	0.005	0.00063	0.1	No	14	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-103	0.005	0.00081	0.1	No	19	63.16	None	No	0.01	NP (normality)
Chromium (mg/L)	HGWC-105	0.005	0.0013	0.1	No	19	78.95	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-107	0.005	0.00074	0.1	No	19	94.74	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-109	0.005	0.0014	0.1	No	19	89.47	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-118	0.005	0.0017	0.1	No	19	73.68	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-101	0.002761	0.002144	0.006	No	19	5.263	None	No	0.01	Param.
Cobalt (mg/L)	HGWC-102	0.001878	0.001042	0.006	No	14	0	None	ln(x)	0.01	Param.
Cobalt (mg/L)	HGWC-103	0.002251	0.001823	0.006	No	19	0	None	No	0.01	Param.
Cobalt (mg/L)	HGWC-105	0.005	0.00046	0.006	No	19	31.58	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-109	0.00201	0.001226	0.006	No	19	0	None	No	0.01	Param.
Cobalt (mg/L)	HGWC-118	0.005	0.00045	0.006	No	19	52.63	None	No	0.01	NP (normality)
Combined Radium 226 & 228 (pCi/L)	HGWC-101	0.8549	0.4408	5	No	19	0	None	No	0.01	Param.
Combined Radium 226 & 228 (pCi/L)	HGWC-102	1.165	0.5859	5	No	13	0	None	No	0.01	Param.
Combined Radium 226 & 228 (pCi/L)	HGWC-103	0.873	0.4601	5	No	19	0	None	No	0.01	Param.
Combined Radium 226 & 228 (pCi/L)	HGWC-105	0.8447	0.4736	5	No	19	0	None	No	0.01	Param.
Combined Radium 226 & 228 (pCi/L)	HGWC-107	1.024	0.4983	5	No	19	0	None	No	0.01	Param.
Combined Radium 226 & 228 (pCi/L)	HGWC-109	0.7607	0.4285	5	No	19	0	None	No	0.01	Param.
Combined Radium 226 & 228 (pCi/L)	HGWC-118	1.108	0.5047	5	No	18	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-101	0.1	0.065	4	No	20	85	None	No	0.01	NP (NDs)
Fluoride (mg/L)	HGWC-102	0.22	0.076	4	No	14	85.71	None	No	0.01	NP (NDs)
Fluoride (mg/L)	HGWC-103	0.13	0.071	4	No	20	75	None	No	0.01	NP (normality)
Fluoride (mg/L)	HGWC-105	0.13	0.074	4	No	20	55	None	No	0.01	NP (normality)
Fluoride (mg/L)	HGWC-107	0.1	0.064	4	No	20	55	None	No	0.01	NP (normality)
Fluoride (mg/L)	HGWC-109	0.1257	0.08329	4	No	20	10	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-118	0.18	0.072	4	No	21	0	None	No	0.01	NP (normality)
Lead (mg/L)	HGWC-101	0.001	0.0009	0.015	No	19	94.74	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-102	0.001	0.00011	0.015	No	14	92.86	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-103	0.001	0.00028	0.015	No	19	73.68	None	No	0.01	NP (normality)
Lead (mg/L)	HGWC-105	0.001	0.000085	0.015	No	19	78.95	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-107	0.001	0.00034	0.015	No	19	78.95	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-109	0.001	0.000058	0.015	No	19	89.47	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-118	0.001	0.00036	0.015	No	19	73.68	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-102	0.0013	0.001	0.04	No	14	0	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-103	0.002	0.0014	0.04	No	19	15.79	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-105	0.004198	0.003865	0.04	No	19	0	None	No	0.01	Param.
Lithium (mg/L)	HGWC-107	0.03	0.00084	0.04	No	19	42.11	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-109	0.03	0.00088	0.04	No	19	47.37	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-118	0.03	0.0015	0.04	No	19	31.58	None	No	0.01	NP (normality)
Mercury (mg/L)	HGWC-101	0.0002	0.000099	0.002	No	15	86.67	None	No	0.01	NP (NDs)
Mercury (mg/L)	HGWC-102	0.0002	0.0001	0.002	No	13	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	HGWC-103	0.00025	0.00017	0.002	No	15	73.33	None	No	0.01	NP (normality)
Mercury (mg/L)	HGWC-105	0.00022	0.0002	0.002	No	15	93.33	None	No	0.01	NP (NDs)
Mercury (mg/L)	HGWC-107	0.0002	0.000084	0.002	No	15	93.33	None	No	0.01	NP (NDs)
Mercury (mg/L)	HGWC-109	0.0002	0.00008	0.002	No	15	86.67	None	No	0.01	NP (NDs)
Mercury (mg/L)	HGWC-118	0.0002	0.00009	0.002	No	15	86.67	None	No	0.01	NP (NDs)

Confidence Intervals - All Results (No Significant)

Plant Hammond Client: Southern Company Data: Hammond AP-4 Printed 10/26/2023, 11:28 AM

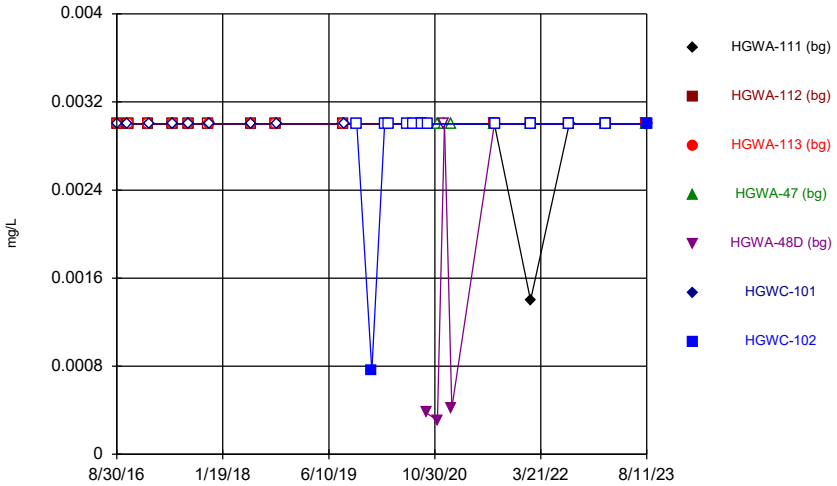
Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	ND Adj.	Transform	Alpha	Method
Selenium (mg/L)	HGWC-102	0.005	0.0015	0.05	No	13	92.31	None	No	0.01	NP (NDs)
Thallium (mg/L)	HGWC-102	0.001	0.00008	0.002	No	13	92.31	None	No	0.01	NP (NDs)

Table of Contents

FIGURE A.

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

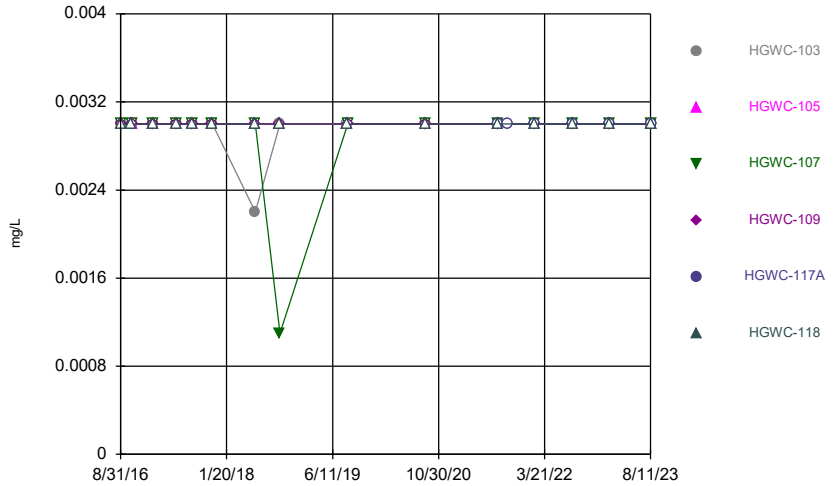
Time Series



Constituent: Antimony Analysis Run 10/26/2023 11:22 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

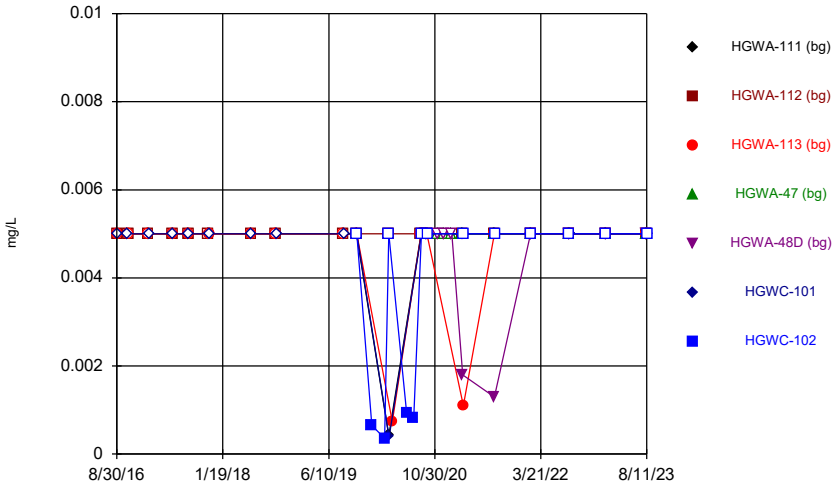
Time Series



Constituent: Antimony Analysis Run 10/26/2023 11:22 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

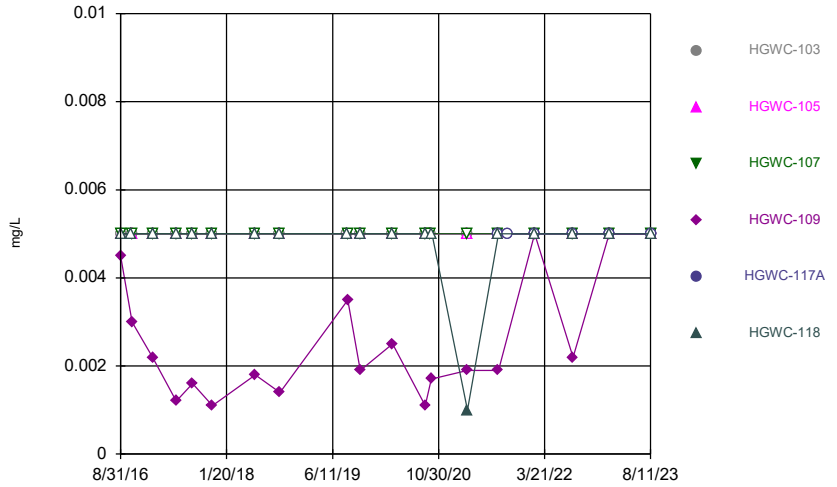
Time Series



Constituent: Arsenic Analysis Run 10/26/2023 11:22 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

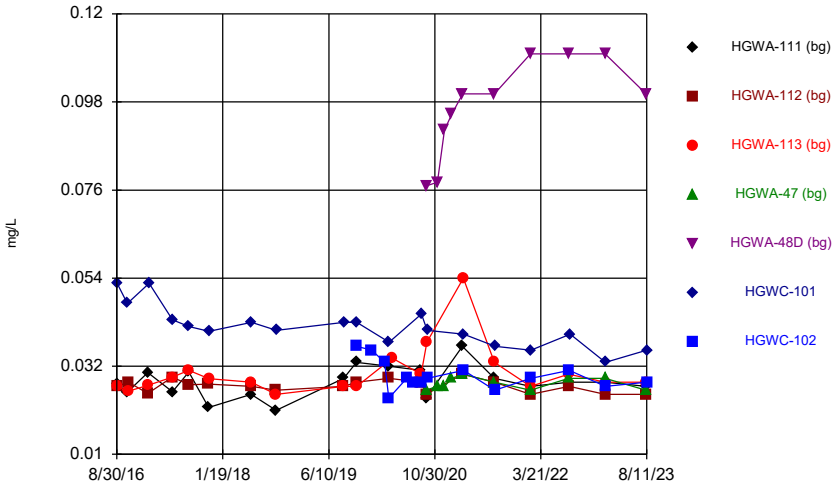
Time Series



Constituent: Arsenic Analysis Run 10/26/2023 11:22 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

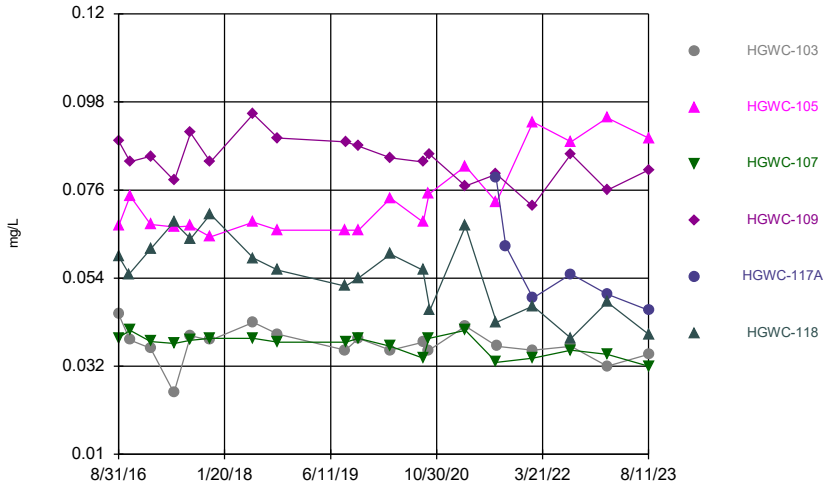
Time Series



Constituent: Barium Analysis Run 10/26/2023 11:22 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

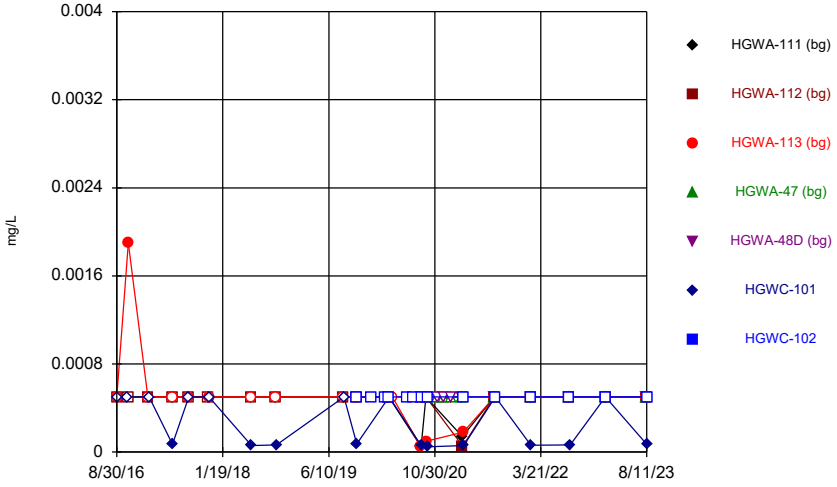
Time Series



Constituent: Barium Analysis Run 10/26/2023 11:22 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

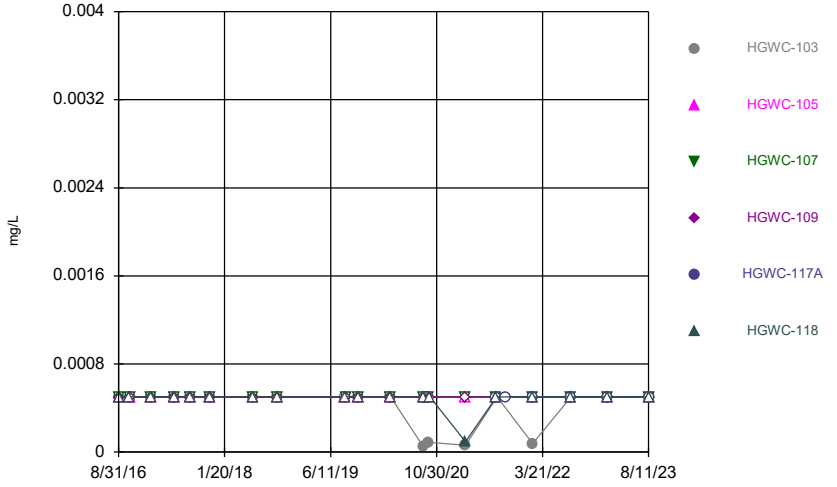
Time Series



Constituent: Beryllium Analysis Run 10/26/2023 11:22 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

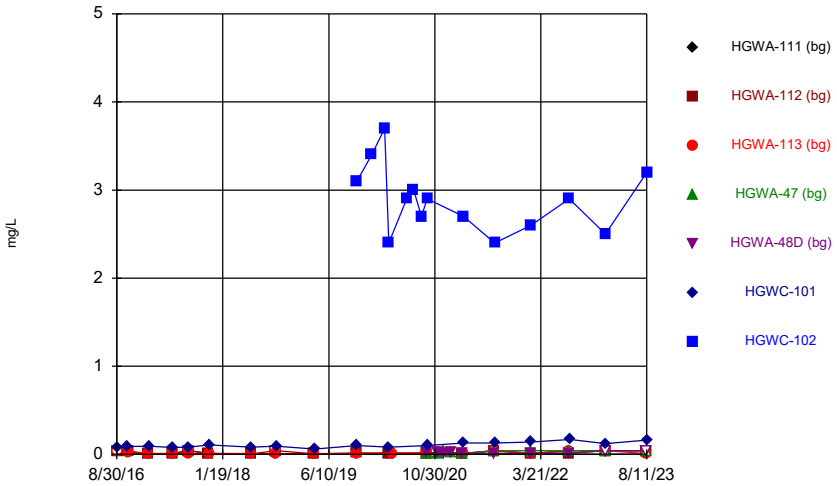
Time Series



Constituent: Beryllium Analysis Run 10/26/2023 11:22 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

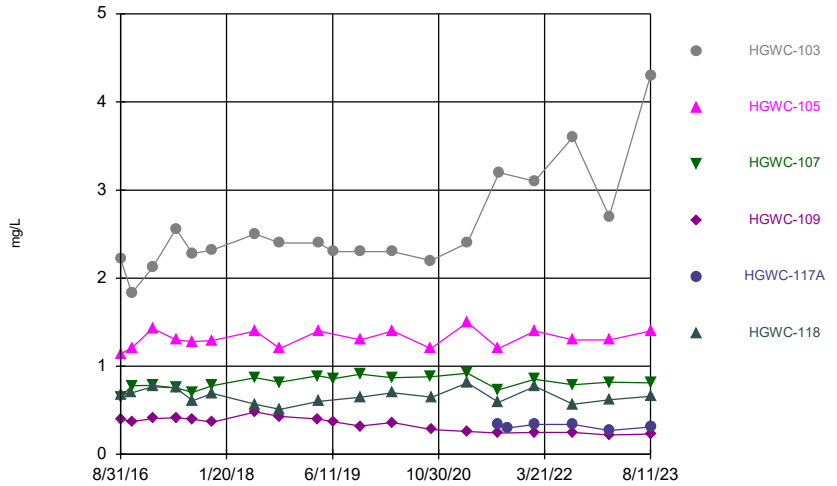
Time Series



Constituent: Boron Analysis Run 10/26/2023 11:22 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

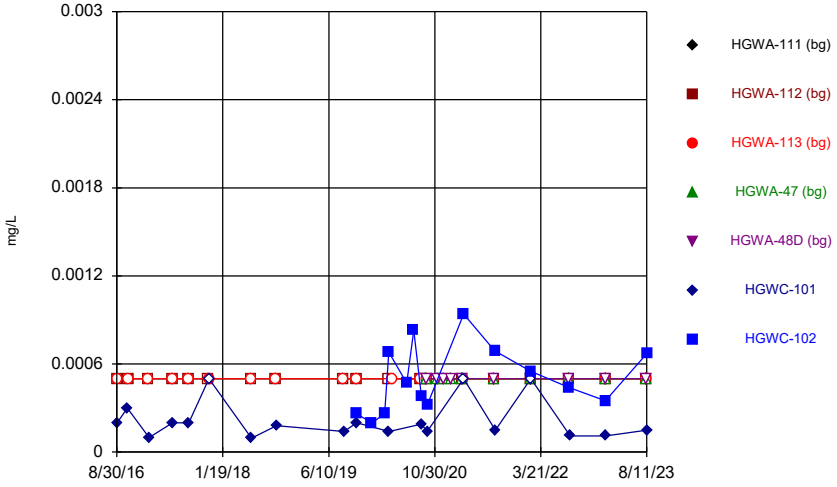
Time Series



Constituent: Boron Analysis Run 10/26/2023 11:22 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

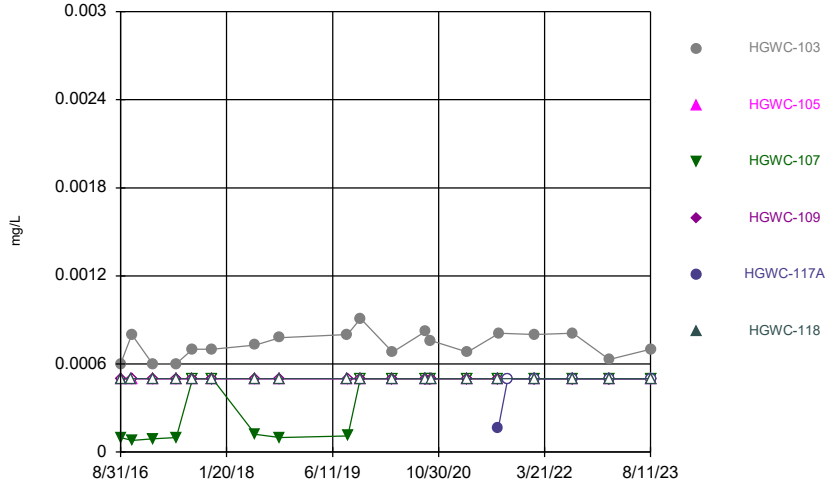
Time Series



Constituent: Cadmium Analysis Run 10/26/2023 11:22 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

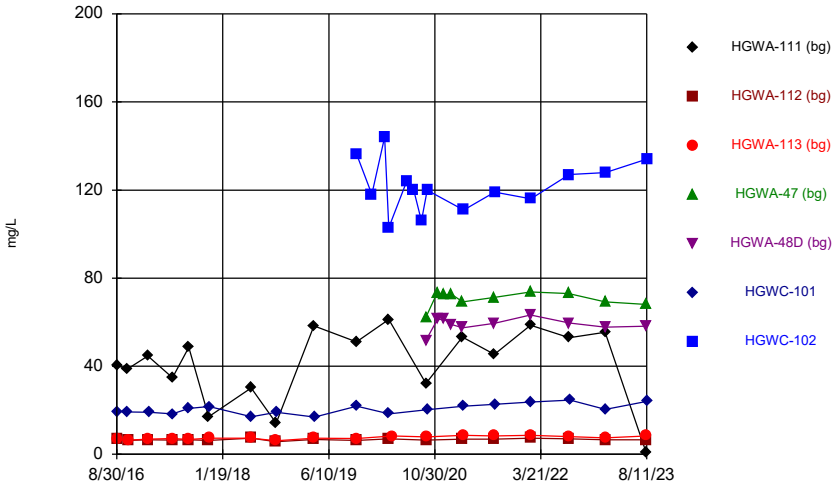
Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Cadmium Analysis Run 10/26/2023 11:22 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

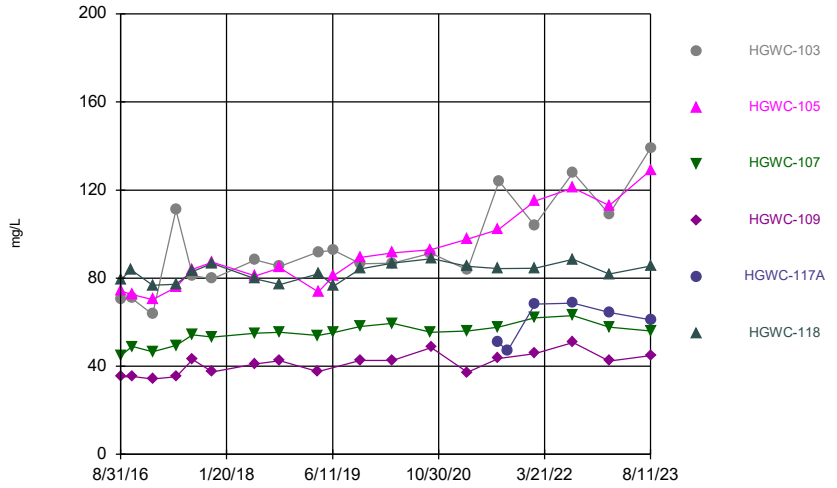
Time Series



Constituent: Calcium Analysis Run 10/26/2023 11:22 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

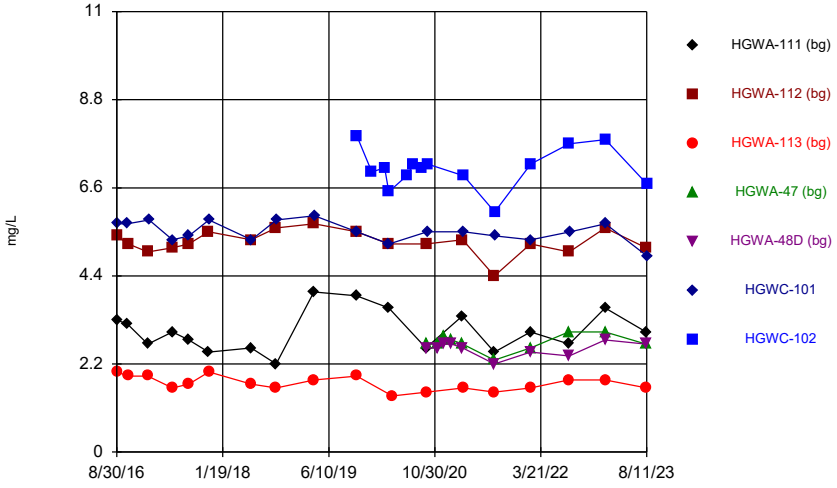
Time Series



Constituent: Calcium Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

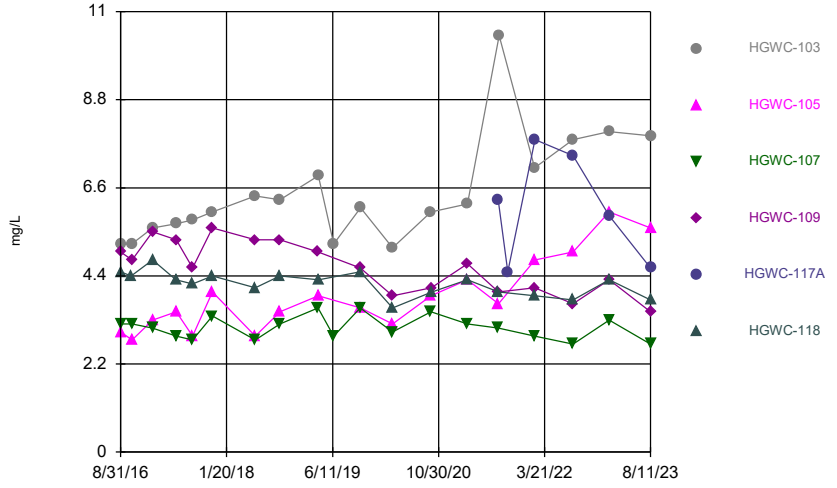
Time Series



Constituent: Chloride Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

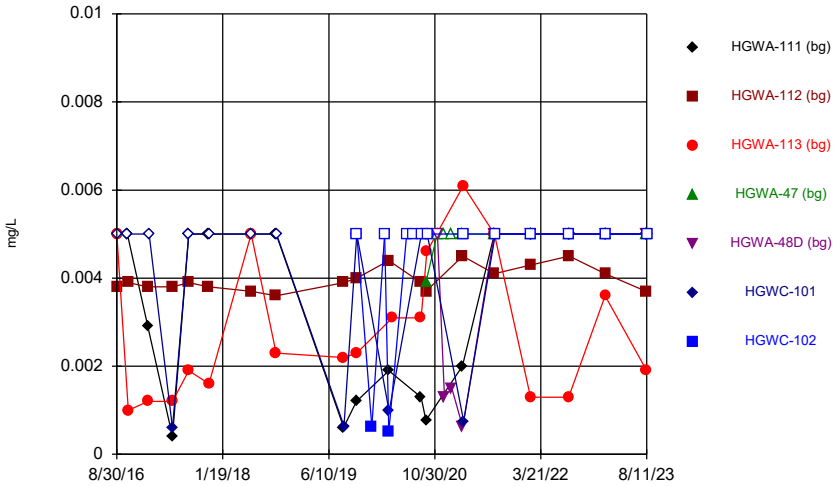
Time Series



Constituent: Chloride Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

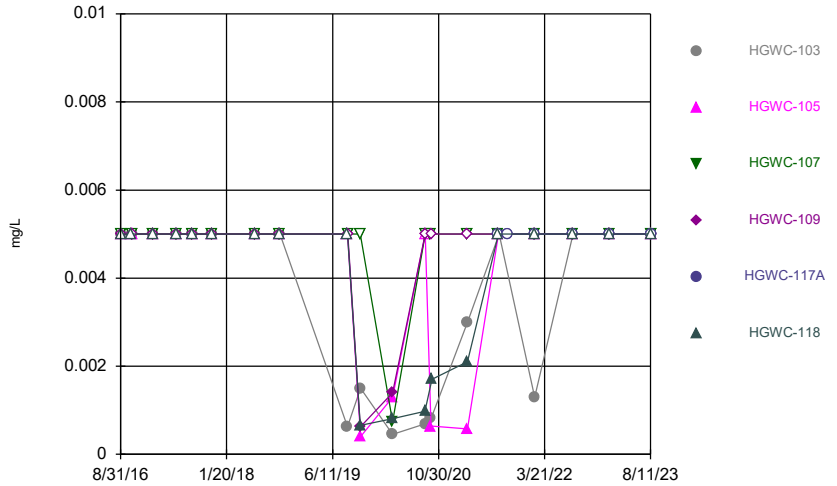
Time Series



Constituent: Chromium Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

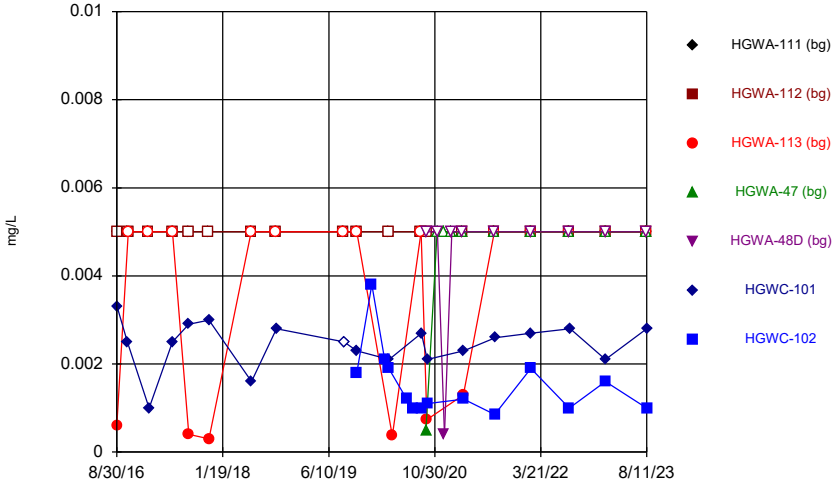
Time Series



Constituent: Chromium Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

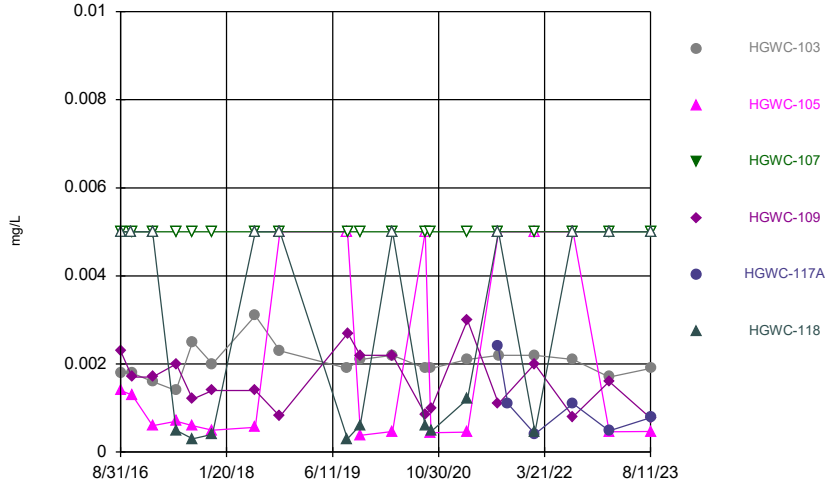
Time Series



Constituent: Cobalt Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

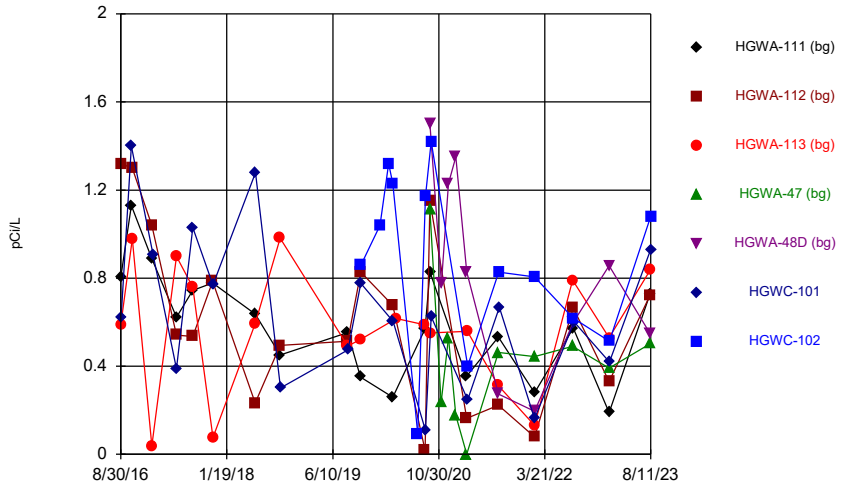
Time Series



Constituent: Cobalt Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

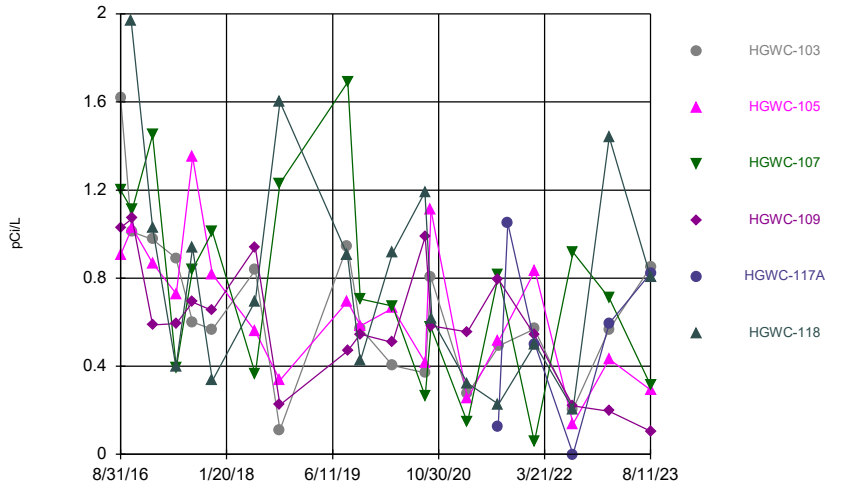
Time Series



Constituent: Combined Radium 226 & 228 Analysis Run 10/26/2023 11:23 AM View: Time Series & Box P
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

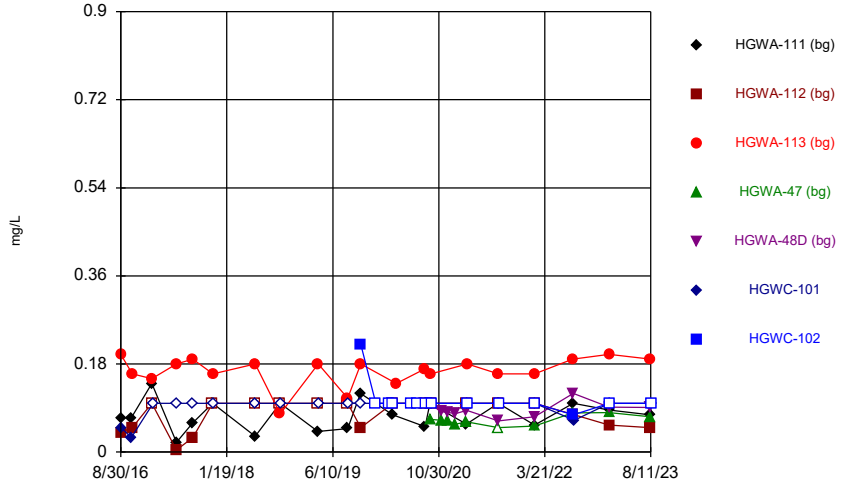
Time Series



Constituent: Combined Radium 226 & 228 Analysis Run 10/26/2023 11:23 AM View: Time Series & Box P
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

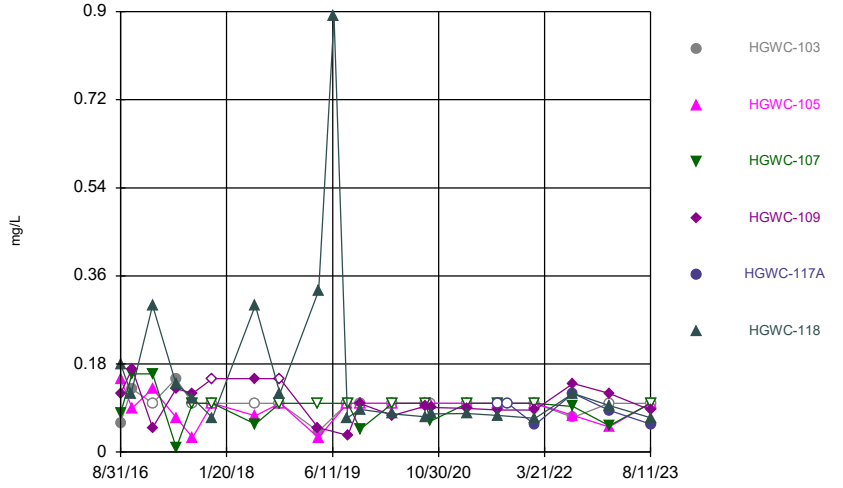
Time Series



Constituent: Fluoride Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

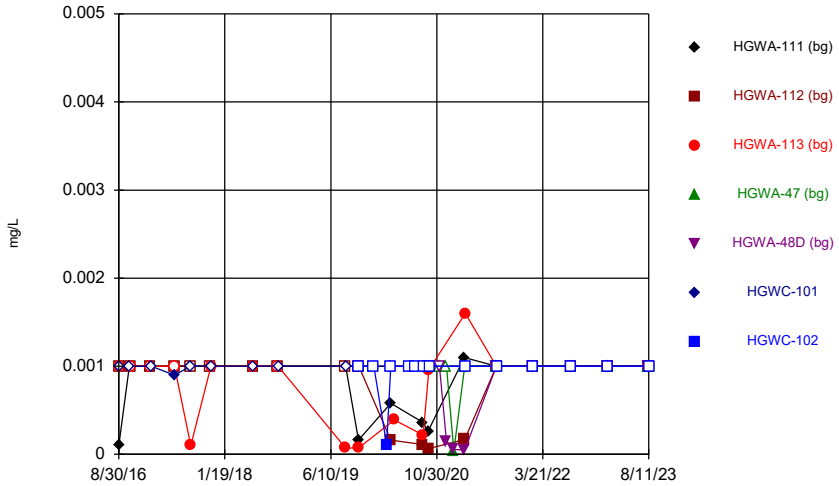
Time Series



Constituent: Fluoride Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

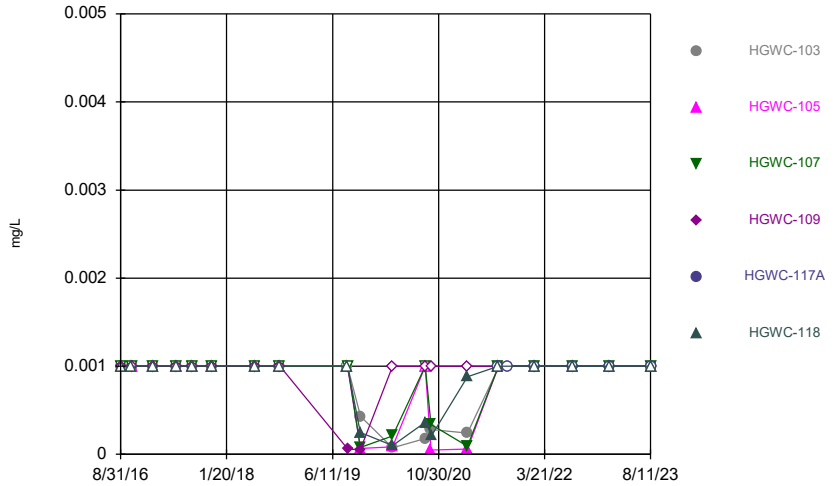
Time Series



Constituent: Lead Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

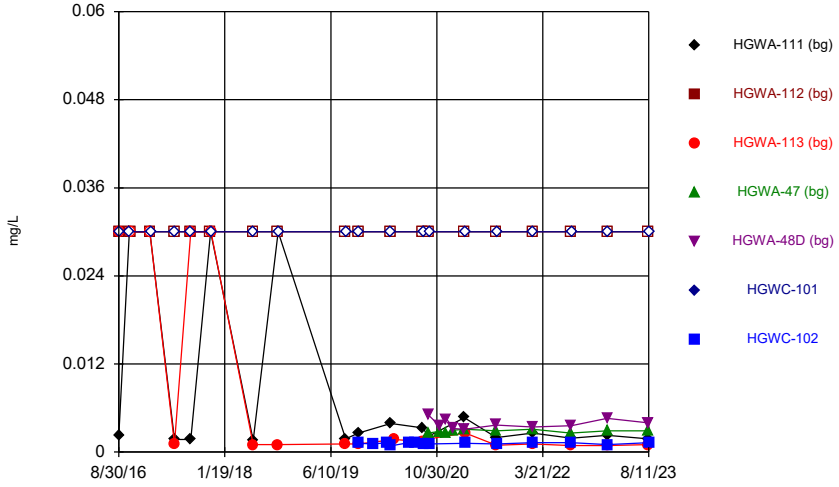
Time Series



Constituent: Lead Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

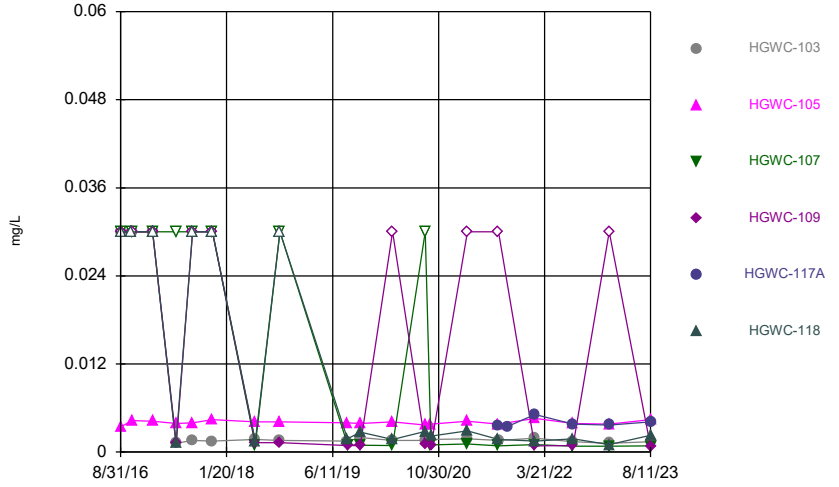
Time Series



Constituent: Lithium Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

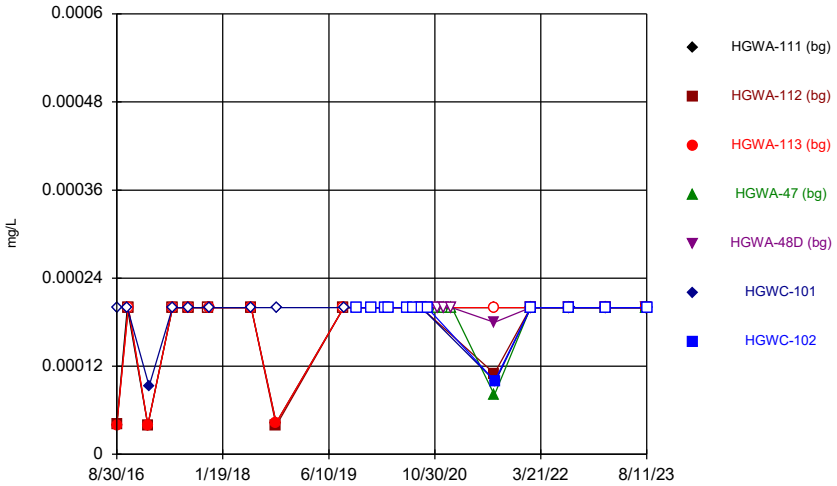
Time Series



Constituent: Lithium Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

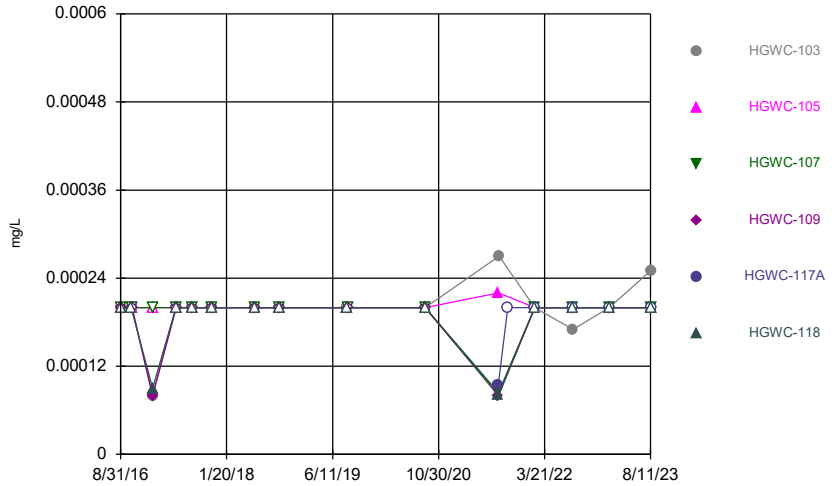
Time Series



Constituent: Mercury Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

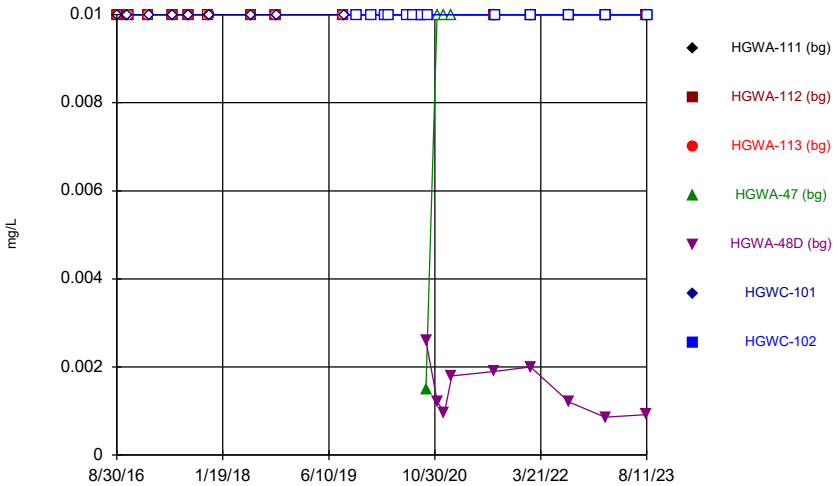
Time Series



Constituent: Mercury Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

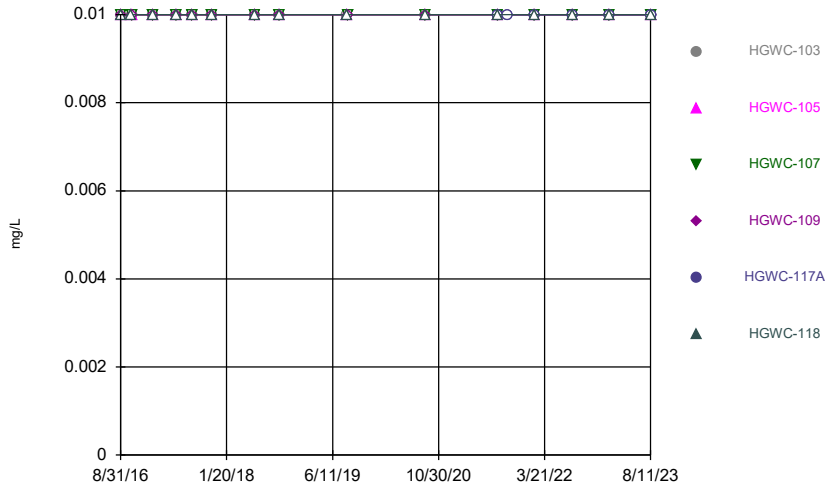
Time Series



Constituent: Molybdenum Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

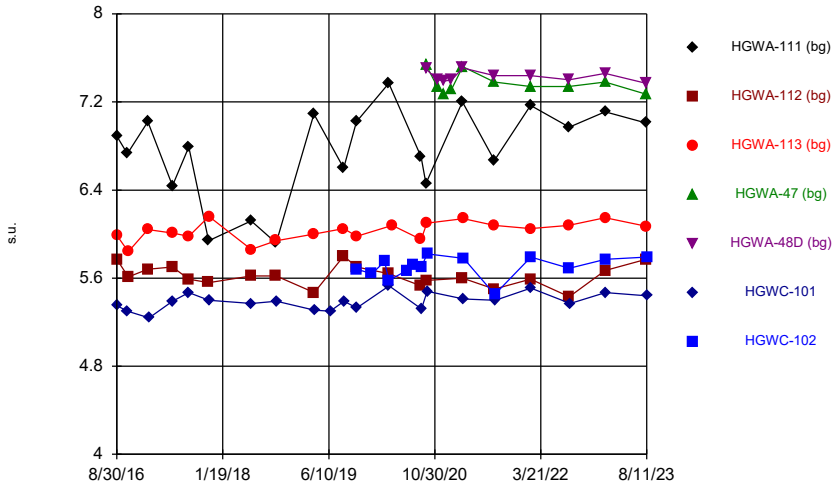
Time Series



Constituent: Molybdenum Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

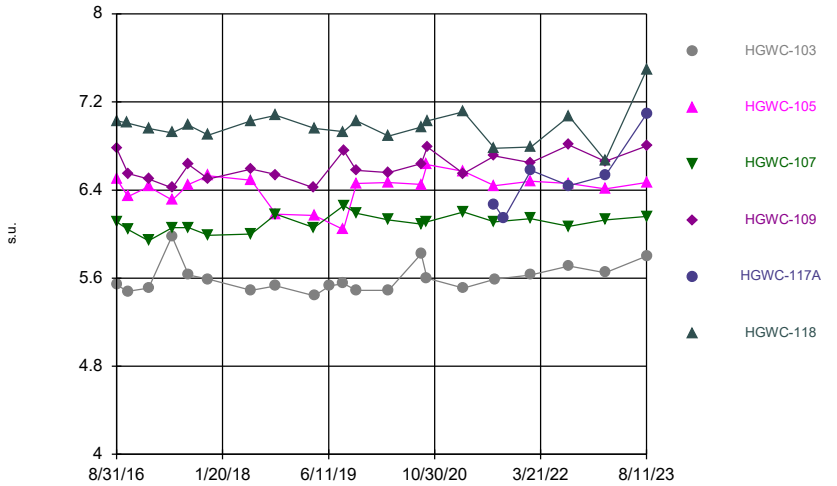
Time Series



Constituent: pH Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

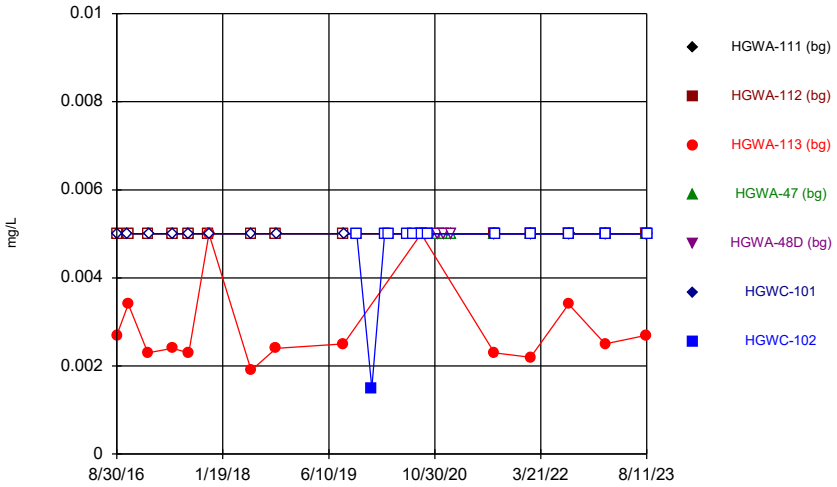
Time Series



Constituent: pH Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

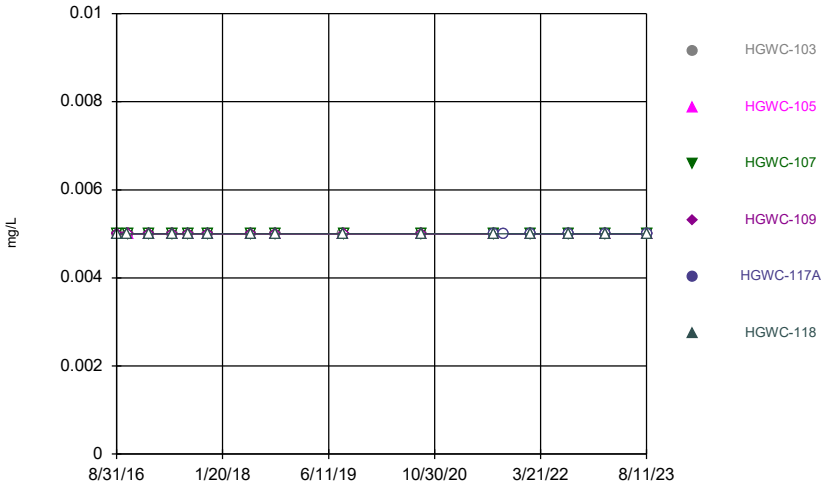
Time Series



Constituent: Selenium Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

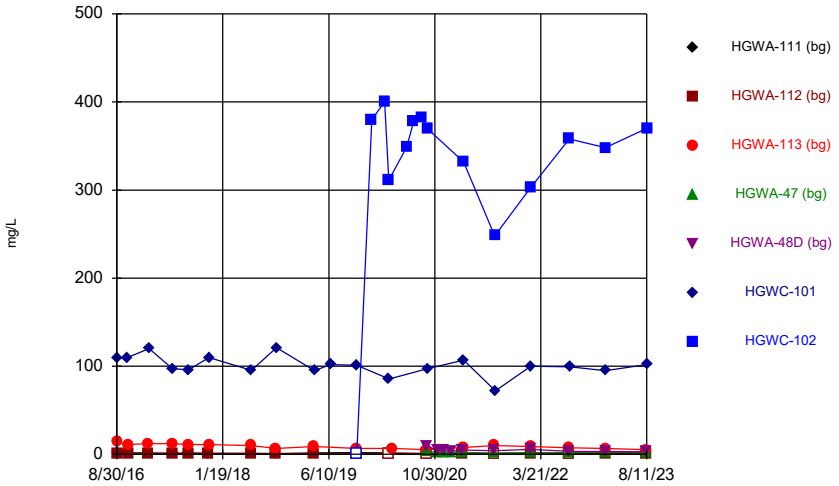
Time Series



Constituent: Selenium Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

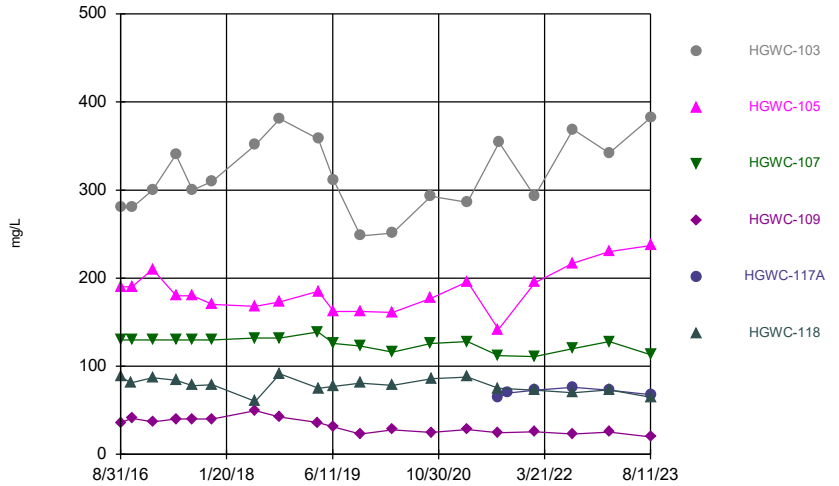
Time Series



Constituent: Sulfate Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

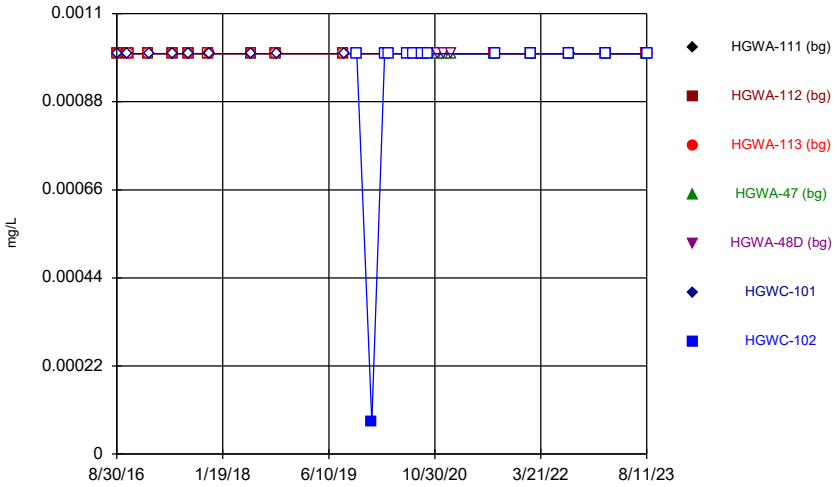
Time Series



Constituent: Sulfate Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

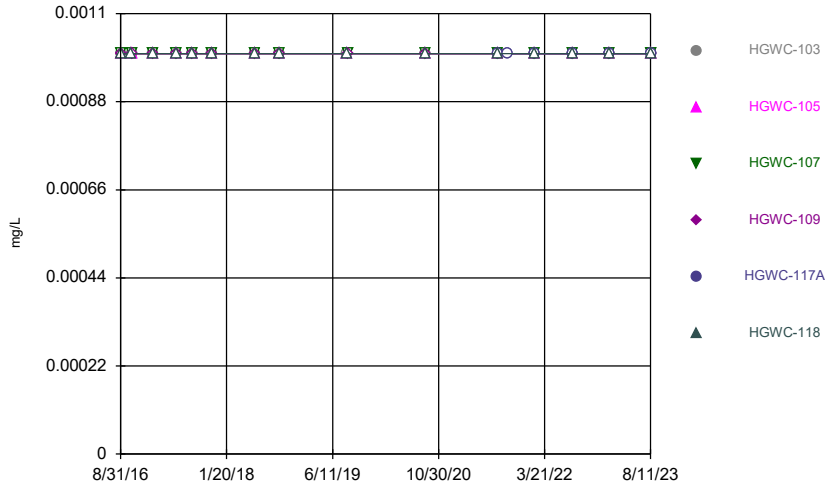
Time Series



Constituent: Thallium Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

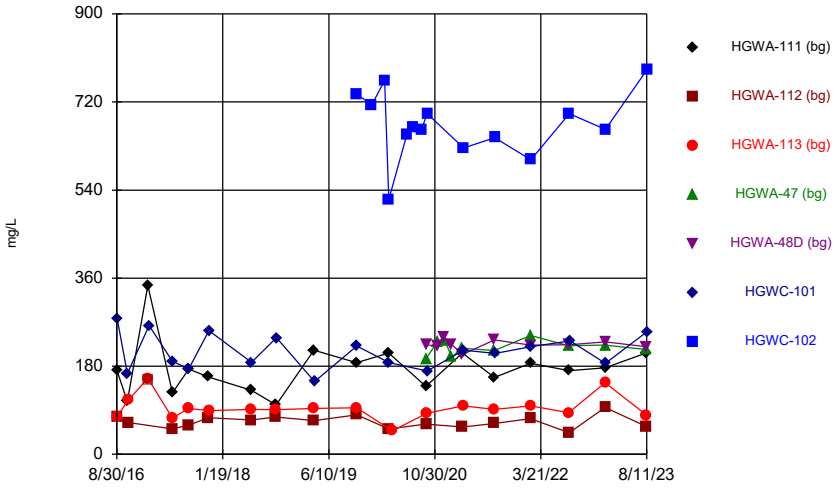
Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Thallium Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

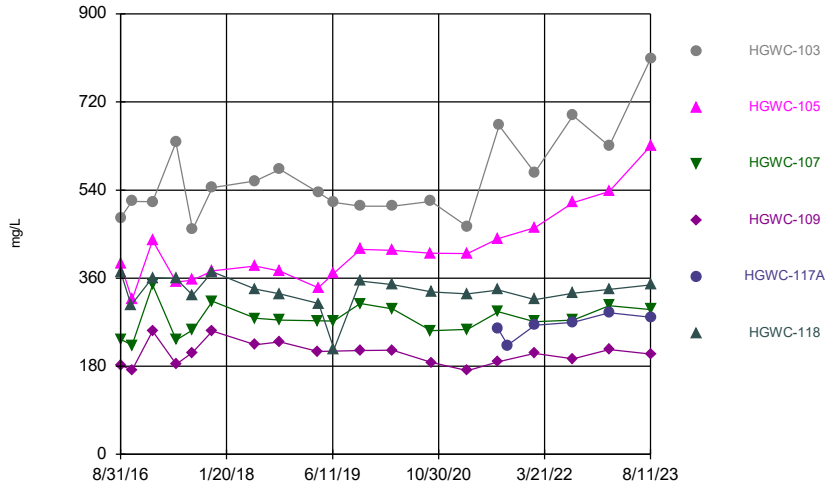
Time Series



Constituent: Total Dissolved Solids Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

Time Series



Constituent: Total Dissolved Solids Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Time Series

Constituent: Antimony (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/30/2016	<0.003	<0.003	<0.003				
8/31/2016						<0.003	
10/20/2016	<0.003					<0.003	
10/24/2016		<0.003	<0.003				
1/25/2017	<0.003	<0.003	<0.003				
1/31/2017						<0.003	
5/23/2017		<0.003	<0.003			<0.003	
5/24/2017	<0.003						
8/10/2017	<0.003	<0.003	<0.003			<0.003	
11/13/2017	<0.003	<0.003					
11/14/2017			<0.003			<0.003	
6/4/2018	<0.003	<0.003					
6/5/2018			<0.003				
6/6/2018						<0.003	
10/1/2018	<0.003	<0.003	<0.003				
10/3/2018						<0.003	
8/21/2019	<0.003	<0.003	<0.003				
8/22/2019						<0.003	
10/23/2019							<0.003
1/3/2020							0.00076 (J)
3/4/2020							<0.003
3/24/2020							<0.003
6/18/2020							<0.003
7/21/2020							<0.003
8/25/2020	<0.003	<0.003	<0.003				
8/27/2020						<0.003	<0.003
9/18/2020				<0.003	0.00038 (J)		
9/24/2020							<0.003
11/10/2020				<0.003			
11/11/2020					0.00031 (J)		
12/15/2020				<0.003	<0.003		
1/19/2021				<0.003	0.00042 (J)		
8/12/2021	<0.003	<0.003	<0.003	<0.003	<0.003		
8/13/2021							<0.003
8/16/2021						<0.003	
1/31/2022	0.0014 (J)			<0.003	<0.003		
2/1/2022		<0.003	<0.003				
2/2/2022						<0.003	<0.003
8/2/2022			<0.003	<0.003			
8/5/2022	<0.003	<0.003			<0.003		<0.003
8/10/2022						<0.003	
1/24/2023	<0.003	<0.003	<0.003	<0.003	<0.003		
1/25/2023						<0.003	<0.003
8/8/2023	<0.003	<0.003		<0.003	<0.003		
8/10/2023			<0.003				
8/11/2023						<0.003	0.003

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Antimony (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-117A	HGWC-118
8/31/2016	<0.003	<0.003	<0.003	<0.003		<0.003
10/20/2016						<0.003
10/24/2016	<0.003					
10/25/2016		<0.003	<0.003	<0.003		
1/31/2017	<0.003	<0.003	<0.003	<0.003		<0.003
5/23/2017	<0.003					<0.003
5/24/2017		<0.003	<0.003	<0.003		
8/10/2017	<0.003	<0.003	<0.003	<0.003		<0.003
11/14/2017	<0.003	<0.003	<0.003	<0.003		<0.003
6/6/2018	0.0022 (J)	<0.003	<0.003	<0.003		
6/7/2018						<0.003
10/2/2018		<0.003	0.0011 (J)	<0.003		
10/3/2018	<0.003					<0.003
8/22/2019	<0.003	<0.003				<0.003
8/23/2019			<0.003	<0.003		
8/26/2020						<0.003
8/27/2020	<0.003	<0.003	<0.003	<0.003		
8/12/2021					<0.003	
8/13/2021		<0.003	<0.003	<0.003		<0.003
8/16/2021	<0.003					
9/27/2021					<0.003	
2/2/2022	<0.003		<0.003	<0.003		
2/3/2022		<0.003			<0.003	<0.003
8/5/2022	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
1/25/2023	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
8/11/2023	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Arsenic (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/30/2016	<0.005	<0.005	<0.005				
8/31/2016						<0.005	
10/20/2016	<0.005					<0.005	
10/24/2016		<0.005	<0.005				
1/25/2017	<0.005	<0.005	<0.005				
1/31/2017						<0.005	
5/23/2017		<0.005	<0.005			<0.005	
5/24/2017	<0.005						
8/10/2017	<0.005	<0.005	<0.005			<0.005	
11/13/2017	<0.005	<0.005					
11/14/2017			<0.005			<0.005	
6/4/2018	<0.005	<0.005					
6/5/2018			<0.005				
6/6/2018						<0.005	
10/1/2018	<0.005	<0.005	<0.005				
10/3/2018						<0.005	
8/21/2019	<0.005	<0.005	<0.005				
8/22/2019						<0.005	
10/21/2019	<0.005						
10/22/2019		<0.005	<0.005				
10/23/2019						<0.005	<0.005
1/3/2020							0.00065 (J)
3/4/2020							0.00036 (J)
3/24/2020	0.00042 (J)	<0.005					<0.005
3/25/2020						0.00039 (J)	
4/9/2020			0.00074 (J)				
6/18/2020							0.00092 (J)
7/21/2020							0.00083 (J)
8/25/2020	<0.005	<0.005	<0.005				
8/27/2020						<0.005	<0.005
9/18/2020	<0.005	<0.005		<0.005	<0.005		
9/22/2020			<0.005				
9/24/2020						<0.005	<0.005
11/10/2020				<0.005			
11/11/2020					<0.005		
12/15/2020				<0.005	<0.005		
1/19/2021				<0.005	<0.005		
3/11/2021	<0.005						
3/12/2021		<0.005		<0.005	0.0018 (J)		
3/16/2021			0.0011 (J)				
3/17/2021						<0.005	<0.005
8/12/2021	<0.005	<0.005	<0.005	<0.005	0.0013 (J)		
8/13/2021							<0.005
8/16/2021						<0.005	
1/31/2022	<0.005			<0.005	<0.005		
2/1/2022		<0.005	<0.005				
2/2/2022						<0.005	<0.005
8/2/2022			<0.005	<0.005			
8/5/2022	<0.005	<0.005			<0.005		<0.005
8/10/2022						<0.005	
1/24/2023	<0.005	<0.005	<0.005	<0.005	<0.005		
1/25/2023						<0.005	<0.005

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Arsenic (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/8/2023	<0.005	<0.005		<0.005	<0.005		
8/10/2023			<0.005				
8/11/2023						<0.005	<0.005

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Arsenic (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-117A	HGWC-118
8/31/2016	<0.005	<0.005	<0.005	0.0045 (J)		<0.005
10/20/2016						<0.005
10/24/2016	<0.005					
10/25/2016		<0.005	<0.005	0.003 (J)		
1/31/2017	<0.005	<0.005	<0.005	0.0022 (J)		<0.005
5/23/2017	<0.005					<0.005
5/24/2017		<0.005	<0.005	0.0012 (J)		
8/10/2017	<0.005	<0.005	<0.005	0.0016 (J)		<0.005
11/14/2017	<0.005	<0.005	<0.005	0.0011 (J)		<0.005
6/6/2018	<0.005	<0.005	<0.005	0.0018 (J)		
6/7/2018						<0.005
10/2/2018		<0.005	<0.005	0.0014 (J)		
10/3/2018	<0.005					<0.005
8/22/2019	<0.005	<0.005				<0.005
8/23/2019			<0.005	0.0035 (J)		
10/22/2019			<0.005	0.0019 (J)		<0.005
10/23/2019	<0.005	<0.005				
3/25/2020	<0.005	<0.005	<0.005	0.0025 (J)		<0.005
8/26/2020						<0.005
8/27/2020	<0.005	<0.005	<0.005	0.0011 (J)		
9/24/2020	<0.005	<0.005	<0.005			
9/25/2020				0.0017 (J)		
9/28/2020						<0.005
3/17/2021				0.0019 (J)		
3/18/2021	<0.005	<0.005	<0.005			0.001 (J)
8/12/2021					<0.005	
8/13/2021		<0.005	<0.005	0.0019 (J)		<0.005
8/16/2021	<0.005					
9/27/2021					<0.005	
2/2/2022	<0.005		<0.005	<0.005		
2/3/2022		<0.005			<0.005	<0.005
8/5/2022	<0.005	<0.005	<0.005	0.0022 (J)	<0.005	<0.005
1/25/2023	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
8/11/2023	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Barium (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/30/2016	0.0275	0.0269	0.0269				
8/31/2016						0.0527	
10/20/2016	0.0255					0.0477	
10/24/2016		0.028	0.0258				
1/25/2017	0.0304	0.0252	0.0272				
1/31/2017						0.0527	
5/23/2017		0.0293	0.0293			0.0436	
5/24/2017	0.0256						
8/10/2017	0.0306	0.0274	0.031			0.0419	
11/13/2017	0.0217	0.0275					
11/14/2017			0.0289			0.0407	
6/4/2018	0.025	0.027					
6/5/2018			0.028				
6/6/2018						0.043	
10/1/2018	0.021	0.026	0.025				
10/3/2018						0.041	
8/21/2019	0.029	0.027	0.027				
8/22/2019						0.043	
10/21/2019	0.033						
10/22/2019		0.028	0.027				
10/23/2019						0.043	0.037
1/3/2020							0.036
3/4/2020							0.033
3/24/2020	0.032	0.029					0.024
3/25/2020						0.038	
4/9/2020			0.034				
6/18/2020							0.029
7/21/2020							0.028
8/25/2020	0.031	0.028	0.03				
8/27/2020						0.045	0.028
9/18/2020	0.024	0.025		0.026	0.077		
9/22/2020			0.038				
9/24/2020						0.041	0.029
11/10/2020				0.027			
11/11/2020					0.078		
12/15/2020				0.027	0.091		
1/19/2021				0.029	0.095		
3/11/2021	0.037						
3/12/2021		0.03		0.03	0.1		
3/16/2021			0.054				
3/17/2021						0.04	0.031
8/12/2021	0.029	0.028	0.033	0.028	0.1		
8/13/2021							0.026
8/16/2021						0.037	
1/31/2022	0.027			0.026	0.11		
2/1/2022		0.025	0.027				
2/2/2022						0.036	0.029
8/2/2022			0.03	0.029			
8/5/2022	0.028	0.027			0.11		0.031
8/10/2022						0.04	
1/24/2023	0.028	0.025	0.028	0.029	0.11		
1/25/2023						0.033	0.027

Time Series

Constituent: Barium (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/8/2023	0.027	0.025		0.026	0.1		
8/10/2023			0.028				
8/11/2023						0.036	0.028

Time Series

Constituent: Barium (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-117A	HGWC-118
8/31/2016	0.045	0.067	0.0391	0.0883		0.0595
10/20/2016						0.055
10/24/2016	0.0386					
10/25/2016		0.0745	0.041	0.0831		
1/31/2017	0.0365	0.0674	0.0382	0.0844		0.0613
5/23/2017	0.0254					0.068
5/24/2017		0.0668	0.0377	0.0784		
8/10/2017	0.0396	0.067	0.0385	0.0903		0.0638
11/14/2017	0.0385	0.0643	0.039	0.083		0.07
6/6/2018	0.043	0.068	0.039	0.095		
6/7/2018						0.059
10/2/2018		0.066	0.038	0.089		
10/3/2018	0.04					0.056
8/22/2019	0.036	0.066				0.052
8/23/2019			0.038	0.088		
10/22/2019			0.039	0.087		0.054
10/23/2019	0.039	0.066				
3/25/2020	0.036	0.074	0.037	0.084		0.06
8/26/2020						0.056
8/27/2020	0.038	0.068	0.034	0.083		
9/24/2020	0.036	0.075	0.039			
9/25/2020				0.085		
9/28/2020						0.046
3/17/2021				0.077		
3/18/2021	0.042	0.082	0.041			0.067
8/12/2021					0.079	
8/13/2021		0.073	0.033	0.08		0.043
8/16/2021	0.037					
9/27/2021					0.062	
2/2/2022	0.036		0.034	0.072		
2/3/2022		0.093			0.049	0.047
8/5/2022	0.037	0.088	0.036	0.085	0.055	0.039
1/25/2023	0.032	0.094	0.035	0.076	0.05	0.048
8/11/2023	0.035	0.089	0.032	0.081	0.046	0.04

Time Series

Constituent: Beryllium (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/30/2016	<0.0005	<0.0005	<0.0005				
8/31/2016						<0.0005	
10/20/2016	<0.0005					<0.0005	
10/24/2016		<0.0005	0.0019 (J)				
1/25/2017	<0.0005	<0.0005	<0.0005				
1/31/2017						<0.0005	
5/23/2017		<0.0005	<0.0005			7E-05 (J)	
5/24/2017	<0.0005						
8/10/2017	<0.0005	<0.0005	<0.0005			<0.0005	
11/13/2017	<0.0005	<0.0005					
11/14/2017			<0.0005			<0.0005	
6/4/2018	<0.0005	<0.0005					
6/5/2018			<0.0005				
6/6/2018						5.9E-05 (J)	
10/1/2018	<0.0005	<0.0005	<0.0005				
10/3/2018						6.5E-05 (J)	
8/21/2019	<0.0005	<0.0005	<0.0005				
8/22/2019						<0.0005	
10/21/2019	<0.0005						
10/22/2019		<0.0005	<0.0005				
10/23/2019						7.5E-05 (J)	<0.0005
1/3/2020							<0.0005
3/4/2020							<0.0005
3/24/2020	<0.0005	<0.0005					<0.0005
3/25/2020						<0.0005	
4/9/2020			<0.0005				
6/18/2020							<0.0005
7/21/2020							<0.0005
8/25/2020	4.7E-05 (J)	<0.0005	4.6E-05 (J)				
8/27/2020						5.7E-05 (J)	<0.0005
9/18/2020	<0.0005	<0.0005		<0.0005	<0.0005		
9/22/2020			9.9E-05 (J)				
9/24/2020						4.8E-05 (J)	<0.0005
11/10/2020				<0.0005			
11/11/2020					<0.0005		
12/15/2020				<0.0005	<0.0005		
1/19/2021				<0.0005	<0.0005		
3/11/2021	0.00014 (J)						
3/12/2021		5.4E-05 (J)		<0.0005	<0.0005		
3/16/2021			0.00018 (J)				
3/17/2021						5.9E-05 (J)	<0.0005
8/12/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005		
8/13/2021							<0.0005
8/16/2021						<0.0005	
1/31/2022	<0.0005			<0.0005	<0.0005		
2/1/2022		<0.0005	<0.0005				
2/2/2022						6.2E-05 (J)	<0.0005
8/2/2022			<0.0005	<0.0005			
8/5/2022	<0.0005	<0.0005			<0.0005		<0.0005
8/10/2022						6.4E-05 (J)	
1/24/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005		
1/25/2023						<0.0005	<0.0005

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Beryllium (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/8/2023	<0.0005	<0.0005		<0.0005	<0.0005		
8/10/2023			<0.0005				
8/11/2023						7E-05 (J)	<0.0005

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Beryllium (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-117A	HGWC-118
8/31/2016	<0.0005	<0.0005	<0.0005	<0.0005		<0.0005
10/20/2016						<0.0005
10/24/2016	<0.0005					
10/25/2016		<0.0005	<0.0005	<0.0005		
1/31/2017	<0.0005	<0.0005	<0.0005	<0.0005		<0.0005
5/23/2017	<0.0005					<0.0005
5/24/2017		<0.0005	<0.0005	<0.0005		
8/10/2017	<0.0005	<0.0005	<0.0005	<0.0005		<0.0005
11/14/2017	<0.0005	<0.0005	<0.0005	<0.0005		<0.0005
6/6/2018	<0.0005	<0.0005	<0.0005	<0.0005		
6/7/2018						<0.0005
10/2/2018		<0.0005	<0.0005	<0.0005		
10/3/2018	<0.0005					<0.0005
8/22/2019	<0.0005	<0.0005				<0.0005
8/23/2019			<0.0005	<0.0005		
10/22/2019			<0.0005	<0.0005		<0.0005
10/23/2019	<0.0005	<0.0005				
3/25/2020	<0.0005	<0.0005	<0.0005	<0.0005		<0.0005
8/26/2020						<0.0005
8/27/2020	5E-05 (J)	<0.0005	<0.0005	<0.0005		
9/24/2020	8.8E-05 (J)	<0.0005	<0.0005			
9/25/2020				<0.0005		
9/28/2020						<0.0005
3/17/2021				<0.0005		
3/18/2021	6.1E-05 (J)	<0.0005	<0.0005			9.3E-05 (J)
8/12/2021					<0.0005	
8/13/2021		<0.0005	<0.0005	<0.0005		<0.0005
8/16/2021	<0.0005					
9/27/2021					<0.0005	
2/2/2022	7.7E-05 (J)		<0.0005	<0.0005		
2/3/2022		<0.0005			<0.0005	<0.0005
8/5/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1/25/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8/11/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Boron (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/30/2016	<0.04	<0.04	<0.04				
8/31/2016						0.0724 (J)	
10/20/2016	0.016 (J)					0.0877 (J)	
10/24/2016		0.0367 (J)	0.0226 (J)				
1/25/2017	0.0095 (J)	0.0075 (J)	0.009 (J)				
1/31/2017						0.0928	
5/23/2017		0.0073 (J)	0.0082 (J)			0.0795	
5/24/2017	0.0094 (J)						
8/10/2017	<0.04	<0.04	0.0061 (J)			0.0814	
11/13/2017	0.0103 (J)	0.0089 (J)					
11/14/2017			0.012 (J)			0.108	
6/4/2018	0.0065 (J)	0.007 (J)					
6/5/2018			0.0085 (J)				
6/6/2018						0.081	
10/1/2018	0.0054 (J)	<0.04	0.0042 (J)				
10/3/2018						0.092	
4/1/2019	0.0076 (J)						
4/2/2019		0.0043 (J)	0.0059 (J)				
4/4/2019						0.06 (X)	
10/21/2019	0.0097 (J)						
10/22/2019		0.016 (J)	0.01 (J)				
10/23/2019						0.1	3.1
1/3/2020							3.4
3/4/2020							3.7
3/24/2020	0.011 (J)	0.012 (J)					2.4
3/25/2020						0.08 (J)	
4/9/2020			0.012 (J)				
6/18/2020							2.9
7/21/2020							3
8/27/2020							2.7
9/18/2020	0.011 (J)	0.008 (J)		0.0082 (J)	0.015 (J)		
9/22/2020			0.021 (J)				
9/24/2020						0.1	2.9
11/10/2020				0.0064 (J)			
11/11/2020					0.014 (J)		
12/15/2020				<0.04	0.0083 (J)		
1/19/2021				0.015 (J)	0.015 (J)		
3/11/2021	0.01 (J)						
3/12/2021		0.0061 (J)		0.0067 (J)	0.012 (J)		
3/16/2021			0.011 (J)				
3/17/2021						0.13	2.7
8/12/2021	<0.04	<0.04	<0.04	<0.04	0.012 (J)		
8/13/2021							2.4
8/16/2021						0.13	
1/31/2022	0.0099 (J)			<0.04	0.011 (J)		
2/1/2022		0.011 (J)	0.012 (J)				
2/2/2022						0.14	2.6
8/2/2022			<0.04	<0.04			
8/5/2022	<0.04	0.012 (J)			0.011 (J)		2.9
8/10/2022						0.17	
1/24/2023	<0.04	<0.04	<0.04	<0.04	<0.04		
1/25/2023						0.12	2.5

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Boron (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/8/2023	<0.04	<0.04		<0.04	<0.04		
8/10/2023			0.0091 (J)				
8/11/2023						0.16	3.2

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Boron (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-117A	HGWC-118
8/31/2016	2.22	1.14	0.651	0.402		0.681
10/20/2016						0.697
10/24/2016	1.83					
10/25/2016		1.21	0.778	0.372		
1/31/2017	2.12	1.43	0.782	0.404		0.768
5/23/2017	2.56					0.754
5/24/2017		1.3	0.753	0.415		
8/10/2017	2.28	1.28	0.702	0.397		0.608
11/14/2017	2.32	1.29	0.78	0.366		0.691
6/6/2018	2.5	1.4	0.87	0.48		
6/7/2018						0.57
10/2/2018		1.2	0.82	0.43		
10/3/2018	2.4					0.51
4/3/2019			0.89	0.4		
4/4/2019	2.4	1.4 (X)				
4/5/2019						0.6 (X)
6/17/2019	2.3		0.86	0.37		
10/22/2019			0.91	0.32		0.65
10/23/2019	2.3	1.3				
3/25/2020	2.3	1.4	0.87	0.36		0.7
9/24/2020	2.2	1.2	0.88			
9/25/2020				0.28		
9/28/2020						0.65
3/17/2021				0.26		
3/18/2021	2.4	1.5	0.92			0.81
8/12/2021					0.34	
8/13/2021		1.2	0.73	0.24		0.59
8/16/2021	3.2					
9/27/2021					0.3	
2/2/2022	3.1		0.85	0.25		
2/3/2022		1.4			0.34	0.77
8/5/2022	3.6	1.3	0.79	0.25	0.34	0.57
1/25/2023	2.7	1.3	0.82	0.22	0.27	0.62
8/11/2023	4.3	1.4	0.81	0.23	0.31	0.66

Time Series

Constituent: Cadmium (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/30/2016	<0.0005	<0.0005	<0.0005				
8/31/2016						0.0002 (J)	
10/20/2016	<0.0005					0.0003 (J)	
10/24/2016		<0.0005	<0.0005				
1/25/2017	<0.0005	<0.0005	<0.0005				
1/31/2017						0.0001 (J)	
5/23/2017		<0.0005	<0.0005			0.0002 (J)	
5/24/2017	<0.0005						
8/10/2017	<0.0005	<0.0005	<0.0005			0.0002 (J)	
11/13/2017	<0.0005	<0.0005					
11/14/2017			<0.0005			<0.0005	
6/4/2018	<0.0005	<0.0005					
6/5/2018			<0.0005				
6/6/2018						9.5E-05 (J)	
10/1/2018	<0.0005	<0.0005	<0.0005				
10/3/2018						0.00018 (J)	
8/21/2019	<0.0005	<0.0005	<0.0005				
8/22/2019						0.00014 (J)	
10/21/2019	<0.0005						
10/22/2019		<0.0005	<0.0005				
10/23/2019						0.0002 (J)	0.00026 (J)
1/3/2020							0.0002 (J)
3/4/2020							0.00026 (J)
3/24/2020	<0.0005	<0.0005					0.00068 (J)
3/25/2020						0.00014 (J)	
4/9/2020			<0.0005				
6/18/2020							0.00047 (J)
7/21/2020							0.00083 (J)
8/25/2020	<0.0005	<0.0005	<0.0005				
8/27/2020						0.00019 (J)	0.00038 (J)
9/18/2020	<0.0005	<0.0005		<0.0005	<0.0005		
9/22/2020			<0.0005				
9/24/2020						0.00014 (J)	0.00032 (J)
11/10/2020				<0.0005			
11/11/2020					<0.0005		
12/15/2020				<0.0005	<0.0005		
1/19/2021				<0.0005	<0.0005		
3/11/2021	<0.0005						
3/12/2021		<0.0005		<0.0005	<0.0005		
3/16/2021			<0.0005				
3/17/2021						<0.0005	0.00094
8/12/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005		
8/13/2021							0.00069
8/16/2021						0.00015 (J)	
1/31/2022	<0.0005			<0.0005	<0.0005		
2/1/2022		<0.0005	<0.0005				
2/2/2022						<0.0005	0.00055
8/2/2022			<0.0005	<0.0005			
8/5/2022	<0.0005	<0.0005			<0.0005		0.00044 (J)
8/10/2022						0.00011 (J)	
1/24/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005		
1/25/2023						0.00011 (J)	0.00035 (J)

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Cadmium (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/8/2023	<0.0005	<0.0005		<0.0005	<0.0005		
8/10/2023			<0.0005				
8/11/2023						0.00015 (J)	0.00067

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Cadmium (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-117A	HGWC-118
8/31/2016	0.0006 (J)	<0.0005	0.0001 (J)	<0.0005		<0.0005
10/20/2016						<0.0005
10/24/2016	0.0008 (J)					
10/25/2016		<0.0005	8E-05 (J)	<0.0005		
1/31/2017	0.0006 (J)	<0.0005	9E-05 (J)	<0.0005		<0.0005
5/23/2017	0.0006 (J)					<0.0005
5/24/2017		<0.0005	0.0001 (J)	<0.0005		
8/10/2017	0.0007 (J)	<0.0005	<0.0005	<0.0005		<0.0005
11/14/2017	0.0007 (J)	<0.0005	<0.0005	<0.0005		<0.0005
6/6/2018	0.00073 (J)	<0.0005	0.00012 (J)	<0.0005		
6/7/2018						<0.0005
10/2/2018		<0.0005	0.0001 (J)	<0.0005		
10/3/2018	0.00078 (J)					<0.0005
8/22/2019	0.0008 (J)	<0.0005				<0.0005
8/23/2019			0.00011 (J)	<0.0005		
10/22/2019			<0.0005	<0.0005		<0.0005
10/23/2019	0.00091 (J)	<0.0005				
3/25/2020	0.00068 (J)	<0.0005	<0.0005	<0.0005		<0.0005
8/26/2020						<0.0005
8/27/2020	0.00082 (J)	<0.0005	<0.0005	<0.0005		
9/24/2020	0.00076 (J)	<0.0005	<0.0005			
9/25/2020				<0.0005		
9/28/2020						<0.0005
3/17/2021				<0.0005		
3/18/2021	0.00068	<0.0005	<0.0005			<0.0005
8/12/2021					0.00016 (J)	
8/13/2021		<0.0005	<0.0005	<0.0005		<0.0005
8/16/2021	0.00081					
9/27/2021					<0.0005	
2/2/2022	0.0008		<0.0005	<0.0005		
2/3/2022		<0.0005			<0.0005	<0.0005
8/5/2022	0.00081	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1/25/2023	0.00063	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8/11/2023	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Calcium (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/30/2016	40.3	6.69	6.72				
8/31/2016						19.4	
10/20/2016	38.7					19.3	
10/24/2016		6.25	6.4				
1/25/2017	44.6	6.58	6.87				
1/31/2017						19.1	
5/23/2017		6.4	7.13			18.3	
5/24/2017	34.8						
8/10/2017	48.6	6.54	6.71			20.9	
11/13/2017	17.1	6.26					
11/14/2017			7.4			21.7	
6/4/2018	30.1	7.4					
6/5/2018			7.4				
6/6/2018						17	
10/1/2018	14.2 (J)	5.8	6.2				
10/3/2018						19.1 (J)	
4/1/2019	58.4						
4/2/2019		6.7	7.4				
4/4/2019						16.9	
10/21/2019	51						
10/22/2019		6.3	7.2				
10/23/2019						21.9	136
1/3/2020							118
3/4/2020							144
3/24/2020	61.2	7					103
3/25/2020						18.4	
4/9/2020			8.3				
6/18/2020							124
7/21/2020							120
8/27/2020							106
9/18/2020	32.2	6.5		62.2	51.8		
9/22/2020			7.9				
9/24/2020						20.3	120
11/10/2020				73.3			
11/11/2020					61.3		
12/15/2020				72.5	61.3		
1/19/2021				72.5	58.9		
3/11/2021	53.2						
3/12/2021		6.9		69.2	57.5		
3/16/2021			8.6				
3/17/2021						21.8	111
8/12/2021	45.4	6.9	8.4	71.2	59.5		
8/13/2021							119
8/16/2021						22.8	
1/31/2022	58.6			73.8	63.2		
2/1/2022		7.4	8.6				
2/2/2022						23.8	116
8/2/2022			8	73			
8/5/2022	53	7.1			59.6		127
8/10/2022						24.6	
1/24/2023	55.4	6.6	7.5	69.2	57.8		
1/25/2023						20.4	128

Time Series

Constituent: Calcium (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/8/2023	0.94 (J)	6.6		68	58.2		
8/10/2023			8.4				
8/11/2023						24.1	134

Time Series

Constituent: Calcium (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-117A	HGWC-118
8/31/2016	70.4	74.2	44.7	35.1		79.3
10/20/2016						83.7
10/24/2016	70.9					
10/25/2016		72.5	49	35.4		
1/31/2017	63.6	70.3	46.6	34.2		76.8
5/23/2017	111					77.2
5/24/2017		75.9	49.5	35.3		
8/10/2017	81.2	84	54.2	43.1		83.1
11/14/2017	79.7	87.2	53.2	37.4		86.7
6/6/2018	88.3	81	55	41.1		
6/7/2018						79.7
10/2/2018		84.7	55.4	42.5		
10/3/2018	85.3					77.1
4/3/2019			54	37.5		
4/4/2019	91.9	73.8				
4/5/2019						82
6/17/2019	92.6	81.2	55.3			
6/18/2019						76.5
10/22/2019			58.1	42.6		84.2
10/23/2019	86.5	89.4				
3/25/2020	86.8	91.4	59.5	42.6		86.8
9/24/2020	91.3	92.9	55.4			
9/25/2020				48.5		
9/28/2020						88.9
3/17/2021				37.3		
3/18/2021	83.7	97.7	56			85.4
8/12/2021					50.7	
8/13/2021		102	57.8	43.5		84.3
8/16/2021	124					
9/27/2021					47.2	
2/2/2022	104		62	45.7		
2/3/2022		115			68.2	84.5
8/5/2022	128	121	63	50.8	68.6	88.5
1/25/2023	109	113	57.8	42.4	64.5	81.8
8/11/2023	139	129	56	44.8	61.1	85.5

Time Series

Constituent: Chloride (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/30/2016	3.3	5.4	2				
8/31/2016						5.7	
10/20/2016	3.2					5.7	
10/24/2016		5.2	1.9				
1/25/2017	2.7	5	1.9				
1/31/2017						5.8	
5/23/2017		5.1	1.6			5.3	
5/24/2017	3						
8/10/2017	2.8	5.2	1.7			5.4	
11/13/2017	2.5	5.5					
11/14/2017			2			5.8	
6/4/2018	2.6	5.3					
6/5/2018			1.7				
6/6/2018						5.3	
10/1/2018	2.2	5.6	1.6				
10/3/2018						5.8	
4/1/2019	4						
4/2/2019		5.7	1.8				
4/4/2019						5.9	
10/21/2019	3.9						
10/22/2019		5.5	1.9				
10/23/2019						5.5	7.9
1/3/2020							7
3/4/2020							7.1
3/24/2020	3.6	5.2					6.5
3/25/2020						5.2	
4/9/2020			1.4				
6/18/2020							6.9
7/21/2020							7.2
8/27/2020							7.1
9/18/2020	2.6	5.2		2.7	2.6		
9/22/2020			1.5				
9/24/2020						5.5	7.2
11/10/2020				2.7			
11/11/2020					2.6		
12/15/2020				2.9	2.7		
1/19/2021				2.8	2.7		
3/11/2021	3.4						
3/12/2021		5.3		2.7	2.6		
3/16/2021			1.6				
3/17/2021						5.5	6.9
8/12/2021	2.5	4.4	1.5	2.3	2.2		
8/13/2021							6
8/16/2021						5.4	
1/31/2022	3			2.6	2.5		
2/1/2022		5.2	1.6				
2/2/2022						5.3	7.2
8/2/2022			1.8	3			
8/5/2022	2.7	5			2.4		7.7
8/10/2022						5.5	
1/24/2023	3.6	5.6	1.8	3	2.8		
1/25/2023						5.7	7.8

Time Series

Constituent: Chloride (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/8/2023	3	5.1		2.7	2.7		
8/10/2023			1.6				
8/11/2023						4.9	6.7

Time Series

Constituent: Chloride (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-117A	HGWC-118
8/31/2016	5.2	3	3.2	5		4.5
10/20/2016						4.4
10/24/2016	5.2					
10/25/2016		2.8	3.2	4.8		
1/31/2017	5.6	3.3	3.1	5.5		4.8
5/23/2017	5.7					4.3
5/24/2017		3.5	2.9	5.3		
8/10/2017	5.8	2.9	2.8	4.6		4.2
11/14/2017	6	4	3.4	5.6		4.4
6/6/2018	6.4	2.9	2.8	5.3		
6/7/2018						4.1
10/2/2018		3.5	3.2	5.3		
10/3/2018	6.3					4.4
4/3/2019			3.6	5		
4/4/2019	6.9	3.9				
4/5/2019						4.3
6/17/2019	5.2		2.9			
10/22/2019			3.6	4.6		4.5
10/23/2019	6.1	3.6				
3/25/2020	5.1	3.2	3	3.9		3.6
9/24/2020	6	3.9	3.5			
9/25/2020				4.1		
9/28/2020						4
3/17/2021				4.7		
3/18/2021	6.2	4.3	3.2			4.3
8/12/2021					6.3	
8/13/2021		3.7	3.1	4		4
8/16/2021	10.4					
9/27/2021					4.5	
2/2/2022	7.1		2.9	4.1		
2/3/2022		4.8			7.8	3.9
8/5/2022	7.8	5	2.7	3.7	7.4	3.8
1/25/2023	8	6	3.3	4.3	5.9	4.3
8/11/2023	7.9	5.6	2.7	3.5	4.6	3.8

Time Series

Constituent: Chromium (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/30/2016	<0.005	0.0038 (J)	<0.005				
8/31/2016						<0.005	
10/20/2016	<0.005					<0.005	
10/24/2016		0.0039 (J)	0.001 (J)				
1/25/2017	0.0029 (J)	0.0038 (J)	0.0012 (J)				
1/31/2017						<0.005	
5/23/2017		0.0038 (J)	0.0012 (J)			0.0006 (J)	
5/24/2017	0.0004 (J)						
8/10/2017	<0.005	0.0039 (J)	0.0019 (J)			<0.005	
11/13/2017	<0.005	0.0038 (J)					
11/14/2017			0.0016 (J)			<0.005	
6/4/2018	<0.005	0.0037 (J)					
6/5/2018			<0.005				
6/6/2018						<0.005	
10/1/2018	<0.005	0.0036 (J)	0.0023 (J)				
10/3/2018						<0.005	
8/21/2019	0.00061 (J)	0.0039 (J)	0.0022 (J)				
8/22/2019						0.00064 (J)	
10/21/2019	0.0012 (J)						
10/22/2019		0.004 (J)	0.0023 (J)				
10/23/2019						<0.005	<0.005
1/3/2020							0.00063 (J)
3/4/2020							<0.005
3/24/2020	0.0019 (J)	0.0044 (J)					0.00051 (J)
3/25/2020						0.00098 (J)	
4/9/2020			0.0031 (J)				
6/18/2020							<0.005
7/21/2020							<0.005
8/25/2020	0.0013 (J)	0.0039 (J)	0.0031 (J)				
8/27/2020						<0.005	<0.005
9/18/2020	0.00077 (J)	0.0037 (J)		0.0039 (J)	<0.005		
9/22/2020			0.0046 (J)				
9/24/2020						<0.005	<0.005
11/10/2020				<0.005			
11/11/2020					<0.005		
12/15/2020				<0.005	0.0013 (J)		
1/19/2021				<0.005	0.0015 (J)		
3/11/2021	0.002 (J)						
3/12/2021		0.0045 (J)		<0.005	0.00062 (J)		
3/16/2021			0.0061				
3/17/2021						0.00075 (J)	<0.005
8/12/2021	<0.005	0.0041 (J)	<0.005	<0.005	<0.005		
8/13/2021							<0.005
8/16/2021						<0.005	
1/31/2022	<0.005			<0.005	<0.005		
2/1/2022		0.0043 (J)	0.0013 (J)				
2/2/2022						<0.005	<0.005
8/2/2022			0.0013 (J)	<0.005			
8/5/2022	<0.005	0.0045 (J)			<0.005		<0.005
8/10/2022						<0.005	
1/24/2023	<0.005	0.0041 (J)	0.0036 (J)	<0.005	<0.005		
1/25/2023						<0.005	<0.005

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Chromium (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/8/2023	<0.005	0.0037 (J)		<0.005	<0.005		
8/10/2023			0.0019 (J)				
8/11/2023						<0.005	<0.005

Time Series

Constituent: Chromium (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-117A	HGWC-118
8/31/2016	<0.005	<0.005	<0.005	<0.005		<0.005
10/20/2016						<0.005
10/24/2016	<0.005					
10/25/2016		<0.005	<0.005	<0.005		
1/31/2017	<0.005	<0.005	<0.005	<0.005		<0.005
5/23/2017	<0.005					<0.005
5/24/2017		<0.005	<0.005	<0.005		
8/10/2017	<0.005	<0.005	<0.005	<0.005		<0.005
11/14/2017	<0.005	<0.005	<0.005	<0.005		<0.005
6/6/2018	<0.005	<0.005	<0.005	<0.005		
6/7/2018						<0.005
10/2/2018		<0.005	<0.005	<0.005		
10/3/2018	<0.005					<0.005
8/22/2019	0.00063 (J)	<0.005				<0.005
8/23/2019			<0.005	<0.005		
10/22/2019			<0.005	0.00062 (J)		0.00066 (J)
10/23/2019	0.0015 (J)	0.0004 (J)				
3/25/2020	0.00045 (J)	0.0013 (J)	0.00074 (J)	0.0014 (J)		0.00081 (J)
8/26/2020						0.00098 (J)
8/27/2020	0.00069 (J)	<0.005	<0.005	<0.005		
9/24/2020	0.00081 (J)	0.00064 (J)	<0.005			
9/25/2020				<0.005		
9/28/2020						0.0017 (J)
3/17/2021				<0.005		
3/18/2021	0.003 (J)	0.00058 (J)	<0.005			0.0021 (J)
8/12/2021					<0.005	
8/13/2021		<0.005	<0.005	<0.005		<0.005
8/16/2021	<0.005					
9/27/2021					<0.005	
2/2/2022	0.0013 (J)		<0.005	<0.005		
2/3/2022		<0.005			<0.005	<0.005
8/5/2022	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1/25/2023	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
8/11/2023	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Cobalt (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/30/2016	<0.005	<0.005	0.0006 (J)				
8/31/2016						0.0033 (J)	
10/20/2016	<0.005					0.0025 (J)	
10/24/2016		<0.005	<0.005				
1/25/2017	<0.005	<0.005	<0.005				
1/31/2017						0.001 (J)	
5/23/2017		<0.005	<0.005			0.0025 (J)	
5/24/2017	<0.005						
8/10/2017	<0.005	<0.005	0.0004 (J)			0.0029 (J)	
11/13/2017	<0.005	<0.005					
11/14/2017			0.0003 (J)			0.003 (J)	
6/4/2018	<0.005	<0.005					
6/5/2018			<0.005				
6/6/2018						0.0016 (J)	
10/1/2018	<0.005	<0.005	<0.005				
10/3/2018						0.0028 (J)	
8/21/2019	<0.005	<0.005	<0.005				
8/22/2019						<0.005	
10/21/2019	<0.005						
10/22/2019		<0.005	<0.005				
10/23/2019						0.0023 (J)	0.0018 (J)
1/3/2020							0.0038 (J)
3/4/2020							0.0021 (J)
3/24/2020	<0.005	<0.005					0.0019 (J)
3/25/2020						0.0021 (J)	
4/9/2020			0.00037 (J)				
6/18/2020							0.0012 (J)
7/21/2020							0.00098 (J)
8/25/2020	<0.005	<0.005	<0.005				
8/27/2020						0.0027 (J)	0.001 (J)
9/18/2020	<0.005	<0.005		0.00049 (J)	<0.005		
9/22/2020			0.00074 (J)				
9/24/2020						0.0021 (J)	0.0011 (J)
11/10/2020				<0.005			
11/11/2020					<0.005		
12/15/2020				<0.005	0.00039 (J)		
1/19/2021				<0.005	<0.005		
3/11/2021	<0.005						
3/12/2021		<0.005		<0.005	<0.005		
3/16/2021			0.0013 (J)				
3/17/2021						0.0023 (J)	0.0012 (J)
8/12/2021	<0.005	<0.005	<0.005	<0.005	<0.005		
8/13/2021							0.00085 (J)
8/16/2021						0.0026 (J)	
1/31/2022	<0.005			<0.005	<0.005		
2/1/2022		<0.005	<0.005				
2/2/2022						0.0027 (J)	0.0019 (J)
8/2/2022			<0.005	<0.005			
8/5/2022	<0.005	<0.005			<0.005		0.001 (J)
8/10/2022						0.0028 (J)	
1/24/2023	<0.005	<0.005	<0.005	<0.005	<0.005		
1/25/2023						0.0021 (J)	0.0016 (J)

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Cobalt (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/8/2023	<0.005	<0.005		<0.005	<0.005		
8/10/2023			<0.005				
8/11/2023						0.0028 (J)	0.001 (J)

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Cobalt (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-117A	HGWC-118
8/31/2016	0.0018 (J)	0.0014 (J)	<0.005	0.0023 (J)		<0.005
10/20/2016						<0.005
10/24/2016	0.0018 (J)					
10/25/2016		0.0013 (J)	<0.005	0.0017 (J)		
1/31/2017	0.0016 (J)	0.0006 (J)	<0.005	0.0017 (J)		<0.005
5/23/2017	0.0014 (J)					0.0005 (J)
5/24/2017		0.0007 (J)	<0.005	0.002 (J)		
8/10/2017	0.0025 (J)	0.0006 (J)	<0.005	0.0012 (J)		0.0003 (J)
11/14/2017	0.002 (J)	0.0005 (J)	<0.005	0.0014 (J)		0.0004 (J)
6/6/2018	0.0031 (J)	0.00056 (J)	<0.005	0.0014 (J)		
6/7/2018						<0.005
10/2/2018		<0.005	<0.005	0.00081 (J)		
10/3/2018	0.0023 (J)					<0.005
8/22/2019	0.0019 (J)	<0.005				0.0003 (J)
8/23/2019			<0.005	0.0027 (J)		
10/22/2019			<0.005	0.0022 (J)		0.00061 (J)
10/23/2019	0.0021 (J)	0.00038 (J)				
3/25/2020	0.0022 (J)	0.00047 (J)	<0.005	0.0022 (J)		<0.005
8/26/2020						0.00061 (J)
8/27/2020	0.0019 (J)	<0.005	<0.005	0.00086 (J)		
9/24/2020	0.0019 (J)	0.00044 (J)	<0.005			
9/25/2020				0.001 (J)		
9/28/2020						0.00048 (J)
3/17/2021				0.003 (J)		
3/18/2021	0.0021 (J)	0.00045 (J)	<0.005			0.0012 (J)
8/12/2021					0.0024 (J)	
8/13/2021		<0.005	<0.005	0.0011 (J)		<0.005
8/16/2021	0.0022 (J)					
9/27/2021					0.0011 (J)	
2/2/2022	0.0022 (J)		<0.005	0.002 (J)		
2/3/2022		<0.005			0.00041 (J)	0.00045 (J)
8/5/2022	0.0021 (J)	<0.005	<0.005	0.0008 (J)	0.0011 (J)	<0.005
1/25/2023	0.0017 (J)	0.00046 (J)	<0.005	0.0016 (J)	0.00048 (J)	<0.005
8/11/2023	0.0019 (J)	0.00047 (J)	<0.005	0.00077 (J)	0.00078 (J)	<0.005

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Combined Radium 226 & 228 (pCi/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/30/2016	0.804 (U)	1.32 (U)	0.587 (U)				
8/31/2016						0.621 (U)	
10/20/2016	1.13 (U)					1.4	
10/24/2016		1.3 (U)	0.979 (U)				
1/25/2017	0.888 (U)	1.04 (U)	0.038 (U)				
1/31/2017						0.906 (U)	
5/23/2017		0.541 (U)	0.898 (U)			0.388 (U)	
5/24/2017	0.622 (U)						
8/10/2017	0.745 (U)	0.536 (U)	0.759 (U)			1.03 (U)	
11/13/2017	0.778 (U)	0.786 (U)					
11/14/2017			0.0762 (U)			0.769 (U)	
6/4/2018	0.637 (U)	0.233 (U)					
6/5/2018			0.594 (U)				
6/6/2018						1.28 (U)	
10/1/2018	0.451 (U)	0.494 (U)	0.982				
10/3/2018						0.302 (U)	
8/21/2019	0.553 (U)	0.514 (U)	0.492 (U)				
8/22/2019						0.474 (U)	
10/21/2019	0.351 (U)						
10/22/2019		0.828 (U)	0.523 (U)				
10/23/2019						0.776 (U)	0.858 (U)
1/22/2020							1.04 (U)
3/4/2020							1.32
3/24/2020	0.26 (U)	0.677 (U)					1.23 (U)
3/25/2020						0.603 (U)	
4/9/2020			0.617 (U)				
7/21/2020							0.0938 (U)
8/25/2020	0.57 (U)	0.0182 (U)	0.587 (U)				
8/27/2020						0.109 (U)	1.17 (U)
9/18/2020	0.828 (U)	1.15 (U)		1.11 (U)	1.5 (U)		
9/22/2020			0.551 (U)				
9/24/2020						0.625 (U)	1.42
11/10/2020				0.234 (U)			
11/11/2020					0.776 (U)		
12/15/2020				0.529 (U)	1.23 (U)		
1/19/2021				0.176 (U)	1.35 (U)		
3/11/2021	0.354 (U)						
3/12/2021		0.164 (U)		0 (U)	0.829 (U)		
3/16/2021			0.559 (U)				
3/17/2021						0.248 (U)	0.401 (U)
8/12/2021	0.532 (U)	0.223 (U)	0.312 (U)	0.462 (U)	0.274 (U)		
8/13/2021							0.828 (U)
8/16/2021						0.667 (U)	
1/31/2022	0.279 (U)			0.444 (U)	0.196 (U)		
2/1/2022		0.0793 (U)	0.132 (U)			0.162 (U)	0.806 (U)
8/2/2022			0.791 (U)	0.491 (U)			
8/5/2022	0.573 (U)	0.665 (U)			0.599 (U)		0.618 (U)
8/10/2022						0.601 (U)	
1/24/2023	0.19 (U)	0.331 (U)	0.529 (U)	0.391 (U)	0.856		
1/25/2023						0.419 (U)	0.513 (U)
8/8/2023	0.728 (U)	0.723 (U)		0.502 (U)	0.549 (U)		
8/10/2023			0.841 (U)				

Time Series

Constituent: Combined Radium 226 & 228 (pCi/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/11/2023						0.93 (U)	1.08

Time Series

Constituent: Combined Radium 226 & 228 (pCi/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-117A	HGWC-118
8/31/2016	1.62	0.906 (U)	1.2	1.03		
10/20/2016						1.97
10/24/2016	1.01 (U)					
10/25/2016		1.03	1.11 (U)	1.07		
1/31/2017	0.976 (U)	0.868 (U)	1.45	0.588 (U)		1.03
5/23/2017	0.891 (U)					0.398 (U)
5/24/2017		0.728 (U)	0.393 (U)	0.593 (U)		
8/10/2017	0.601 (U)	1.35	0.84 (U)	0.691 (U)		0.938 (U)
11/14/2017	0.567 (U)	0.817 (U)	1.01 (U)	0.653 (U)		0.335 (U)
6/6/2018	0.836 (U)	0.559 (U)	0.365 (U)	0.939 (U)		
6/7/2018						0.696 (U)
10/2/2018		0.336 (U)	1.23	0.225 (U)		
10/3/2018	0.111 (U)					1.6 (U)
8/22/2019	0.946 (U)	0.694 (U)				0.904 (U)
8/23/2019			1.69	0.47 (U)		
10/22/2019			0.705 (U)	0.545 (U)		0.424 (U)
10/23/2019	0.571 (U)	0.584 (U)				
3/25/2020	0.403 (U)	0.663 (U)	0.673 (U)	0.508 (U)		0.915 (U)
8/26/2020						1.19
8/27/2020	0.37 (U)	0.416 (U)	0.264 (U)	0.989 (U)		
9/24/2020	0.804 (U)	1.11 (U)	0.576 (U)			
9/25/2020				0.584 (U)		
9/28/2020						0.613 (U)
3/17/2021				0.556 (U)		
3/18/2021	0.274 (U)	0.252 (U)	0.145 (U)			0.323 (U)
8/12/2021					0.124 (U)	
8/13/2021		0.513 (U)	0.815 (U)	0.794 (U)		0.228 (U)
8/16/2021	0.493 (U)					
9/27/2021					1.05 (U)	
2/1/2022	0.569 (U)		0.0564 (U)	0.542 (U)		
2/3/2022		0.835			0.499 (U)	0.5 (U)
8/5/2022	0.205 (U)	0.139 (U)	0.917 (U)	0.22 (U)	0 (U)	0.206 (U)
1/25/2023	0.568 (U)	0.432 (U)	0.71 (U)	0.195 (U)	0.595 (U)	1.44
8/11/2023	0.849 (U)	0.292 (U)	0.314 (U)	0.105 (U)	0.822 (U)	0.806 (U)

Time Series

Constituent: Fluoride (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/30/2016	0.07 (J)	0.04 (J)	0.2 (J)				
8/31/2016						0.05 (J)	
10/20/2016	0.07 (J)					0.03 (J)	
10/24/2016		0.05 (J)	0.16 (J)				
1/25/2017	0.14 (J)	<0.1	0.15 (J)				
1/31/2017						<0.1	
5/23/2017		0.004 (J)	0.18 (J)			<0.1	
5/24/2017	0.02 (J)						
8/10/2017	0.06 (J)	0.03 (J)	0.19 (J)			<0.1	
11/13/2017	<0.1	<0.1					
11/14/2017			0.16 (J)			<0.1	
6/4/2018	0.032 (J)	<0.1					
6/5/2018			0.18 (J)				
6/6/2018						<0.1	
10/1/2018	<0.1	<0.1	0.078 (J)				
10/3/2018						<0.1	
4/1/2019	0.042 (J)						
4/2/2019		<0.1	0.18 (J)				
4/4/2019						<0.1	
8/21/2019	0.048 (J)	<0.1	0.11 (J)				
8/22/2019						<0.1	
10/21/2019	0.12 (J)						
10/22/2019		0.05 (J)	0.18 (J)				
10/23/2019						<0.1	0.22 (J)
1/3/2020							<0.1
3/4/2020							<0.1
3/24/2020	0.076 (J)	<0.1					<0.1
3/25/2020						<0.1	
4/9/2020			0.14 (J)				
6/18/2020							<0.1
7/21/2020							<0.1
8/25/2020	0.052 (J)	<0.1	0.17				
8/27/2020						<0.1	<0.1
9/18/2020	<0.1	<0.1		0.067 (J)	0.098 (J)		
9/22/2020			0.16				
9/24/2020						<0.1	<0.1
11/10/2020				0.065 (J)			
11/11/2020					0.083 (J)		
12/15/2020				0.064 (J)	0.081 (J)		
1/19/2021				0.057 (J)	0.079 (J)		
3/11/2021	0.057 (J)						
3/12/2021		<0.1		0.062 (J)	0.085 (J)		
3/16/2021			0.18				
3/17/2021						<0.1	<0.1
8/12/2021	<0.1	<0.1	0.16	<0.1	0.064 (J)		
8/13/2021							<0.1
8/16/2021						<0.1	
1/31/2022	0.055 (J)			0.053 (J)	0.072 (J)		
2/1/2022		<0.1	0.16				
2/2/2022						<0.1	<0.1
8/2/2022			0.19	0.08 (J)			
8/5/2022	0.1	0.077 (J)			0.12		0.076 (J)

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Fluoride (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/10/2022						0.065 (J)	
1/24/2023	0.086 (J)	0.055 (J)	0.2	0.081 (J)	0.092 (J)		
1/25/2023						<0.1	<0.1
8/8/2023	0.076 (J)	0.05 (J)		0.072 (J)	0.091 (J)		
8/10/2023			0.19				
8/11/2023						<0.1	<0.1

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Fluoride (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-117A	HGWC-118
8/31/2016	0.06 (J)	0.15 (J)	0.08 (J)	0.12 (J)		0.18 (J)
10/20/2016						0.12 (J)
10/24/2016	0.13 (J)					
10/25/2016		0.09 (J)	0.16 (J)	0.17 (J)		
1/31/2017	<0.1	0.13 (J)	0.16 (J)	0.05 (J)		0.3
5/23/2017	0.15 (J)					0.14 (J)
5/24/2017		0.07 (J)	0.009 (J)	0.13 (J)		
8/10/2017	<0.1	0.03 (J)	<0.1	0.12 (J)		0.11 (J)
11/14/2017	<0.1	<0.1	<0.1	<0.3		0.07 (J)
6/6/2018	<0.1	0.074 (J)	0.057 (J)	0.15 (J)		
6/7/2018						0.3
10/2/2018		<0.1	<0.1	<0.3		
10/3/2018	<0.1					0.12 (J)
4/3/2019			<0.1	0.05 (J)		
4/4/2019	0.042 (J)	0.03 (J)				
4/5/2019						0.33
6/18/2019						0.89
8/22/2019	<0.1	<0.1				0.07 (J)
8/23/2019			<0.1	0.034 (J)		
10/22/2019			0.047 (J)	0.099 (J)		0.087 (J)
10/23/2019	<0.1	<0.1				
3/25/2020	<0.1	<0.1	<0.1	0.075 (J)		0.078 (J)
8/26/2020						0.072 (J)
8/27/2020	<0.1	<0.1	<0.1	0.094 (J)		
9/24/2020	<0.1	<0.1	0.064 (J)			
9/25/2020				0.091 (J)		
9/28/2020						0.078 (J)
3/17/2021				0.089 (J)		
3/18/2021	<0.1	<0.1	<0.1			0.079 (J)
8/12/2021					<0.1	
8/13/2021		<0.1	<0.1	0.086 (J)		0.075 (J)
8/16/2021	<0.1					
9/27/2021					<0.1	
2/2/2022	<0.1		<0.1	0.086 (J)		
2/3/2022		<0.1			0.056 (J)	0.069 (J)
8/5/2022	0.071 (J)	0.075 (J)	0.093 (J)	0.14	0.12	0.12
1/25/2023	<0.1	0.051 (J)	0.054 (J)	0.12	0.085 (J)	0.095 (J)
8/11/2023	<0.1	<0.1	<0.1	0.086 (J)	0.057 (J)	0.07 (J)

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Lead (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/30/2016	0.0001 (J)	<0.001	<0.001				
8/31/2016						<0.001	
10/20/2016	<0.001					<0.001	
10/24/2016		<0.001	<0.001				
1/25/2017	<0.001	<0.001	<0.001				
1/31/2017						<0.001	
5/23/2017		<0.001	<0.001			0.0009 (J)	
5/24/2017	<0.001						
8/10/2017	<0.001	<0.001	0.0001 (J)			<0.001	
11/13/2017	<0.001	<0.001					
11/14/2017			<0.001			<0.001	
6/4/2018	<0.001	<0.001					
6/5/2018			<0.001				
6/6/2018						<0.001	
10/1/2018	<0.001	<0.001	<0.001				
10/3/2018						<0.001	
8/21/2019	<0.001	<0.001	7.1E-05 (J)				
8/22/2019						<0.001	
10/21/2019	0.00016 (J)						
10/22/2019		<0.001	7.3E-05 (J)				
10/23/2019						<0.001	<0.001
1/3/2020							<0.001
3/4/2020							0.00011 (J)
3/24/2020	0.00058 (J)	0.00016 (J)					<0.001
3/25/2020						<0.001	
4/9/2020			0.00039 (J)				
6/18/2020							<0.001
7/21/2020							<0.001
8/25/2020	0.00036 (J)	0.00011 (J)	0.00022 (J)				
8/27/2020						<0.001	<0.001
9/18/2020	0.00026 (J)	6.5E-05 (J)		<0.001	<0.001		
9/22/2020			0.00096 (J)				
9/24/2020						<0.001	<0.001
11/10/2020				<0.001			
11/11/2020					<0.001		
12/15/2020				<0.001	0.00015 (J)		
1/19/2021				3.8E-05 (J)	5.6E-05 (J)		
3/11/2021	0.0011						
3/12/2021		0.00017 (J)		<0.001	4.8E-05 (J)		
3/16/2021			0.0016				
3/17/2021						<0.001	<0.001
8/12/2021	<0.001	<0.001	<0.001	<0.001	<0.001		
8/13/2021							<0.001
8/16/2021						<0.001	
1/31/2022	<0.001			<0.001	<0.001		
2/1/2022		<0.001	<0.001				
2/2/2022						<0.001	<0.001
8/2/2022			<0.001	<0.001			
8/5/2022	<0.001	<0.001			<0.001		<0.001
8/10/2022						<0.001	
1/24/2023	<0.001	<0.001	<0.001	<0.001	<0.001		
1/25/2023						<0.001	<0.001

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Lead (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/8/2023	<0.001	<0.001		<0.001	<0.001		
8/10/2023			<0.001				
8/11/2023						<0.001	<0.001

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Lead (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-117A	HGWC-118
8/31/2016	<0.001	<0.001	<0.001	<0.001		<0.001
10/20/2016						<0.001
10/24/2016	<0.001					
10/25/2016		<0.001	<0.001	<0.001		
1/31/2017	<0.001	<0.001	<0.001	<0.001		<0.001
5/23/2017	<0.001					<0.001
5/24/2017		<0.001	<0.001	<0.001		
8/10/2017	<0.001	<0.001	<0.001	<0.001		<0.001
11/14/2017	<0.001	<0.001	<0.001	<0.001		<0.001
6/6/2018	<0.001	<0.001	<0.001	<0.001		
6/7/2018						<0.001
10/2/2018		<0.001	<0.001	<0.001		
10/3/2018	<0.001					<0.001
8/22/2019	<0.001	<0.001				<0.001
8/23/2019			<0.001	5.8E-05 (J)		
10/22/2019			7.9E-05 (J)	5.4E-05 (J)		0.00025 (J)
10/23/2019	0.00043 (J)	6.8E-05 (J)				
3/25/2020	7.6E-05 (J)	8.5E-05 (J)	0.00021 (J)	<0.001		0.0001 (J)
8/26/2020						0.00036 (J)
8/27/2020	0.00018 (J)	<0.001	<0.001	<0.001		
9/24/2020	0.00028 (J)	4.9E-05 (J)	0.00034 (J)			
9/25/2020				<0.001		
9/28/2020						0.00022 (J)
3/17/2021				<0.001		
3/18/2021	0.00024 (J)	5.8E-05 (J)	9.1E-05 (J)			0.00088 (J)
8/12/2021					<0.001	
8/13/2021		<0.001	<0.001	<0.001		<0.001
8/16/2021	<0.001					
9/27/2021					<0.001	
2/2/2022	<0.001		<0.001	<0.001		
2/3/2022		<0.001			<0.001	<0.001
8/5/2022	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1/25/2023	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
8/11/2023	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Lithium (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/30/2016	0.0022 (J)	<0.03	<0.03				
8/31/2016						<0.03	
10/20/2016	<0.03					<0.03	
10/24/2016		<0.03	<0.03				
1/25/2017	<0.03	<0.03	<0.03				
1/31/2017						<0.03	
5/23/2017		<0.03	0.0011 (J)			<0.03	
5/24/2017	0.0017 (J)						
8/10/2017	0.0017 (J)	<0.03	<0.03			<0.03	
11/13/2017	<0.03	<0.03					
11/14/2017			<0.03			<0.03	
6/4/2018	0.0016 (J)	<0.03					
6/5/2018			0.001 (J)				
6/6/2018						<0.03	
10/1/2018	<0.03	<0.03	0.001 (J)				
10/3/2018						<0.03	
8/21/2019	0.0018 (J)	<0.03	0.0011 (J)				
8/22/2019						<0.03	
10/21/2019	0.0026 (J)						
10/22/2019		<0.03	0.0011 (J)				
10/23/2019						<0.03	0.0012 (J)
1/3/2020							0.0011 (J)
3/4/2020							0.0013 (J)
3/24/2020	0.0039 (J)	<0.03					0.00084 (J)
3/25/2020						<0.03	
4/9/2020			0.0017 (J)				
6/18/2020							0.0013 (J)
7/21/2020							0.0013 (J)
8/25/2020	0.0033 (J)	<0.03	0.0014 (J)				
8/27/2020						<0.03	0.0011 (J)
9/18/2020	0.0021 (J)	<0.03		0.0026 (J)	0.0051 (J)		
9/22/2020			0.0018 (J)				
9/24/2020						<0.03	0.0011 (J)
11/10/2020				0.0028 (J)			
11/11/2020					0.0036 (J)		
12/15/2020				0.0026 (J)	0.0045 (J)		
1/19/2021				0.003 (J)	0.0032 (J)		
3/11/2021	0.0047 (J)						
3/12/2021		<0.03		0.0031 (J)	0.0031 (J)		
3/16/2021			0.0026 (J)				
3/17/2021						<0.03	0.0012 (J)
8/12/2021	0.002 (J)	<0.03	0.00094 (J)	0.0029 (J)	0.0037 (J)		
8/13/2021							0.0011 (J)
8/16/2021						<0.03	
1/31/2022	0.0026 (J)			0.0031 (J)	0.0034 (J)		
2/1/2022		<0.03	0.0011 (J)				
2/2/2022						<0.03	0.0013 (J)
8/2/2022			0.00089 (J)	0.0026 (J)			
8/5/2022	0.0019 (J)	<0.03			0.0036 (J)		0.0013 (J)
8/10/2022						<0.03	
1/24/2023	0.0023 (J)	<0.03	0.00091 (J)	0.0029 (J)	0.0046 (J)		
1/25/2023						<0.03	0.001 (J)

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Lithium (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/8/2023	0.0018 (J)	<0.03		0.0029 (J)	0.004 (J)		
8/10/2023			0.001 (J)				
8/11/2023						<0.03	0.0013 (J)

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Lithium (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-117A	HGWC-118
8/31/2016	<0.03	0.0034 (J)	<0.03	<0.03		<0.03
10/20/2016						<0.03
10/24/2016	<0.03					
10/25/2016		0.0043 (J)	<0.03	<0.03		
1/31/2017	<0.03	0.0042 (J)	<0.03	<0.03		<0.03
5/23/2017	0.0012 (J)					0.0012 (J)
5/24/2017		0.0039 (J)	<0.03	0.0012 (J)		
8/10/2017	0.0016 (J)	0.004 (J)	<0.03	<0.03		<0.03
11/14/2017	0.0015 (J)	0.0044 (J)	<0.03	<0.03		<0.03
6/6/2018	0.0017 (J)	0.0041 (J)	0.00099 (J)	0.0013 (J)		
6/7/2018						0.0015 (J)
10/2/2018		0.0041 (J)	<0.03	0.0013 (J)		
10/3/2018	0.0016 (J)					<0.03
8/22/2019	0.0015 (J)	0.004 (J)				0.0018 (J)
8/23/2019			0.00092 (J)	0.0009 (J)		
10/22/2019			0.00094 (J)	0.00088 (J)		0.0027 (J)
10/23/2019	0.002 (J)	0.0039 (J)				
3/25/2020	0.0016 (J)	0.0041 (J)	0.00091 (J)	<0.03		0.0017 (J)
8/26/2020						0.0028 (J)
8/27/2020	0.0016 (J)	0.0037 (J)	<0.03	0.0011 (J)		
9/24/2020	0.0017 (J)	0.0038 (J)	0.00098 (J)			
9/25/2020				0.001 (J)		
9/28/2020						0.0022 (J)
3/17/2021				<0.03		
3/18/2021	0.0018 (J)	0.0042 (J)	0.0011 (J)			0.0029 (J)
8/12/2021					0.0036 (J)	
8/13/2021		0.0038 (J)	0.00084 (J)	<0.03		0.0017 (J)
8/16/2021	0.0016 (J)					
9/27/2021					0.0035 (J)	
2/2/2022	0.0019 (J)		0.001 (J)	0.00084 (J)		
2/3/2022		0.0046 (J)			0.0051 (J)	0.0015 (J)
8/5/2022	0.0014 (J)	0.0039 (J)	0.00082 (J)	0.00087 (J)	0.0038 (J)	0.0018 (J)
1/25/2023	0.0012 (J)	0.0038 (J)	0.00081 (J)	<0.03	0.0037 (J)	0.001 (J)
8/11/2023	0.0014 (J)	0.0044 (J)	0.00083 (J)	0.00076 (J)	0.0041 (J)	0.0023 (J)

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Mercury (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/30/2016	4E-05 (J)	4.1E-05 (J)	4E-05 (J)				
8/31/2016						<0.0002	
10/20/2016	<0.0002					<0.0002	
10/24/2016		<0.0002	<0.0002				
1/25/2017	4E-05 (J)	4E-05 (J)	4E-05 (J)				
1/31/2017						9.3E-05 (J)	
5/23/2017		<0.0002	<0.0002			<0.0002	
5/24/2017	<0.0002						
8/10/2017	<0.0002	<0.0002	<0.0002			<0.0002	
11/13/2017	<0.0002	<0.0002					
11/14/2017			<0.0002			<0.0002	
6/4/2018	<0.0002	<0.0002					
6/5/2018			<0.0002				
6/6/2018						<0.0002	
10/1/2018	4.3E-05 (J)	3.9E-05 (J)	4.3E-05 (J)				
10/3/2018						<0.0002	
8/21/2019	<0.0002	<0.0002	<0.0002				
8/22/2019						<0.0002	
10/23/2019							<0.0002
1/3/2020							<0.0002
3/4/2020							<0.0002
3/24/2020							<0.0002
6/18/2020							<0.0002
7/21/2020							<0.0002
8/25/2020	<0.0002	<0.0002	<0.0002				
8/27/2020						<0.0002	<0.0002
9/18/2020				<0.0002	<0.0002		
9/24/2020							<0.0002
11/10/2020				<0.0002			
11/11/2020					<0.0002		
12/15/2020				<0.0002	<0.0002		
1/19/2021				<0.0002	<0.0002		
8/12/2021	<0.0002 (ND)	0.00011 (J)	<0.0002	8.1E-05 (J)	0.00018 (J)		
8/13/2021							0.0001 (J)
8/16/2021						9.9E-05 (J)	
1/31/2022	<0.0002			<0.0002	<0.0002		
2/1/2022		<0.0002	<0.0002				
2/2/2022						<0.0002	<0.0002
8/2/2022			<0.0002	<0.0002			
8/5/2022	<0.0002	<0.0002			<0.0002		<0.0002
8/10/2022						<0.0002	
1/24/2023	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		
1/25/2023						<0.0002	<0.0002
8/8/2023	<0.0002	<0.0002		<0.0002	<0.0002		
8/10/2023			<0.0002				
8/11/2023						<0.0002	<0.0002

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Mercury (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-117A	HGWC-118
8/31/2016	<0.0002	<0.0002	<0.0002	<0.0002		<0.0002
10/20/2016						<0.0002
10/24/2016	<0.0002					
10/25/2016		<0.0002	<0.0002	<0.0002		
1/31/2017	8E-05 (J)	<0.0002	<0.0002	8E-05 (J)		9E-05 (J)
5/23/2017	<0.0002					<0.0002
5/24/2017		<0.0002	<0.0002	<0.0002		
8/10/2017	<0.0002	<0.0002	<0.0002	<0.0002		<0.0002
11/14/2017	<0.0002	<0.0002	<0.0002	<0.0002		<0.0002
6/6/2018	<0.0002	<0.0002	<0.0002	<0.0002		
6/7/2018						<0.0002
10/2/2018		<0.0002	<0.0002	<0.0002		
10/3/2018	<0.0002					<0.0002
8/22/2019	<0.0002	<0.0002				<0.0002
8/23/2019			<0.0002	<0.0002		
8/26/2020						<0.0002
8/27/2020	<0.0002	<0.0002	<0.0002	<0.0002		
8/12/2021					9.4E-05 (J)	
8/13/2021		0.00022	8.4E-05 (J)	8E-05 (J)		8.1E-05 (J)
8/16/2021	0.00027					
9/27/2021					<0.0002	
2/2/2022	<0.0002		<0.0002	<0.0002		
2/3/2022		<0.0002			<0.0002	<0.0002
8/5/2022	0.00017 (J)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
1/25/2023	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
8/11/2023	0.00025	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/30/2016	<0.01	<0.01	<0.01				
8/31/2016						<0.01	
10/20/2016	<0.01					<0.01	
10/24/2016		<0.01	<0.01				
1/25/2017	<0.01	<0.01	<0.01				
1/31/2017						<0.01	
5/23/2017		<0.01	<0.01			<0.01	
5/24/2017	<0.01						
8/10/2017	<0.01	<0.01	<0.01			<0.01	
11/13/2017	<0.01	<0.01					
11/14/2017			<0.01			<0.01	
6/4/2018	<0.01	<0.01					
6/5/2018			<0.01				
6/6/2018						<0.01	
10/1/2018	<0.01	<0.01	<0.01				
10/3/2018						<0.01	
8/21/2019	<0.01	<0.01	<0.01				
8/22/2019						<0.01	
10/23/2019							<0.01
1/3/2020							<0.01
3/4/2020							<0.01
3/24/2020							<0.01
6/18/2020							<0.01
7/21/2020							<0.01
8/25/2020	<0.01	<0.01	<0.01				
8/27/2020						<0.01	<0.01
9/18/2020				0.0015 (J)	0.0026 (J)		
9/24/2020							<0.01
11/10/2020				<0.01			
11/11/2020					0.0012 (J)		
12/15/2020				<0.01	0.00097 (J)		
1/19/2021				<0.01	0.0018 (J)		
8/12/2021	<0.01	<0.01	<0.01	<0.01	0.0019 (J)		
8/13/2021							<0.01
8/16/2021						<0.01	
1/31/2022	<0.01			<0.01	0.002 (J)		
2/1/2022		<0.01	<0.01				
2/2/2022						<0.01	<0.01
8/2/2022			<0.01	<0.01			
8/5/2022	<0.01	<0.01			0.0012 (J)		<0.01
8/10/2022						<0.01	
1/24/2023	<0.01	<0.01	<0.01	<0.01	0.00086 (J)		
1/25/2023						<0.01	<0.01
8/8/2023	<0.01	<0.01		<0.01	0.00092 (J)		
8/10/2023			<0.01				
8/11/2023						<0.01	<0.01

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-117A	HGWC-118
8/31/2016	<0.01	<0.01	<0.01	<0.01		<0.01
10/20/2016						<0.01
10/24/2016	<0.01					
10/25/2016		<0.01	<0.01	<0.01		
1/31/2017	<0.01	<0.01	<0.01	<0.01		<0.01
5/23/2017	<0.01					<0.01
5/24/2017		<0.01	<0.01	<0.01		
8/10/2017	<0.01	<0.01	<0.01	<0.01		<0.01
11/14/2017	<0.01	<0.01	<0.01	<0.01		<0.01
6/6/2018	<0.01	<0.01	<0.01	<0.01		
6/7/2018						<0.01
10/2/2018		<0.01	<0.01	<0.01		
10/3/2018	<0.01					<0.01
8/22/2019	<0.01	<0.01				<0.01
8/23/2019			<0.01	<0.01		
8/26/2020						<0.01
8/27/2020	<0.01	<0.01	<0.01	<0.01		
8/12/2021					<0.01	
8/13/2021		<0.01	<0.01	<0.01		<0.01
8/16/2021	<0.01					
9/27/2021					<0.01	
2/2/2022	<0.01		<0.01	<0.01		
2/3/2022		<0.01			<0.01	<0.01
8/5/2022	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1/25/2023	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
8/11/2023	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: pH (s.u.) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/30/2016	6.89	5.77	5.99				
8/31/2016						5.35	
10/20/2016	6.73					5.3	
10/24/2016		5.61	5.84				
1/25/2017	7.02	5.68	6.04				
1/31/2017						5.24	
5/23/2017		5.7	6.01			5.39	
5/24/2017	6.44						
8/10/2017	6.79	5.59	5.98			5.47	
11/13/2017	5.94	5.56					
11/14/2017			6.16			5.4	
6/4/2018	6.12	5.62					
6/5/2018			5.86				
6/6/2018						5.37	
10/1/2018	5.92	5.62	5.94				
10/3/2018						5.39	
4/1/2019	7.09						
4/2/2019		5.47	6				
4/4/2019						5.31	
6/18/2019						5.3	
8/21/2019	6.6	5.8	6.05				
8/22/2019						5.39	
10/21/2019	7.02						
10/22/2019		5.7	5.98				
10/23/2019						5.33	5.68
1/3/2020							5.64
3/4/2020							5.75
3/24/2020	7.37	5.64					5.58
3/25/2020						5.53	
4/9/2020			6.08				
6/18/2020							5.67
7/21/2020							5.72
8/25/2020	6.7	5.53	5.95				
8/27/2020						5.32	5.7
9/18/2020	6.46	5.58		7.54	7.5		
9/22/2020			6.1				
9/24/2020						5.48	5.82
11/10/2020				7.34			
11/11/2020					7.4		
12/15/2020				7.27	7.39		
1/19/2021				7.32	7.4		
3/11/2021	7.2						
3/12/2021		5.6		7.52	7.51		
3/16/2021			6.14				
3/17/2021						5.41	5.78
8/12/2021	6.67	5.5	6.08	7.38	7.44		
8/13/2021							5.45
8/16/2021						5.4	
1/31/2022	7.17			7.34	7.44		
2/1/2022		5.59	6.05				
2/2/2022						5.51	5.79
8/2/2022			6.08	7.34			

Time Series

Constituent: pH (s.u.) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/5/2022	6.97	5.43			7.4		5.69
8/10/2022						5.37	
1/24/2023	7.11	5.67	6.15	7.38	7.46		
1/25/2023						5.47	5.77
8/8/2023	7.01	5.77		7.27	7.37		
8/10/2023			6.07				
8/11/2023						5.44	5.79

Time Series

Constituent: pH (s.u.) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-117A	HGWC-118
8/31/2016	5.54	6.5	6.11	6.78		7.03
10/20/2016						7.01
10/24/2016	5.48					
10/25/2016		6.34	6.04	6.55		
1/31/2017	5.51	6.43	5.94	6.5		6.96
5/23/2017	5.98					6.92
5/24/2017		6.31	6.06	6.42		
8/10/2017	5.63	6.45	6.06	6.63		6.99
11/14/2017	5.59	6.53	5.99	6.5		6.9
6/6/2018	5.49	6.49	6	6.59		
6/7/2018						7.03
10/2/2018		6.18	6.18	6.54		
10/3/2018	5.53					7.08
4/3/2019			6.06	6.42		
4/4/2019	5.44	6.17				
4/5/2019						6.96
6/17/2019	5.53					
8/22/2019	5.55	6.04				6.93
8/23/2019			6.26	6.76		
10/22/2019			6.19	6.58		7.03
10/23/2019	5.49	6.46				
3/25/2020	5.49	6.47	6.13	6.56		6.89
8/26/2020						6.97
8/27/2020	5.82	6.45	6.09	6.64		
9/24/2020	5.6	6.63	6.11			
9/25/2020				6.79		
9/28/2020						7.03
3/17/2021				6.55		
3/18/2021	5.51	6.57	6.2			7.11
8/12/2021					6.27	
8/13/2021		6.44	6.11	6.71		6.78
8/16/2021	5.59					
9/27/2021					6.14	
2/2/2022	5.63		6.14	6.65		
2/3/2022		6.48			6.58	6.79
8/5/2022	5.71	6.46	6.07	6.81	6.44	7.07
1/25/2023	5.65	6.41	6.13	6.66	6.53	6.67
8/11/2023	5.8	6.47	6.16	6.8	7.09	7.49

Time Series

Constituent: Selenium (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/30/2016	<0.005	<0.005	0.0027 (J)				
8/31/2016						<0.005	
10/20/2016	<0.005					<0.005	
10/24/2016		<0.005	0.0034 (J)				
1/25/2017	<0.005	<0.005	0.0023 (J)				
1/31/2017						<0.005	
5/23/2017		<0.005	0.0024 (J)			<0.005	
5/24/2017	<0.005						
8/10/2017	<0.005	<0.005	0.0023 (J)			<0.005	
11/13/2017	<0.005	<0.005					
11/14/2017			<0.01			<0.005	
6/4/2018	<0.005	<0.005					
6/5/2018			0.0019 (J)				
6/6/2018						<0.005	
10/1/2018	<0.005	<0.005	0.0024 (J)				
10/3/2018						<0.005	
8/21/2019	<0.005	<0.005	0.0025 (J)				
8/22/2019						<0.005	
10/23/2019							<0.005
1/3/2020							0.0015 (J)
3/4/2020							<0.005
3/24/2020							<0.005
6/18/2020							<0.005
7/21/2020							<0.005
8/25/2020	<0.005	<0.005	<0.01				
8/27/2020						<0.005	<0.005
9/18/2020				<0.005	<0.005		
9/24/2020							<0.005
11/10/2020				<0.005			
11/11/2020					<0.005		
12/15/2020				<0.005	<0.005		
1/19/2021				<0.005	<0.005		
8/12/2021	<0.005	<0.005	0.0023 (J)	<0.005	<0.005		
8/13/2021							<0.005
8/16/2021						<0.005	
1/31/2022	<0.005			<0.005	<0.005		
2/1/2022		<0.005	0.0022 (J)				
2/2/2022						<0.005	<0.005
8/2/2022			0.0034 (J)	<0.005			
8/5/2022	<0.005	<0.005			<0.005		<0.005
8/10/2022						<0.005	
1/24/2023	<0.005	<0.005	0.0025 (J)	<0.005	<0.005		
1/25/2023						<0.005	<0.005
8/8/2023	<0.005	<0.005		<0.005	<0.005		
8/10/2023			0.0027 (J)				
8/11/2023						<0.005	<0.005

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Selenium (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-117A	HGWC-118
8/31/2016	<0.005	<0.005	<0.005	<0.005		<0.005
10/20/2016						<0.005
10/24/2016	<0.005					
10/25/2016		<0.005	<0.005	<0.005		
1/31/2017	<0.005	<0.005	<0.005	<0.005		<0.005
5/23/2017	<0.005					<0.005
5/24/2017		<0.005	<0.005	<0.005		
8/10/2017	<0.005	<0.005	<0.005	<0.005		<0.005
11/14/2017	<0.005	<0.005	<0.005	<0.005		<0.005
6/6/2018	<0.005	<0.005	<0.005	<0.005		
6/7/2018						<0.005
10/2/2018		<0.005	<0.005	<0.005		
10/3/2018	<0.005					<0.005
8/22/2019	<0.005	<0.005				<0.005
8/23/2019			<0.005	<0.005		
8/26/2020						<0.005
8/27/2020	<0.005	<0.005	<0.005	<0.005		
8/12/2021					<0.005	
8/13/2021		<0.005	<0.005	<0.005		<0.005
8/16/2021	<0.005					
9/27/2021					<0.005	
2/2/2022	<0.005		<0.005	<0.005		
2/3/2022		<0.005			<0.005	<0.005
8/5/2022	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1/25/2023	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
8/11/2023	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Sulfate (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/30/2016	1.6	0.63 (J)	14				
8/31/2016						110	
10/20/2016	1.6					110	
10/24/2016		0.62 (J)	11				
1/25/2017	1.6	0.62 (J)	12				
1/31/2017						120	
5/23/2017		0.55 (J)	12			97	
5/24/2017	1.4						
8/10/2017	1.6	0.66 (J)	11			96	
11/13/2017	1.3	0.61 (J)					
11/14/2017			11			110	
6/4/2018	1.4	0.73 (J)					
6/5/2018			9.9				
6/6/2018						95.5	
10/1/2018	1	0.52 (J)	6.7				
10/3/2018						121	
4/1/2019	1.7						
4/2/2019		0.78 (J)	8.7				
4/4/2019						95.1	
6/18/2019						102	
10/21/2019	1.8						
10/22/2019		0.6 (J)	6.8				
10/23/2019						101	<1
1/3/2020							380
3/4/2020							400
3/24/2020	1.6	<1					311
3/25/2020						85.5	
4/9/2020			6.6				
6/18/2020							349
7/21/2020							378
8/27/2020							382
9/18/2020	1	<1		3.5	9.5		
9/22/2020			5.3				
9/24/2020						97	370
11/10/2020				2.3			
11/11/2020					4.5		
12/15/2020				2.4	4.2		
1/19/2021				2.6	3.9		
3/11/2021	1.5						
3/12/2021		0.52 (J)		1.9	4.7		
3/16/2021			7.7				
3/17/2021						107	332
8/12/2021	1.3	<1	10	1.4	4.3		
8/13/2021							248
8/16/2021						72.1	
1/31/2022	1.5			1.7	5.6		
2/1/2022		0.5 (J)	8.9				
2/2/2022						100	303
8/2/2022			7.5	2.1			
8/5/2022	1.4	<1			3.4		358
8/10/2022						99.5	
1/24/2023	1.9	0.81 (J)	6.6	2.2	2.9		

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Sulfate (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
1/25/2023						95	348
8/8/2023	1.5	0.71 (J)		2	2.9		
8/10/2023			5.1				
8/11/2023						102	370

Time Series

Constituent: Sulfate (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-117A	HGWC-118
8/31/2016	280	190	130	36		88
10/20/2016						81
10/24/2016	280					
10/25/2016		190	130	41		
1/31/2017	300	210	130	37		87
5/23/2017	340					84
5/24/2017		180	130	40		
8/10/2017	300	180	130	40		78
11/14/2017	310	170	130	40		79
6/6/2018	351	168	132	49.7		
6/7/2018						60.1
10/2/2018		173	132	42.3		
10/3/2018	381					91.5
4/3/2019			139	36		
4/4/2019	358	185				
4/5/2019						75.1
6/17/2019	311	162	126	30.9		
6/18/2019						77
10/22/2019			123	23.2		80.9
10/23/2019	248	162				
3/25/2020	251	161	116	27.9		78.4
9/24/2020	293	177	126			
9/25/2020				24.7		
9/28/2020						86
3/17/2021				28.3		
3/18/2021	286	196	128			87.8
8/12/2021					64.6	
8/13/2021		142	112	24.4		75.1
8/16/2021	354					
9/27/2021					69.7	
2/2/2022	293		111	25.5		
2/3/2022		195			72.9	72.7
8/5/2022	369	217	120	23	76.1	69.8
1/25/2023	342	230	128	25.4	72.9	73
8/11/2023	382	237	113	19.8	67.7	64.9

Time Series

Constituent: Thallium (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/30/2016	<0.001	<0.001	<0.001				
8/31/2016						<0.001	
10/20/2016	<0.001					<0.001	
10/24/2016		<0.001	<0.001				
1/25/2017	<0.001	<0.001	<0.001				
1/31/2017						<0.001	
5/23/2017		<0.001	<0.001			<0.001	
5/24/2017	<0.001						
8/10/2017	<0.001	<0.001	<0.001			<0.001	
11/13/2017	<0.001	<0.001					
11/14/2017			<0.001			<0.001	
6/4/2018	<0.001	<0.001					
6/5/2018			<0.001				
6/6/2018						<0.001	
10/1/2018	<0.001	<0.001	<0.001				
10/3/2018						<0.001	
8/21/2019	<0.001	<0.001	<0.001				
8/22/2019						<0.001	
10/23/2019							<0.001
1/3/2020							8E-05 (J)
3/4/2020							<0.001
3/24/2020							<0.001
6/18/2020							<0.001
7/21/2020							<0.001
8/25/2020	<0.001	<0.001	<0.001				
8/27/2020						<0.001	<0.001
9/18/2020				<0.001	<0.001		
9/24/2020							<0.001
11/10/2020				<0.001			
11/11/2020					<0.001		
12/15/2020				<0.001	<0.001		
1/19/2021				<0.001	<0.001		
8/12/2021	<0.001	<0.001	<0.001	<0.001	<0.001		
8/13/2021							<0.001
8/16/2021						<0.001	
1/31/2022	<0.001			<0.001	<0.001		
2/1/2022		<0.001	<0.001				
2/2/2022						<0.001	<0.001
8/2/2022			<0.001	<0.001			
8/5/2022	<0.001	<0.001			<0.001		<0.001
8/10/2022						<0.001	
1/24/2023	<0.001	<0.001	<0.001	<0.001	<0.001		
1/25/2023						<0.001	<0.001
8/8/2023	<0.001	<0.001		<0.001	<0.001		
8/10/2023			<0.001				
8/11/2023						<0.001	<0.001

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Thallium (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-117A	HGWC-118
8/31/2016	<0.001	<0.001	<0.001	<0.001		<0.001
10/20/2016						<0.001
10/24/2016	<0.001					
10/25/2016		<0.001	<0.001	<0.001		
1/31/2017	<0.001	<0.001	<0.001	<0.001		<0.001
5/23/2017	<0.001					<0.001
5/24/2017		<0.001	<0.001	<0.001		
8/10/2017	<0.001	<0.001	<0.001	<0.001		<0.001
11/14/2017	<0.001	<0.001	<0.001	<0.001		<0.001
6/6/2018	<0.001	<0.001	<0.001	<0.001		
6/7/2018						<0.001
10/2/2018		<0.001	<0.001	<0.001		
10/3/2018	<0.001					<0.001
8/22/2019	<0.001	<0.001				<0.001
8/23/2019			<0.001	<0.001		
8/26/2020						<0.001
8/27/2020	<0.001	<0.001	<0.001	<0.001		
8/12/2021					<0.001	
8/13/2021		<0.001	<0.001	<0.001		<0.001
8/16/2021	<0.001					
9/27/2021					<0.001	
2/2/2022	<0.001		<0.001	<0.001		
2/3/2022		<0.001			<0.001	<0.001
8/5/2022	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1/25/2023	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
8/11/2023	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

ND substitution: RL or RL/2 if <15% NDs.

Time Series

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/26/2023 11:23 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/30/2016	172	76	77				
8/31/2016						278	
10/20/2016	108					165	
10/24/2016		65	111				
1/25/2017	345	152 (o)	155				
1/31/2017						263	
5/23/2017		52	74			190	
5/24/2017	126						
8/10/2017	174	60	94			175	
11/13/2017	158	75					
11/14/2017			89			253	
6/4/2018	131	70					
6/5/2018			92				
6/6/2018						188	
10/1/2018	101	76	91				
10/3/2018						238	
4/1/2019	213						
4/2/2019		69	94				
4/4/2019						149	
10/21/2019	187						
10/22/2019		81	95				
10/23/2019						221	736
1/3/2020							714
3/4/2020							764
3/24/2020	207	52					521
3/25/2020						187	
4/9/2020			48				
6/18/2020							652
7/21/2020							669
8/27/2020							663
9/18/2020	139	62		195	224		
9/22/2020			84				
9/24/2020						170	696
11/10/2020				229			
11/11/2020					221		
12/15/2020				233	239		
1/19/2021				199	224		
3/11/2021	207						
3/12/2021		56		217	204		
3/16/2021			99				
3/17/2021						213	626
8/12/2021	157	63	92	212	234		
8/13/2021							647
8/16/2021						206	
1/31/2022	186			243	223		
2/1/2022		73	99				
2/2/2022						220	602
8/2/2022			85	222			
8/5/2022	171	44			224		696
8/10/2022						232	
1/24/2023	177	96	146	223	230		
1/25/2023						186	664

Time Series

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-101	HGWC-102
8/8/2023	207	57		214	220		
8/10/2023			80				
8/11/2023						250	785

Time Series

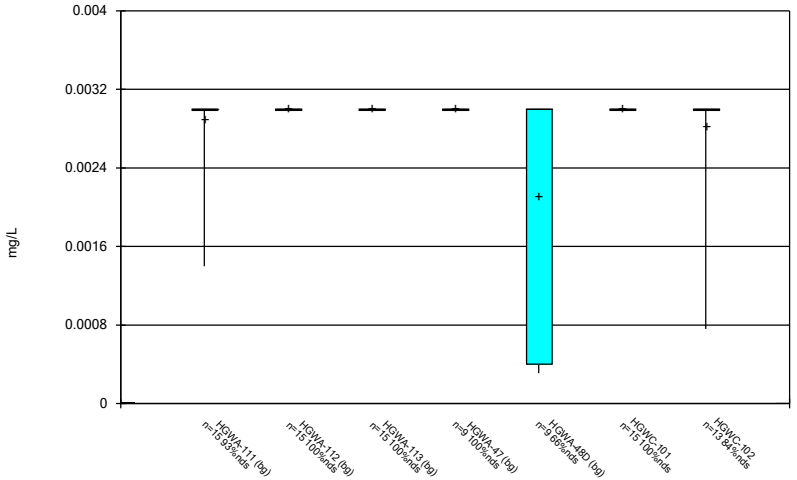
Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-117A	HGWC-118
8/31/2016	483	389	235	182		373
10/20/2016						305
10/24/2016	517					
10/25/2016		316	223	172		
1/31/2017	516	437	346	252		361
5/23/2017	637					359
5/24/2017		352	234	184		
8/10/2017	459	356	254	208		325
11/14/2017	545	375	313	252		373
6/6/2018	559	385	278	224		
6/7/2018						338
10/2/2018		374	274	230		
10/3/2018	582					328
4/3/2019			273	210		
4/4/2019	535	340				
4/5/2019						308
6/17/2019	515	370	272			
6/18/2019						215
10/22/2019			308	212		354
10/23/2019	507	419				
3/25/2020	507	417	297	213		347
9/24/2020	517	411	253			
9/25/2020				188		
9/28/2020						332
3/17/2021				171		
3/18/2021	465	410	255			328
8/12/2021					256	
8/13/2021		441	291	189		336
8/16/2021	672					
9/27/2021					223	
2/2/2022	576		271	206		
2/3/2022		463			264	316
8/5/2022	692	514	274	195	270	329
1/25/2023	630	537	304	214	289	337
8/11/2023	808	630	296	205	280	346

FIGURE B.

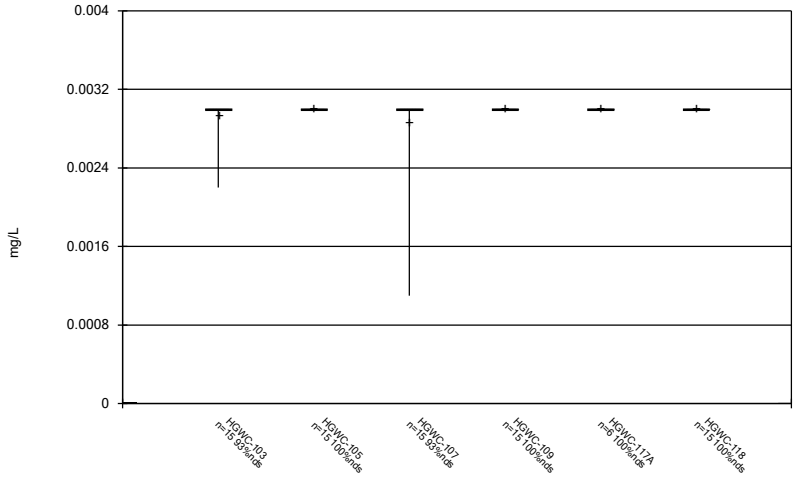
Box & Whiskers Plot



Constituent: Antimony Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

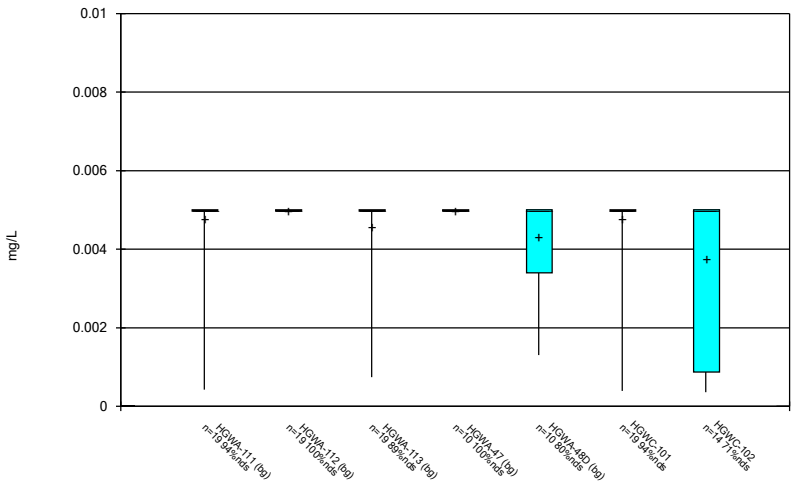
Box & Whiskers Plot



Constituent: Antimony Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

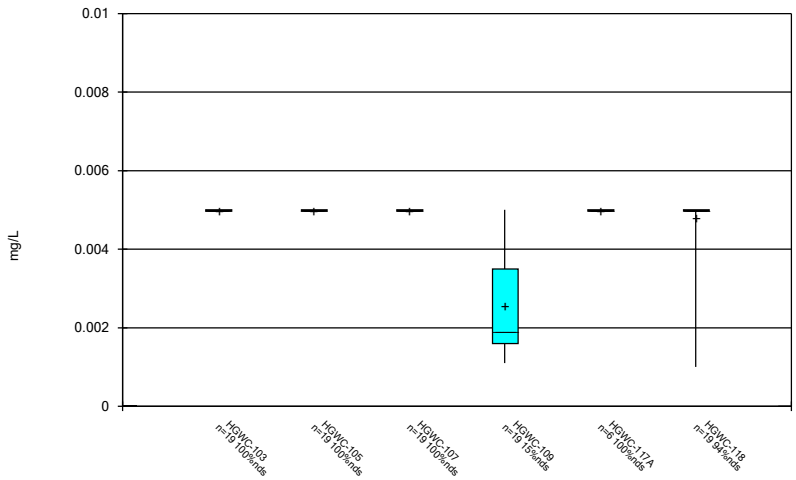
Box & Whiskers Plot



Constituent: Arsenic Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

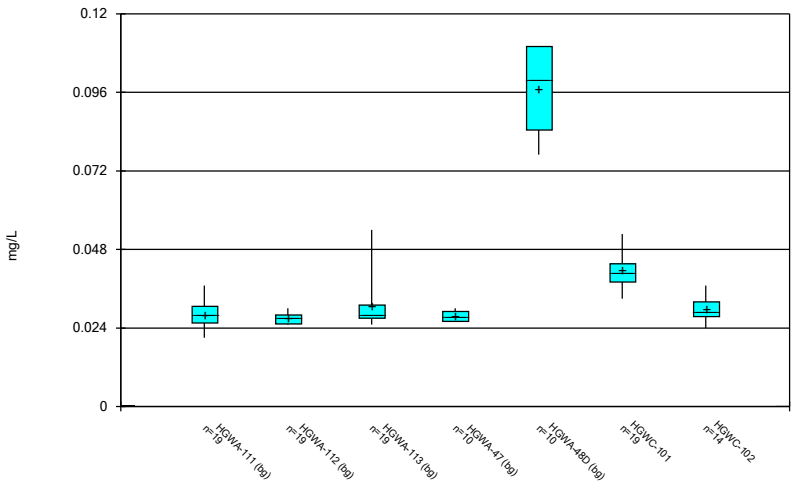
Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Arsenic Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

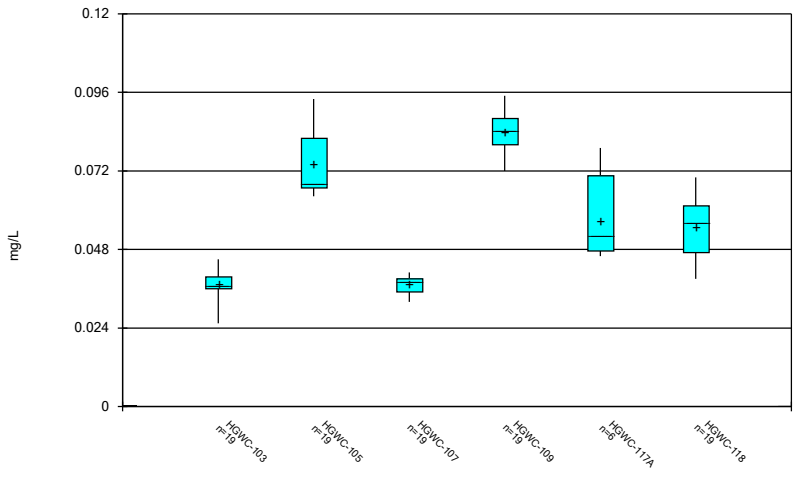
Box & Whiskers Plot



Constituent: Barium Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

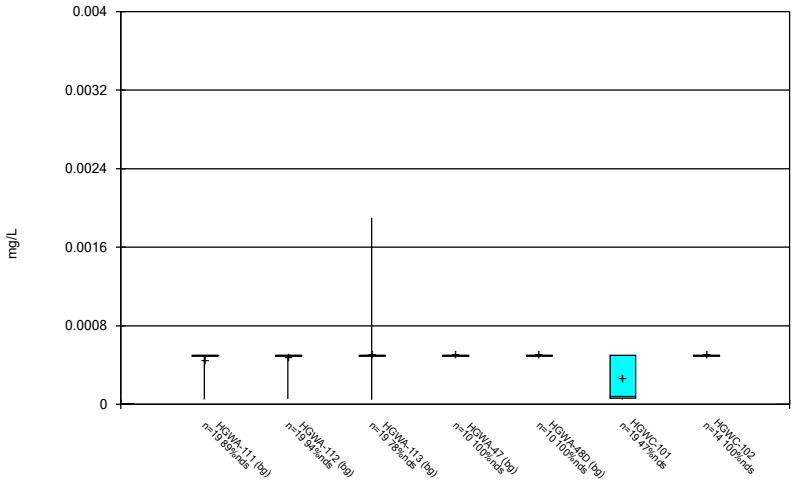
Box & Whiskers Plot



Constituent: Barium Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

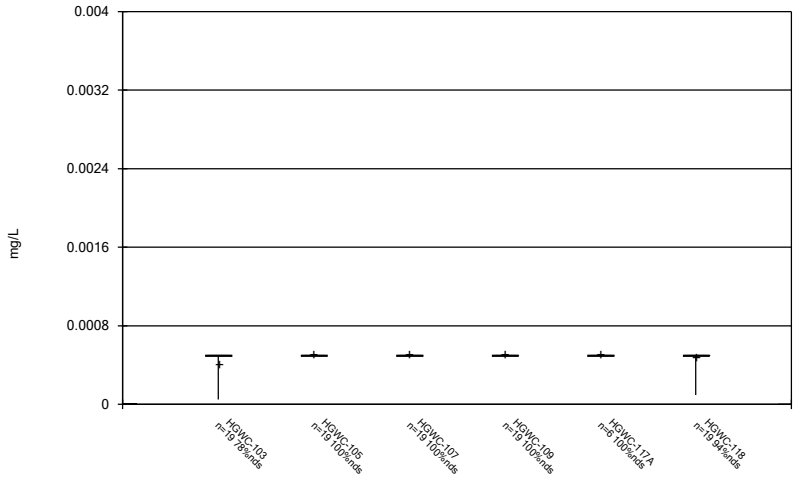
Box & Whiskers Plot



Constituent: Beryllium Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

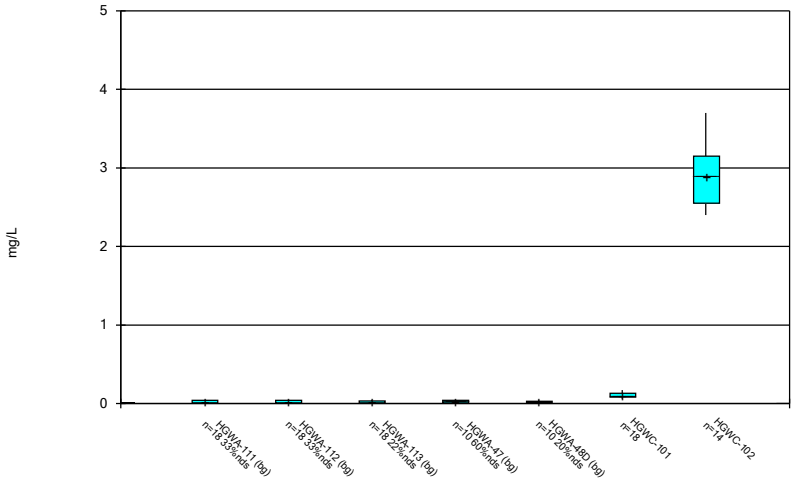
Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Beryllium Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

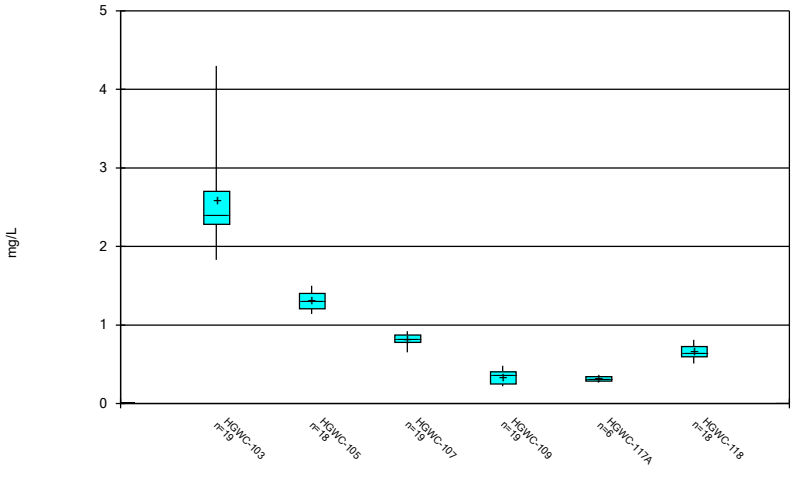
Box & Whiskers Plot



Constituent: Boron Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

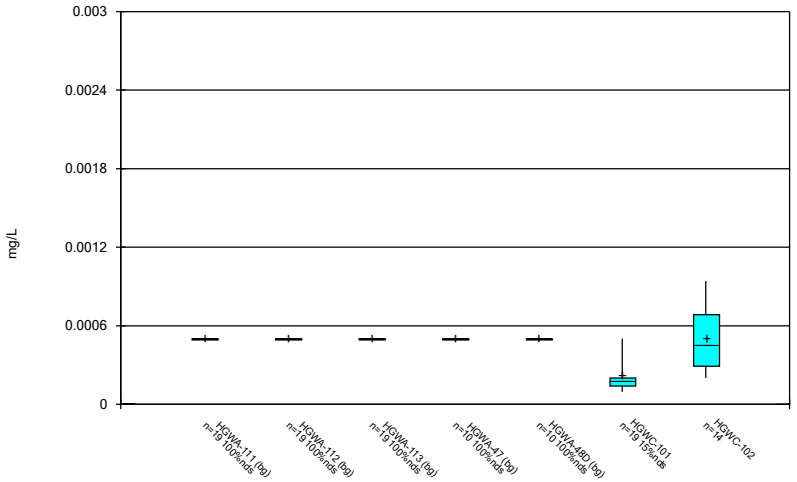
Box & Whiskers Plot



Constituent: Boron Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

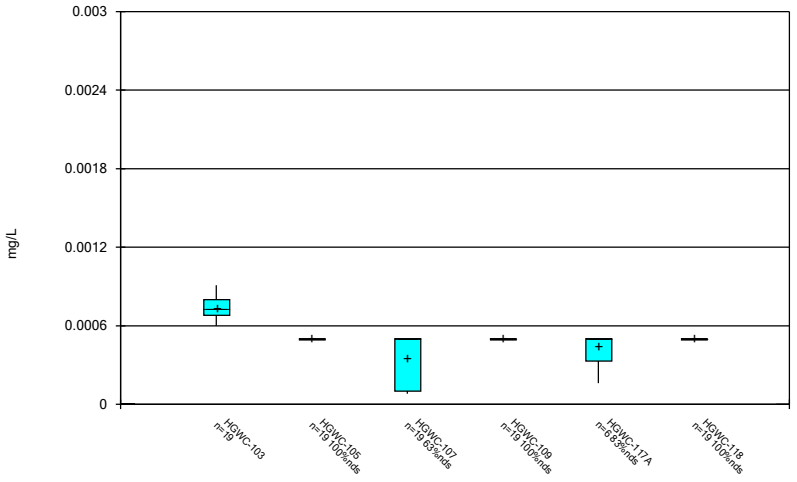
Box & Whiskers Plot



Constituent: Cadmium Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

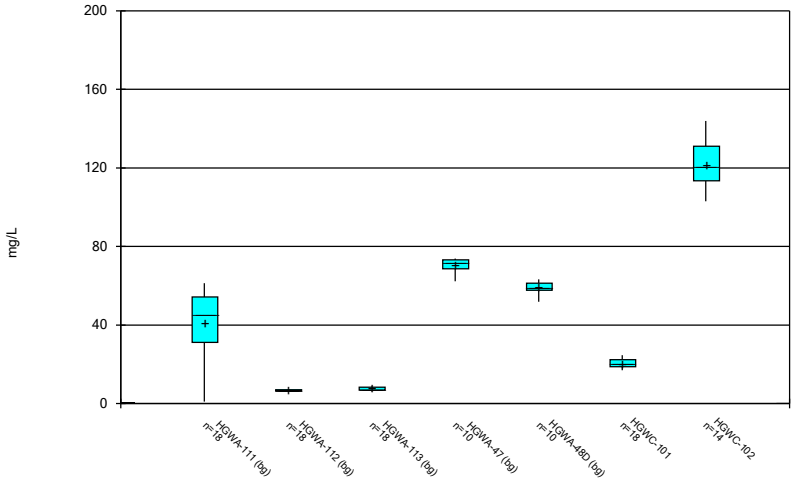
Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Cadmium Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

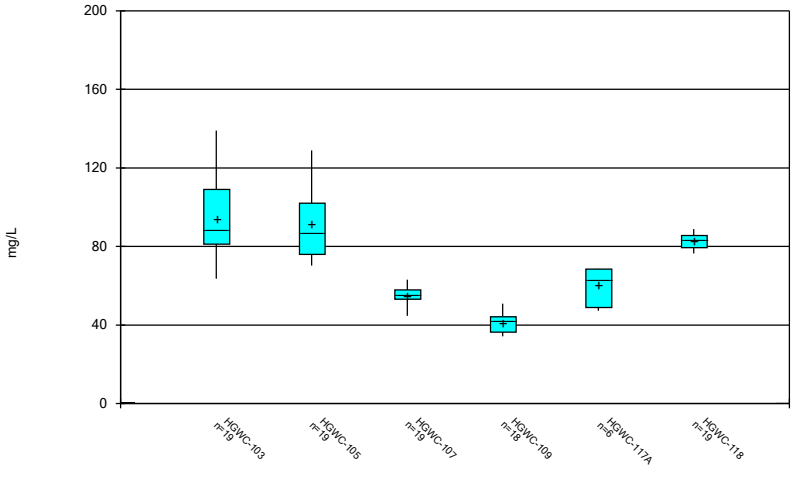
Box & Whiskers Plot



Constituent: Calcium Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

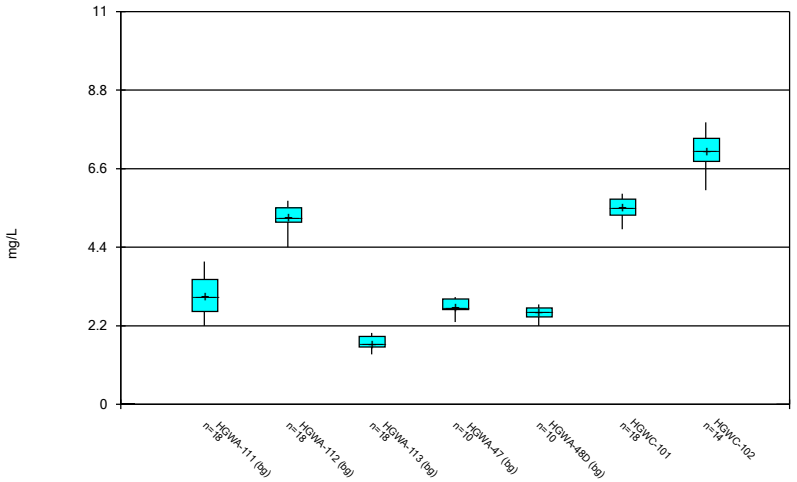
Box & Whiskers Plot



Constituent: Calcium Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

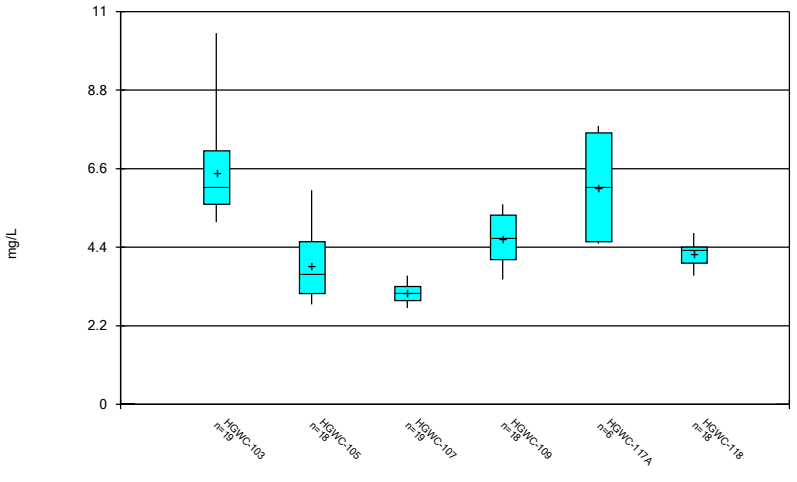
Box & Whiskers Plot



Constituent: Chloride Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

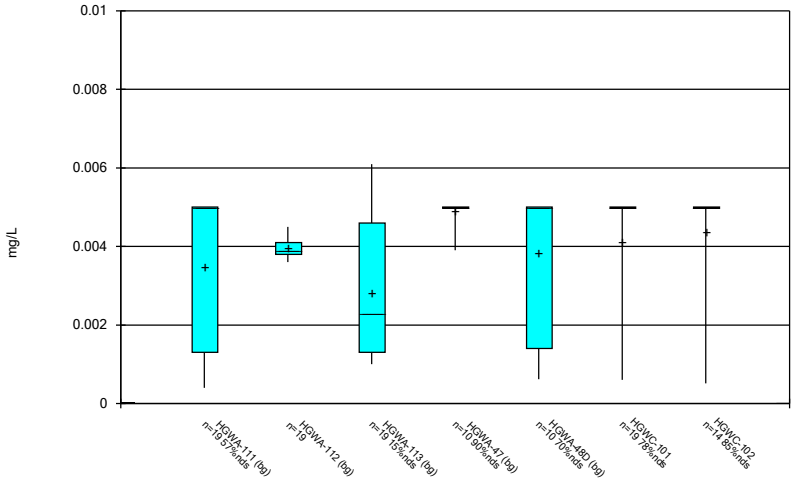
Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Chloride Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Box & Whiskers Plot

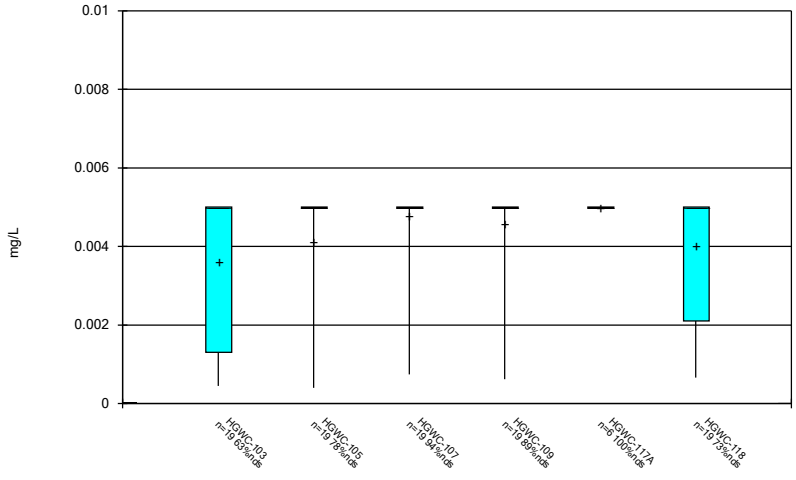


Constituent: Chromium Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot

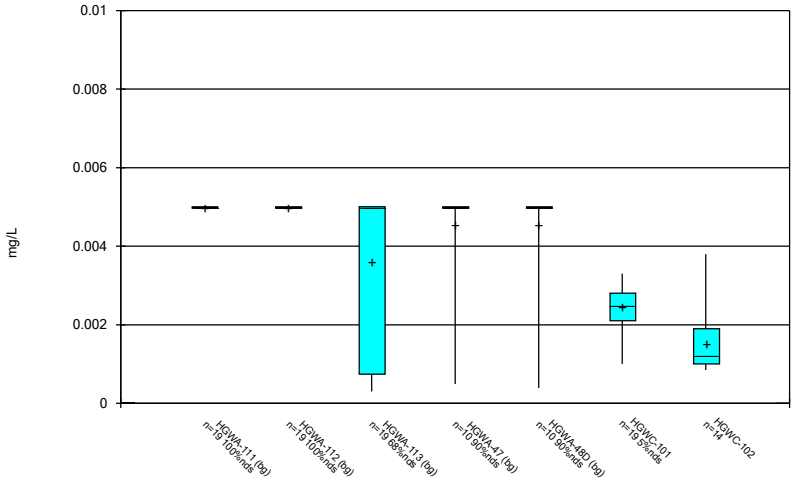


Constituent: Chromium Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot

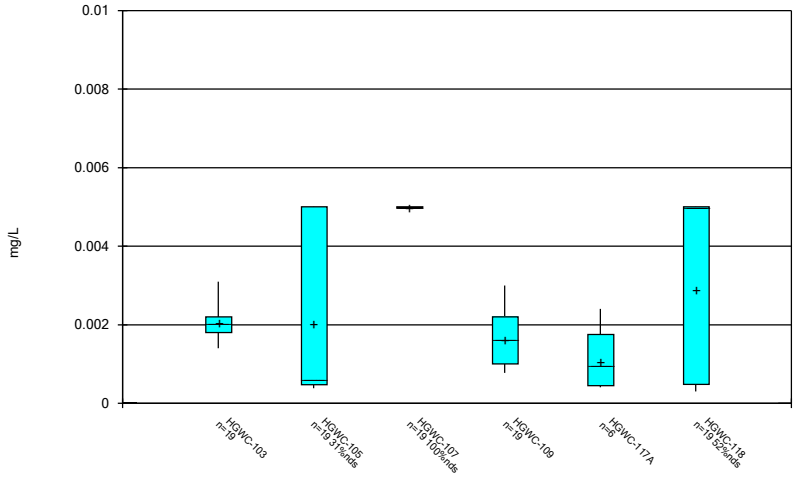


Constituent: Cobalt Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

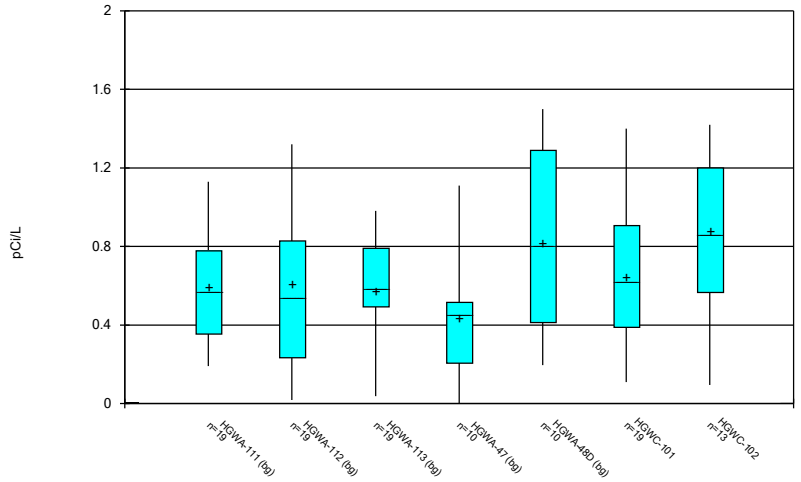
Box & Whiskers Plot



Constituent: Cobalt Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

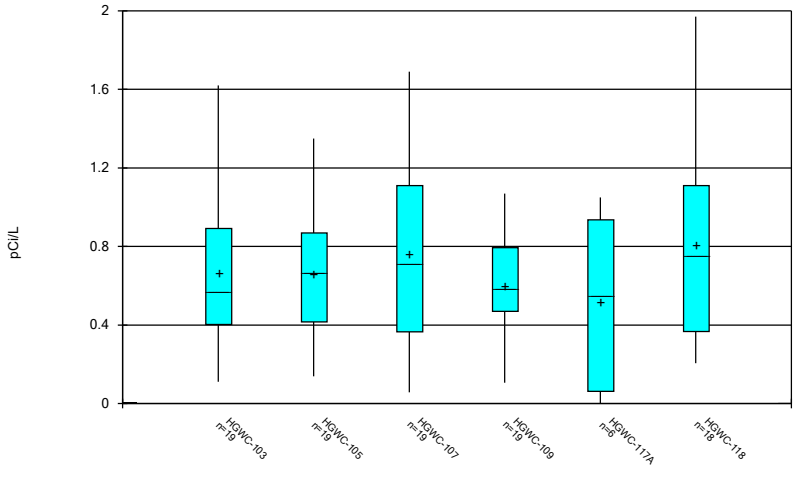
Box & Whiskers Plot



Constituent: Combined Radium 226 & 228 Analysis Run 10/26/2023 11:24 AM View: Time Series & Box P
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

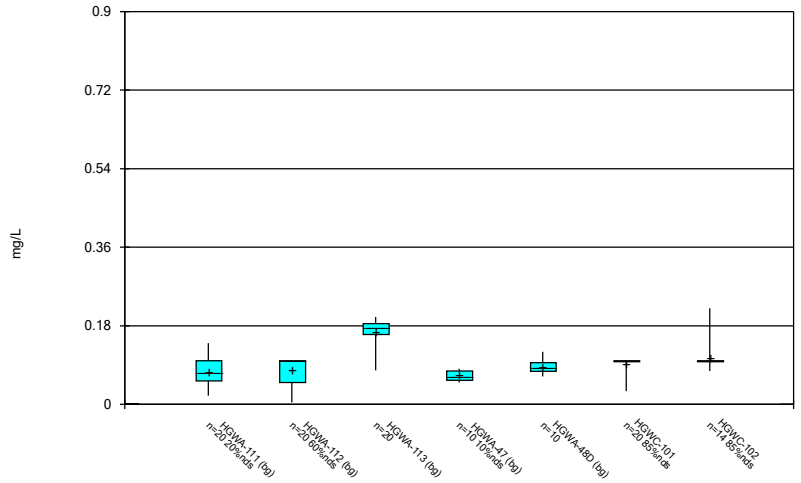
Box & Whiskers Plot



Constituent: Combined Radium 226 & 228 Analysis Run 10/26/2023 11:24 AM View: Time Series & Box P
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

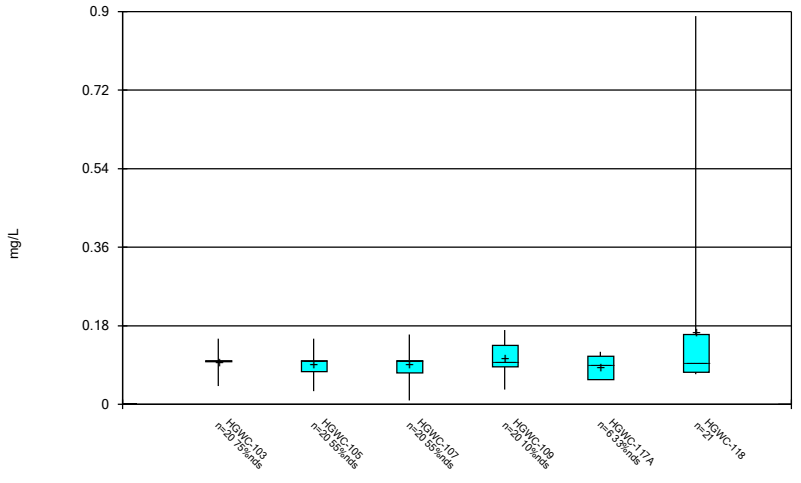
Box & Whiskers Plot



Constituent: Fluoride Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

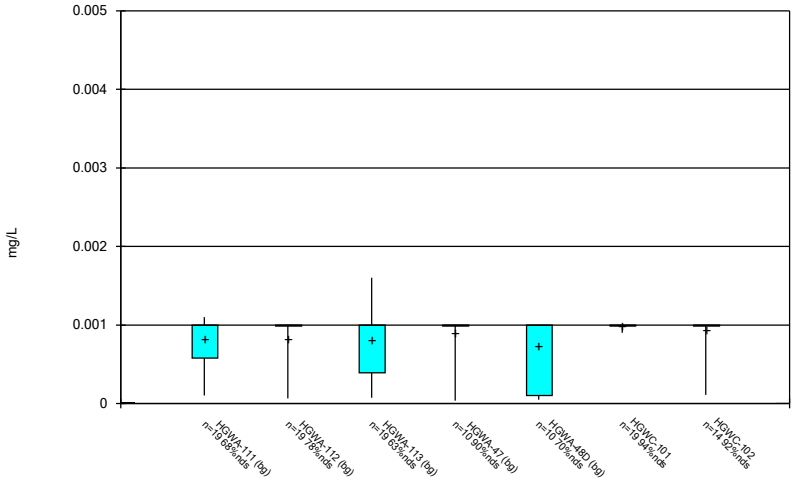
Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Fluoride Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

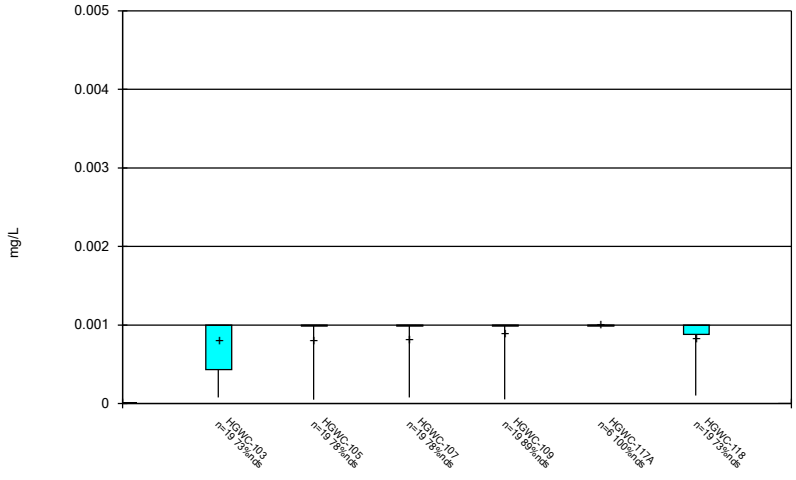
Box & Whiskers Plot



Constituent: Lead Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

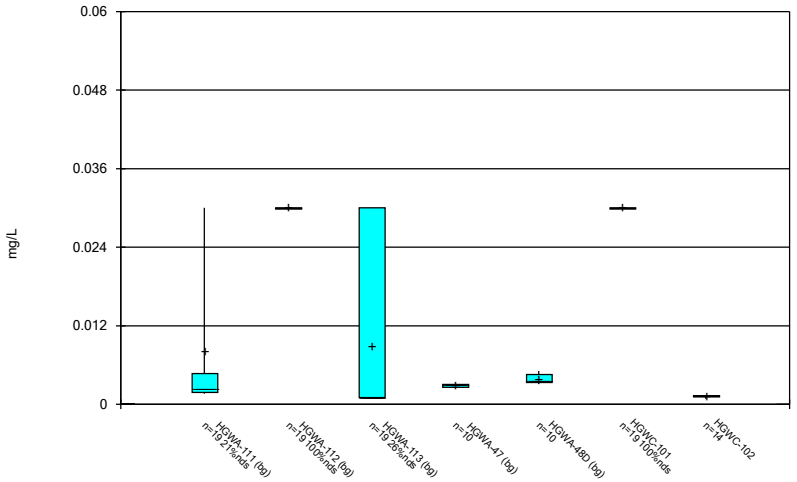
Box & Whiskers Plot



Constituent: Lead Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

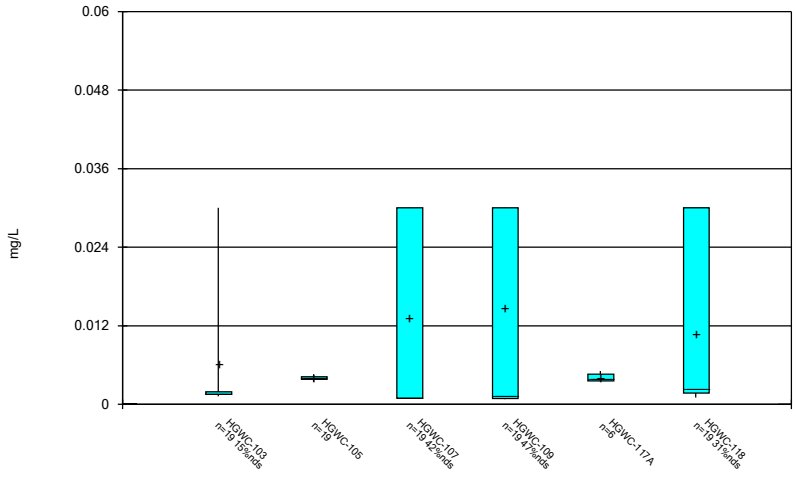
Box & Whiskers Plot



Constituent: Lithium Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

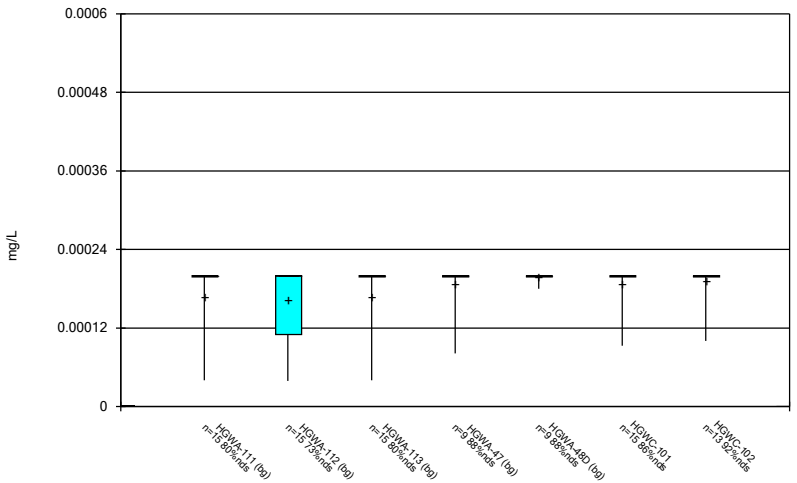
Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Lithium Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

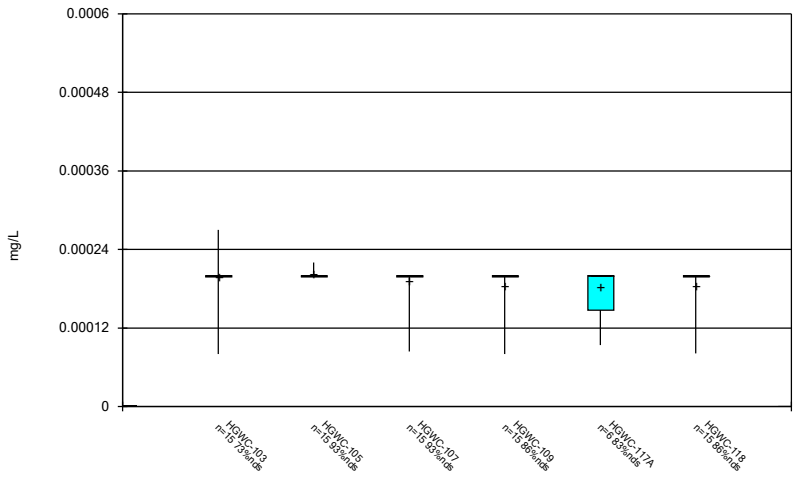
Box & Whiskers Plot



Constituent: Mercury Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

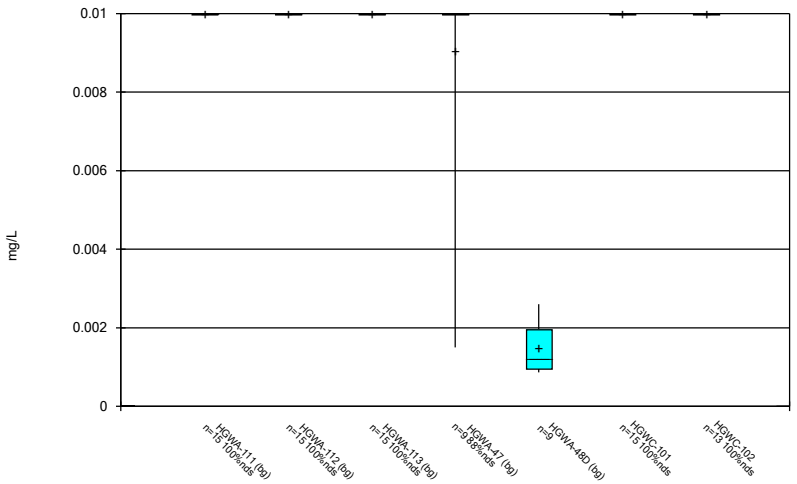
Box & Whiskers Plot



Constituent: Mercury Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

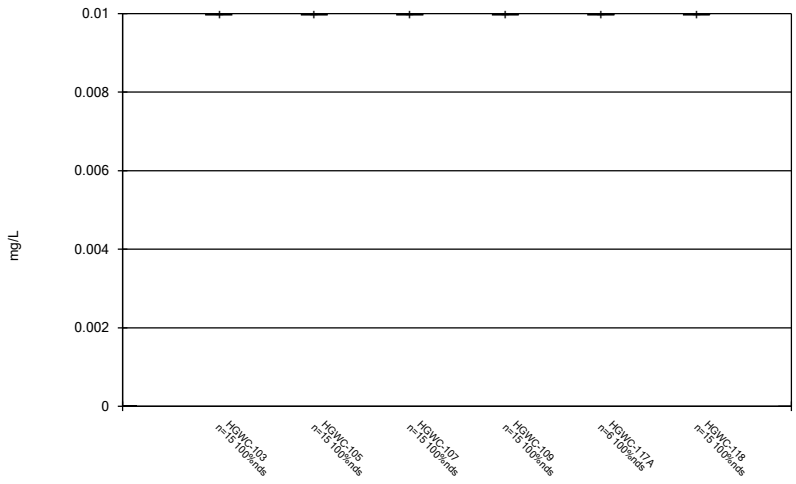
Box & Whiskers Plot



Constituent: Molybdenum Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

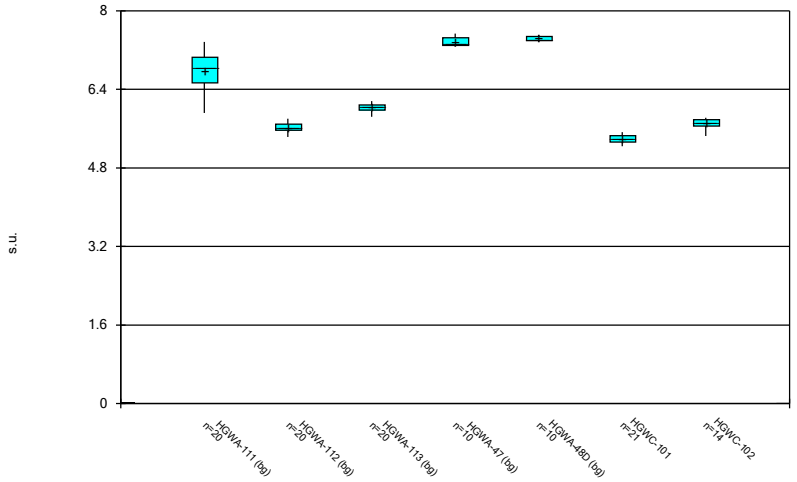
Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Molybdenum Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

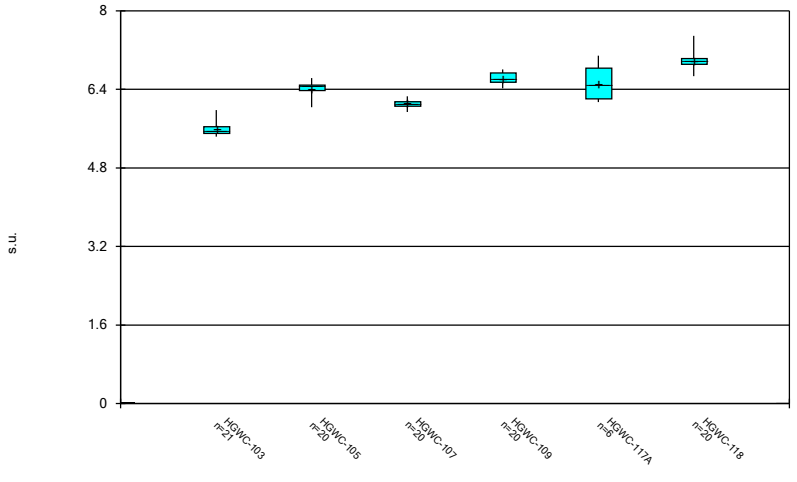
Box & Whiskers Plot



Constituent: pH Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

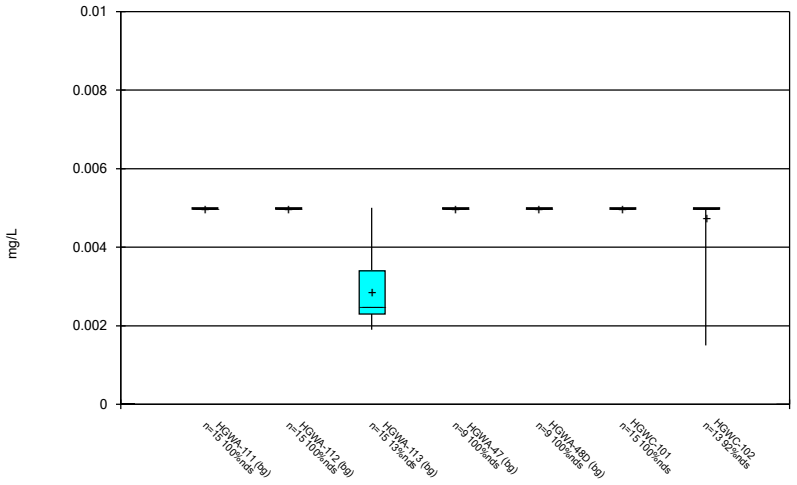
Box & Whiskers Plot



Constituent: pH Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

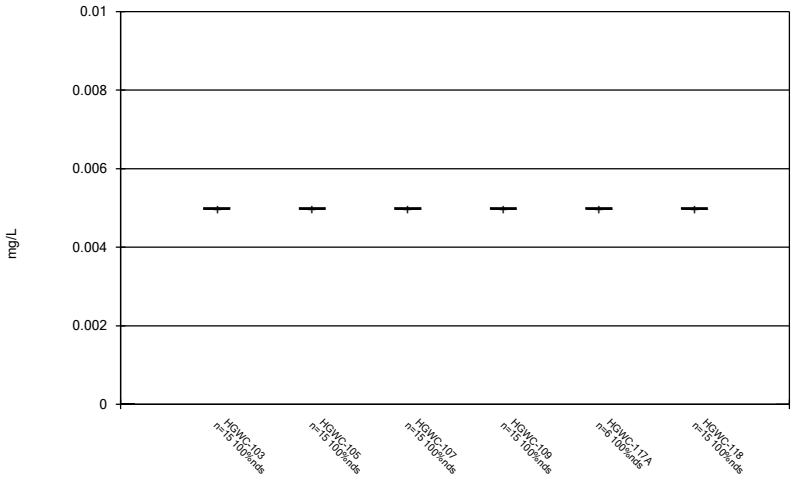
Box & Whiskers Plot



Constituent: Selenium Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

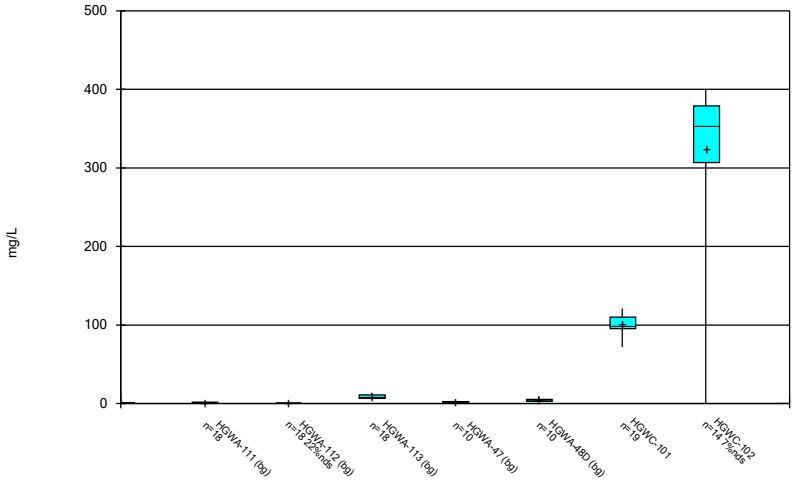
Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Selenium Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Box & Whiskers Plot

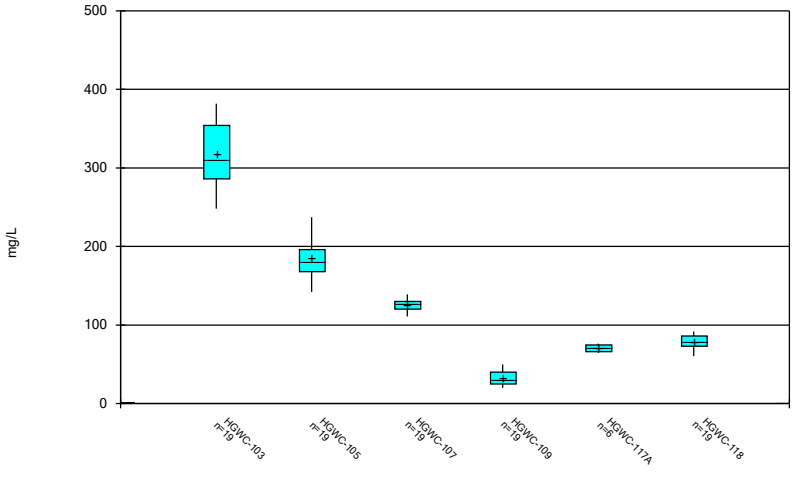


Constituent: Sulfate Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot

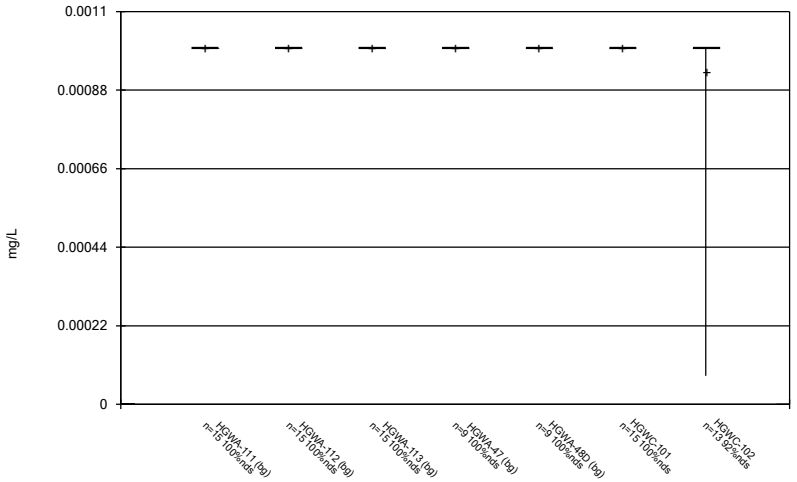


Constituent: Sulfate Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot

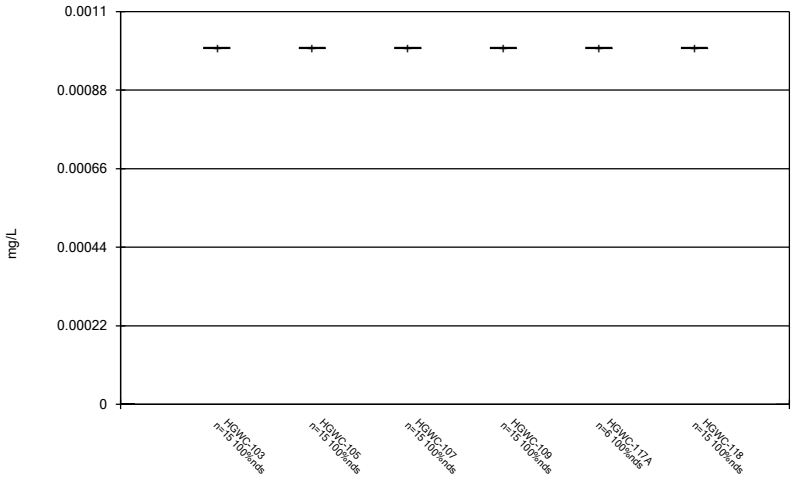


Constituent: Thallium Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

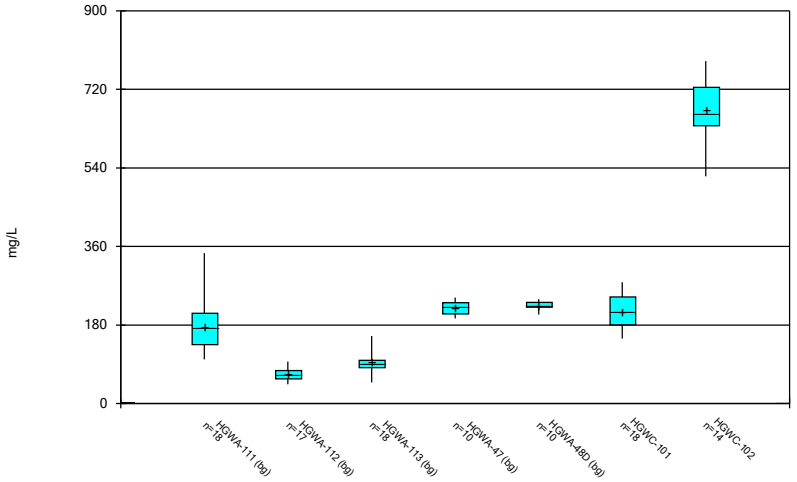
Box & Whiskers Plot



Constituent: Thallium Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots

Plant Hammond Client: Southern Company Data: Hammond AP-4

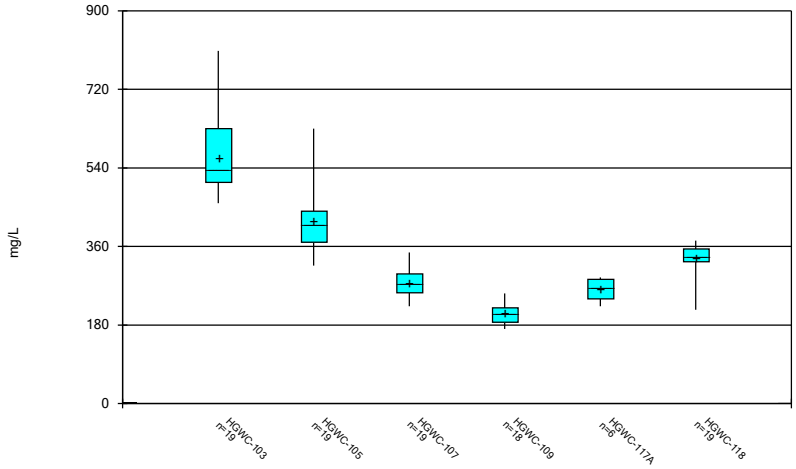
Box & Whiskers Plot



Constituent: Total Dissolved Solids Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Total Dissolved Solids Analysis Run 10/26/2023 11:24 AM View: Time Series & Box Plots
Plant Hammond Client: Southern Company Data: Hammond AP-4

FIGURE C.

Outlier Summary

Plant Hammond Client: Southern Company Data: Hammond AP-4 Printed 10/19/2023, 2:06 PM

	HGWA-112 Total Dissolved Solids (mg/L)
1/25/2017	152 (o)

FIGURE D.

Appendix III Interwell Prediction Limits - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-4 Printed 10/19/2023, 2:09 PM

Constituent	Well	Upper Lim	Lower Lim	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	HGWC-101	0.04	n/a	8/11/2023	0.16	Yes	74	n/a	n/a	32.43	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-102	0.04	n/a	8/11/2023	3.2	Yes	74	n/a	n/a	32.43	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-103	0.04	n/a	8/11/2023	4.3	Yes	74	n/a	n/a	32.43	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-105	0.04	n/a	8/11/2023	1.4	Yes	74	n/a	n/a	32.43	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-107	0.04	n/a	8/11/2023	0.81	Yes	74	n/a	n/a	32.43	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-109	0.04	n/a	8/11/2023	0.23	Yes	74	n/a	n/a	32.43	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-117A	0.04	n/a	8/11/2023	0.31	Yes	74	n/a	n/a	32.43	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-118	0.04	n/a	8/11/2023	0.66	Yes	74	n/a	n/a	32.43	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-102	73.8	n/a	8/11/2023	134	Yes	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-103	73.8	n/a	8/11/2023	139	Yes	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-105	73.8	n/a	8/11/2023	129	Yes	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-118	73.8	n/a	8/11/2023	85.5	Yes	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-102	5.7	n/a	8/11/2023	6.7	Yes	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-103	5.7	n/a	8/11/2023	7.9	Yes	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-101	14	n/a	8/11/2023	102	Yes	74	n/a	n/a	5.405	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-102	14	n/a	8/11/2023	370	Yes	74	n/a	n/a	5.405	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-103	14	n/a	8/11/2023	382	Yes	74	n/a	n/a	5.405	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-105	14	n/a	8/11/2023	237	Yes	74	n/a	n/a	5.405	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-107	14	n/a	8/11/2023	113	Yes	74	n/a	n/a	5.405	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-109	14	n/a	8/11/2023	19.8	Yes	74	n/a	n/a	5.405	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-117A	14	n/a	8/11/2023	67.7	Yes	74	n/a	n/a	5.405	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-118	14	n/a	8/11/2023	64.9	Yes	74	n/a	n/a	5.405	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-102	345	n/a	8/11/2023	785	Yes	73	n/a	n/a	0	n/a	n/a	0.0003595	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-103	345	n/a	8/11/2023	808	Yes	73	n/a	n/a	0	n/a	n/a	0.0003595	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-105	345	n/a	8/11/2023	630	Yes	73	n/a	n/a	0	n/a	n/a	0.0003595	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-118	345	n/a	8/11/2023	346	Yes	73	n/a	n/a	0	n/a	n/a	0.0003595	NP Inter (normality) 1 of 2

Appendix III Interwell Prediction Limits - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-4 Printed 10/19/2023, 2:09 PM

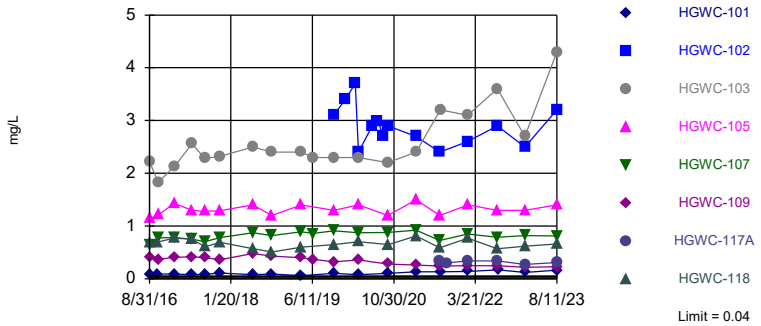
Constituent	Well	Upper Lim	Lower Lim	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	**HGWC-101**	**0.04**	**n/a**	**8/11/2023**	**0.16**	**Yes**	**74**	**n/a**	**n/a**	**32.43**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**HGWC-102**	**0.04**	**n/a**	**8/11/2023**	**3.2**	**Yes**	**74**	**n/a**	**n/a**	**32.43**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**HGWC-103**	**0.04**	**n/a**	**8/11/2023**	**4.3**	**Yes**	**74**	**n/a**	**n/a**	**32.43**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**HGWC-105**	**0.04**	**n/a**	**8/11/2023**	**1.4**	**Yes**	**74**	**n/a**	**n/a**	**32.43**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**HGWC-107**	**0.04**	**n/a**	**8/11/2023**	**0.81**	**Yes**	**74**	**n/a**	**n/a**	**32.43**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**HGWC-109**	**0.04**	**n/a**	**8/11/2023**	**0.23**	**Yes**	**74**	**n/a**	**n/a**	**32.43**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**HGWC-117A**	**0.04**	**n/a**	**8/11/2023**	**0.31**	**Yes**	**74**	**n/a**	**n/a**	**32.43**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**HGWC-118**	**0.04**	**n/a**	**8/11/2023**	**0.66**	**Yes**	**74**	**n/a**	**n/a**	**32.43**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	HGWC-101	73.8	n/a	8/11/2023	24.1	No	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Calcium (mg/L)	**HGWC-102**	**73.8**	**n/a**	**8/11/2023**	**134**	**Yes**	**74**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**HGWC-103**	**73.8**	**n/a**	**8/11/2023**	**139**	**Yes**	**74**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**HGWC-105**	**73.8**	**n/a**	**8/11/2023**	**129**	**Yes**	**74**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	HGWC-107	73.8	n/a	8/11/2023	56	No	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-109	73.8	n/a	8/11/2023	44.8	No	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-117A	73.8	n/a	8/11/2023	61.1	No	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Calcium (mg/L)	**HGWC-118**	**73.8**	**n/a**	**8/11/2023**	**85.5**	**Yes**	**74**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	HGWC-101	5.7	n/a	8/11/2023	4.9	No	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Chloride (mg/L)	**HGWC-102**	**5.7**	**n/a**	**8/11/2023**	**6.7**	**Yes**	**74**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**HGWC-103**	**5.7**	**n/a**	**8/11/2023**	**7.9**	**Yes**	**74**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	HGWC-105	5.7	n/a	8/11/2023	5.6	No	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-107	5.7	n/a	8/11/2023	2.7	No	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-109	5.7	n/a	8/11/2023	3.5	No	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-117A	5.7	n/a	8/11/2023	4.6	No	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-118	5.7	n/a	8/11/2023	3.8	No	74	n/a	n/a	0	n/a	n/a	0.0003507	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-101	0.2	n/a	8/11/2023	0.1ND	No	80	n/a	n/a	21.25	n/a	n/a	0.0002979	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-102	0.2	n/a	8/11/2023	0.1ND	No	80	n/a	n/a	21.25	n/a	n/a	0.0002979	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-103	0.2	n/a	8/11/2023	0.1ND	No	80	n/a	n/a	21.25	n/a	n/a	0.0002979	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-105	0.2	n/a	8/11/2023	0.1ND	No	80	n/a	n/a	21.25	n/a	n/a	0.0002979	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-107	0.2	n/a	8/11/2023	0.1ND	No	80	n/a	n/a	21.25	n/a	n/a	0.0002979	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-109	0.2	n/a	8/11/2023	0.086J	No	80	n/a	n/a	21.25	n/a	n/a	0.0002979	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-117A	0.2	n/a	8/11/2023	0.057J	No	80	n/a	n/a	21.25	n/a	n/a	0.0002979	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-118	0.2	n/a	8/11/2023	0.07J	No	80	n/a	n/a	21.25	n/a	n/a	0.0002979	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-101	7.54	5.43	8/11/2023	5.44	No	80	n/a	n/a	0	n/a	n/a	0.0005958	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-102	7.54	5.43	8/11/2023	5.79	No	80	n/a	n/a	0	n/a	n/a	0.0005958	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-103	7.54	5.43	8/11/2023	5.8	No	80	n/a	n/a	0	n/a	n/a	0.0005958	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-105	7.54	5.43	8/11/2023	6.47	No	80	n/a	n/a	0	n/a	n/a	0.0005958	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-107	7.54	5.43	8/11/2023	6.16	No	80	n/a	n/a	0	n/a	n/a	0.0005958	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-109	7.54	5.43	8/11/2023	6.8	No	80	n/a	n/a	0	n/a	n/a	0.0005958	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-117A	7.54	5.43	8/11/2023	7.09	No	80	n/a	n/a	0	n/a	n/a	0.0005958	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-118	7.54	5.43	8/11/2023	7.49	No	80	n/a	n/a	0	n/a	n/a	0.0005958	NP Inter (normality) 1 of 2
Sulfate (mg/L)	**HGWC-101**	**14**	**n/a**	**8/11/2023**	**102**	**Yes**	**74**	**n/a**	**n/a**	**5.405**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-102**	**14**	**n/a**	**8/11/2023**	**370**	**Yes**	**74**	**n/a**	**n/a**	**5.405**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-103**	**14**	**n/a**	**8/11/2023**	**382**	**Yes**	**74**	**n/a**	**n/a**	**5.405**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-105**	**14**	**n/a**	**8/11/2023**	**237**	**Yes**	**74**	**n/a**	**n/a**	**5.405**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-107**	**14**	**n/a**	**8/11/2023**	**113**	**Yes**	**74**	**n/a**	**n/a**	**5.405**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-109**	**14**	**n/a**	**8/11/2023**	**19.8**	**Yes**	**74**	**n/a**	**n/a**	**5.405**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-117A**	**14**	**n/a**	**8/11/2023**	**67.7**	**Yes**	**74**	**n/a**	**n/a**	**5.405**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-118**	**14**	**n/a**	**8/11/2023**	**64.9**	**Yes**	**74**	**n/a**	**n/a**	**5.405**	**n/a**	**n/a**	**0.0003507**	**NP Inter (normality) 1 of 2**
Total Dissolved Solids (mg/L)	HGWC-101	345	n/a	8/11/2023	250	No	73	n/a	n/a	0	n/a	n/a	0.0003595	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	**HGWC-102**	**345**	**n/a**	**8/11/2023**	**785**	**Yes**	**73**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0003595**	**NP Inter (normality) 1 of 2**
Total Dissolved Solids (mg/L)	**HGWC-103**	**345**	**n/a**	**8/11/2023**	**808**	**Yes**	**73**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0003595**	**NP Inter (normality) 1 of 2**
Total Dissolved Solids (mg/L)	**HGWC-105**	**345**	**n/a**	**8/11/2023**	**630**	**Yes**	**73**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0003595**	**NP Inter (normality) 1 of 2**
Total Dissolved Solids (mg/L)	HGWC-107	345	n/a	8/11/2023	296	No	73	n/a	n/a	0	n/a	n/a	0.0003595	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-109	345	n/a	8/11/2023	205	No	73	n/a	n/a	0	n/a	n/a	0.0003595	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-117A	345	n/a	8/11/2023	280	No	73	n/a	n/a	0	n/a	n/a	0.0003595	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	**HGWC-118**	**345**	**n/a**	**8/11/2023**	**346**	**Yes**	**73**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0003595**	**NP Inter (normality) 1 of 2**

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Exceeds Limit: HGWC-101, HGWC-102, HGWC-103, HGWC-105, HGWC-107, HGWC-109, HGWC-117A, HGWC-118

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 after cube root transformation. Limit is highest of 74 background values. 32.43% NDs. Annual per-constituent alpha = 0.005596. Individual comparison alpha = 0.0003507 (1 of 2). Comparing 8 points to limit.

Constituent: Boron Analysis Run 10/19/2023 2:08 PM View: Interwell PL

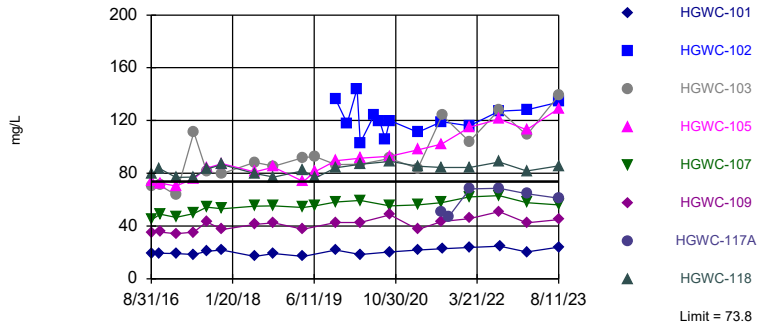
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Exceeds Limit: HGWC-102, HGWC-103, HGWC-105, HGWC-118

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 after cube root transformation. Limit is highest of 74 background values. Annual per-constituent alpha = 0.005596. Individual comparison alpha = 0.0003507 (1 of 2). Comparing 8 points to limit.

Constituent: Calcium Analysis Run 10/19/2023 2:08 PM View: Interwell PL

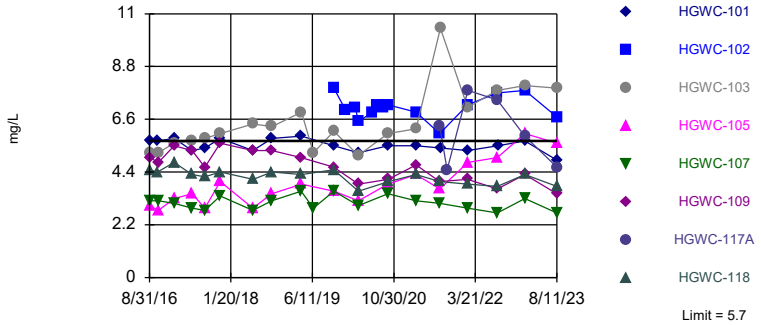
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Exceeds Limit: HGWC-102, HGWC-103

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 after cube root transformation. Limit is highest of 74 background values. Annual per-constituent alpha = 0.005596. Individual comparison alpha = 0.0003507 (1 of 2). Comparing 8 points to limit.

Constituent: Chloride Analysis Run 10/19/2023 2:08 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

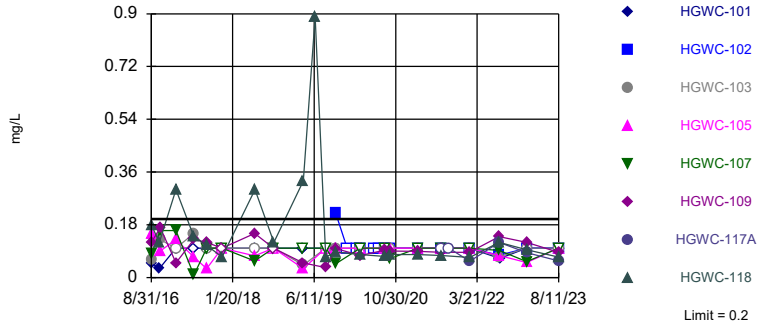
Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level after cube root transformation. Limit is highest of 80 background values. 21.25% NDs. Annual per-constituent alpha = 0.004756. Individual comparison alpha = 0.0002979 (1 of 2). Comparing 8 points to limit.

Constituent: Fluoride Analysis Run 10/19/2023 2:08 PM View: Interwell PL

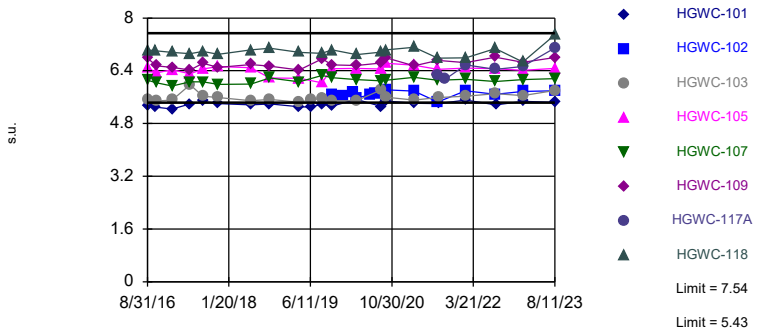
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Within Limits

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 after cube root transformation. Limits are highest and lowest of 80 background values. Annual per-constituent alpha = 0.009511. Individual comparison alpha = 0.0005958 (1 of 2). Comparing 8 points to limit.

Constituent: pH Analysis Run 10/19/2023 2:08 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

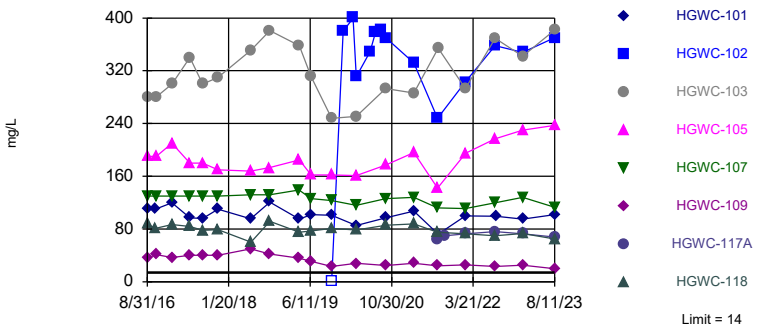
Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Exceeds Limit: HGWC-101, HGWC-102, HGWC-103, HGWC-105, HGWC-107, HGWC-109, HGWC-117A, HGWC-118

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 after cube root transformation. Limit is highest of 74 background values. 5.405% NDs. Annual per-constituent alpha = 0.005596. Individual comparison alpha = 0.0003507 (1 of 2). Comparing 8 points to limit.

Constituent: Sulfate Analysis Run 10/19/2023 2:08 PM View: Interwell PL

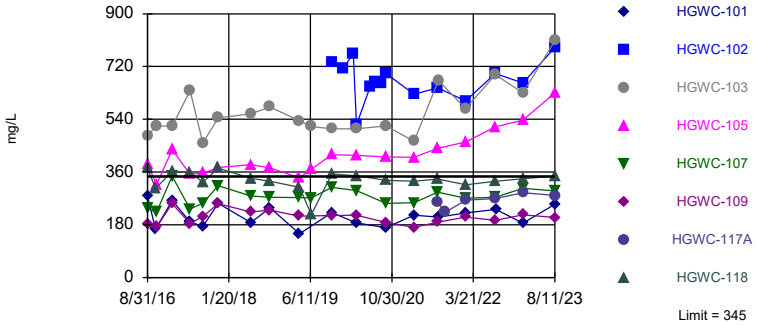
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Exceeds Limit: HGWC-102, HGWC-103, HGWC-105, HGWC-118

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 after cube root transformation. Limit is highest of 73 background values. Annual per-constituent alpha = 0.005736. Individual comparison alpha = 0.0003595 (1 of 2). Comparing 8 points to limit.

Constituent: Total Dissolved Solids Analysis Run 10/19/2023 2:08 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-113 (bg)	HGWA-112 (bg)	HGWC-107	HGWC-105	HGWC-103	HGWC-101	HGWC-118	HGWC-109
8/30/2016	<0.04	<0.04	<0.04						
8/31/2016				0.651	1.14	2.22	0.0724 (J)	0.681	0.402
10/20/2016	0.016 (J)						0.0877 (J)	0.697	
10/24/2016		0.0226 (J)	0.0367 (J)			1.83			
10/25/2016				0.778	1.21				0.372
1/25/2017	0.0095 (J)	0.009 (J)	0.0075 (J)						
1/31/2017				0.782	1.43	2.12	0.0928	0.768	0.404
5/23/2017		0.0082 (J)	0.0073 (J)			2.56	0.0795	0.754	
5/24/2017	0.0094 (J)			0.753	1.3				0.415
8/10/2017	<0.04	0.0061 (J)	<0.04	0.702	1.28	2.28	0.0814	0.608	0.397
11/13/2017	0.0103 (J)		0.0089 (J)						
11/14/2017		0.012 (J)		0.78	1.29	2.32	0.108	0.691	0.366
6/4/2018	0.0065 (J)		0.007 (J)						
6/5/2018		0.0085 (J)							
6/6/2018				0.87	1.4	2.5	0.081		0.48
6/7/2018								0.57	
10/1/2018	0.0054 (J)	0.0042 (J)	<0.04						
10/2/2018				0.82	1.2				0.43
10/3/2018						2.4	0.092	0.51	
4/1/2019	0.0076 (J)								
4/2/2019		0.0059 (J)	0.0043 (J)						
4/3/2019				0.89					0.4
4/4/2019					1.4 (X)	2.4	0.06 (X)		
4/5/2019								0.6 (X)	
6/17/2019				0.86		2.3			0.37
10/21/2019	0.0097 (J)								
10/22/2019		0.01 (J)	0.016 (J)	0.91				0.65	0.32
10/23/2019					1.3	2.3	0.1		
1/3/2020									
3/4/2020									
3/24/2020	0.011 (J)		0.012 (J)						
3/25/2020				0.87	1.4	2.3	0.08 (J)	0.7	0.36
4/9/2020		0.012 (J)							
6/18/2020									
7/21/2020									
8/27/2020									
9/18/2020	0.011 (J)		0.008 (J)						
9/22/2020		0.021 (J)							
9/24/2020				0.88	1.2	2.2	0.1		
9/25/2020									0.28
9/28/2020								0.65	
11/10/2020									
11/11/2020									
12/15/2020									
1/19/2021									
3/11/2021	0.01 (J)								
3/12/2021			0.0061 (J)						
3/16/2021		0.011 (J)							
3/17/2021							0.13		0.26
3/18/2021				0.92	1.5	2.4		0.81	
8/12/2021	<0.04	<0.04	<0.04						
8/13/2021				0.73	1.2			0.59	0.24

ND substitution: RL or RL/2 if <15% NDs.

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-113 (bg)	HGWA-112 (bg)	HGWC-107	HGWC-105	HGWC-103	HGWC-101	HGWC-118	HGWC-109
8/16/2021						3.2	0.13		
9/27/2021									
1/31/2022	0.0099 (J)								
2/1/2022		0.012 (J)	0.011 (J)						
2/2/2022				0.85		3.1	0.14		0.25
2/3/2022					1.4			0.77	
8/2/2022		<0.04							
8/5/2022	<0.04		0.012 (J)	0.79	1.3	3.6		0.57	0.25
8/10/2022							0.17		
1/24/2023	<0.04	<0.04	<0.04						
1/25/2023				0.82	1.3	2.7	0.12	0.62	0.22
8/8/2023	<0.04		<0.04						
8/10/2023		0.0091 (J)							
8/11/2023				0.81	1.4	4.3	0.16	0.66	0.23

ND substitution: RL or RL/2 if <15% NDs.

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-102	HGWA-48D (bg)	HGWA-47 (bg)	HGWC-117A
8/30/2016				
8/31/2016				
10/20/2016				
10/24/2016				
10/25/2016				
1/25/2017				
1/31/2017				
5/23/2017				
5/24/2017				
8/10/2017				
11/13/2017				
11/14/2017				
6/4/2018				
6/5/2018				
6/6/2018				
6/7/2018				
10/1/2018				
10/2/2018				
10/3/2018				
4/1/2019				
4/2/2019				
4/3/2019				
4/4/2019				
4/5/2019				
6/17/2019				
10/21/2019				
10/22/2019				
10/23/2019	3.1			
1/3/2020	3.4			
3/4/2020	3.7			
3/24/2020	2.4			
3/25/2020				
4/9/2020				
6/18/2020	2.9			
7/21/2020	3			
8/27/2020	2.7			
9/18/2020		0.015 (J)	0.0082 (J)	
9/22/2020				
9/24/2020	2.9			
9/25/2020				
9/28/2020				
11/10/2020			0.0064 (J)	
11/11/2020		0.014 (J)		
12/15/2020		0.0083 (J)	<0.04	
1/19/2021		0.015 (J)	0.015 (J)	
3/11/2021				
3/12/2021		0.012 (J)	0.0067 (J)	
3/16/2021				
3/17/2021	2.7			
3/18/2021				
8/12/2021		0.012 (J)	<0.04	0.34
8/13/2021	2.4			

ND substitution: RL or RL/2 if <15% NDs.

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-102	HGWA-48D (bg)	HGWA-47 (bg)	HGWC-117A
8/16/2021				
9/27/2021				0.3
1/31/2022		0.011 (J)	<0.04	
2/1/2022				
2/2/2022	2.6			
2/3/2022				0.34
8/2/2022			<0.04	
8/5/2022	2.9	0.011 (J)		0.34
8/10/2022				
1/24/2023		<0.04	<0.04	
1/25/2023	2.5			0.27
8/8/2023		<0.04	<0.04	
8/10/2023				
8/11/2023	3.2			0.31

ND substitution: RL or RL/2 if <15% NDs.

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-113 (bg)	HGWA-112 (bg)	HGWC-107	HGWC-105	HGWC-103	HGWC-101	HGWC-118	HGWC-109
8/30/2016	40.3	6.72	6.69						
8/31/2016				44.7	74.2	70.4	19.4	79.3	35.1
10/20/2016	38.7						19.3	83.7	
10/24/2016		6.4	6.25			70.9			
10/25/2016				49	72.5				35.4
1/25/2017	44.6	6.87	6.58						
1/31/2017				46.6	70.3	63.6	19.1	76.8	34.2
5/23/2017		7.13	6.4			111	18.3	77.2	
5/24/2017	34.8			49.5	75.9				35.3
8/10/2017	48.6	6.71	6.54	54.2	84	81.2	20.9	83.1	43.1
11/13/2017	17.1		6.26						
11/14/2017		7.4		53.2	87.2	79.7	21.7	86.7	37.4
6/4/2018	30.1		7.4						
6/5/2018		7.4							
6/6/2018				55	81	88.3	17		41.1
6/7/2018								79.7	
10/1/2018	14.2 (J)	6.2	5.8						
10/2/2018				55.4	84.7				42.5
10/3/2018						85.3	19.1 (J)	77.1	
4/1/2019	58.4								
4/2/2019		7.4	6.7						
4/3/2019				54					37.5
4/4/2019					73.8	91.9	16.9		
4/5/2019								82	
6/17/2019				55.3	81.2	92.6			
6/18/2019								76.5	
10/21/2019	51								
10/22/2019		7.2	6.3	58.1				84.2	42.6
10/23/2019					89.4	86.5	21.9		
1/3/2020									
3/4/2020									
3/24/2020	61.2		7						
3/25/2020				59.5	91.4	86.8	18.4	86.8	42.6
4/9/2020		8.3							
6/18/2020									
7/21/2020									
8/27/2020									
9/18/2020	32.2		6.5						
9/22/2020		7.9							
9/24/2020				55.4	92.9	91.3	20.3		
9/25/2020									48.5
9/28/2020								88.9	
11/10/2020									
11/11/2020									
12/15/2020									
1/19/2021									
3/11/2021	53.2								
3/12/2021			6.9						
3/16/2021		8.6							
3/17/2021							21.8		37.3
3/18/2021				56	97.7	83.7		85.4	
8/12/2021	45.4	8.4	6.9						

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-113 (bg)	HGWA-112 (bg)	HGWC-107	HGWC-105	HGWC-103	HGWC-101	HGWC-118	HGWC-109
8/13/2021				57.8	102			84.3	43.5
8/16/2021						124	22.8		
9/27/2021									
1/31/2022	58.6								
2/1/2022		8.6	7.4						
2/2/2022				62		104	23.8		45.7
2/3/2022					115			84.5	
8/2/2022		8							
8/5/2022	53		7.1	63	121	128		88.5	50.8
8/10/2022							24.6		
1/24/2023	55.4	7.5	6.6						
1/25/2023				57.8	113	109	20.4	81.8	42.4
8/8/2023	0.94 (J)		6.6						
8/10/2023		8.4							
8/11/2023				56	129	139	24.1	85.5	44.8

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-102	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-117A
8/30/2016				
8/31/2016				
10/20/2016				
10/24/2016				
10/25/2016				
1/25/2017				
1/31/2017				
5/23/2017				
5/24/2017				
8/10/2017				
11/13/2017				
11/14/2017				
6/4/2018				
6/5/2018				
6/6/2018				
6/7/2018				
10/1/2018				
10/2/2018				
10/3/2018				
4/1/2019				
4/2/2019				
4/3/2019				
4/4/2019				
4/5/2019				
6/17/2019				
6/18/2019				
10/21/2019				
10/22/2019				
10/23/2019	136			
1/3/2020	118			
3/4/2020	144			
3/24/2020	103			
3/25/2020				
4/9/2020				
6/18/2020	124			
7/21/2020	120			
8/27/2020	106			
9/18/2020		62.2	51.8	
9/22/2020				
9/24/2020	120			
9/25/2020				
9/28/2020				
11/10/2020		73.3		
11/11/2020			61.3	
12/15/2020		72.5	61.3	
1/19/2021		72.5	58.9	
3/11/2021				
3/12/2021		69.2	57.5	
3/16/2021				
3/17/2021	111			
3/18/2021				
8/12/2021		71.2	59.5	50.7

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-102	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-117A
8/13/2021	119			
8/16/2021				
9/27/2021				47.2
1/31/2022		73.8	63.2	
2/1/2022				
2/2/2022	116			
2/3/2022				68.2
8/2/2022		73		
8/5/2022	127		59.6	68.6
8/10/2022				
1/24/2023		69.2	57.8	
1/25/2023	128			64.5
8/8/2023		68	58.2	
8/10/2023				
8/11/2023	134			61.1

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWC-107	HGWC-118	HGWC-101	HGWC-105	HGWC-103	HGWC-109
8/30/2016	3.3	5.4	2						
8/31/2016				3.2	4.5	5.7	3	5.2	5
10/20/2016	3.2				4.4	5.7			
10/24/2016		5.2	1.9					5.2	
10/25/2016				3.2			2.8		4.8
1/25/2017	2.7	5	1.9						
1/31/2017				3.1	4.8	5.8	3.3	5.6	5.5
5/23/2017		5.1	1.6		4.3	5.3		5.7	
5/24/2017	3			2.9			3.5		5.3
8/10/2017	2.8	5.2	1.7	2.8	4.2	5.4	2.9	5.8	4.6
11/13/2017	2.5	5.5							
11/14/2017			2	3.4	4.4	5.8	4	6	5.6
6/4/2018	2.6	5.3							
6/5/2018			1.7						
6/6/2018				2.8		5.3	2.9	6.4	5.3
6/7/2018					4.1				
10/1/2018	2.2	5.6	1.6						
10/2/2018				3.2			3.5		5.3
10/3/2018					4.4	5.8		6.3	
4/1/2019	4								
4/2/2019		5.7	1.8						
4/3/2019				3.6					5
4/4/2019						5.9	3.9	6.9	
4/5/2019					4.3				
6/17/2019				2.9				5.2	
10/21/2019	3.9								
10/22/2019		5.5	1.9	3.6	4.5				4.6
10/23/2019						5.5	3.6	6.1	
1/3/2020									
3/4/2020									
3/24/2020	3.6	5.2							
3/25/2020				3	3.6	5.2	3.2	5.1	3.9
4/9/2020			1.4						
6/18/2020									
7/21/2020									
8/27/2020									
9/18/2020	2.6	5.2							
9/22/2020			1.5						
9/24/2020				3.5		5.5	3.9	6	
9/25/2020									4.1
9/28/2020					4				
11/10/2020									
11/11/2020									
12/15/2020									
1/19/2021									
3/11/2021	3.4								
3/12/2021		5.3							
3/16/2021			1.6						
3/17/2021						5.5			4.7
3/18/2021				3.2	4.3		4.3	6.2	
8/12/2021	2.5	4.4	1.5						
8/13/2021				3.1	4		3.7		4

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWC-107	HGWC-118	HGWC-101	HGWC-105	HGWC-103	HGWC-109
8/16/2021						5.4		10.4	
9/27/2021									
1/31/2022	3								
2/1/2022		5.2	1.6						
2/2/2022				2.9		5.3		7.1	4.1
2/3/2022					3.9		4.8		
8/2/2022			1.8						
8/5/2022	2.7	5		2.7	3.8		5	7.8	3.7
8/10/2022						5.5			
1/24/2023	3.6	5.6	1.8						
1/25/2023				3.3	4.3	5.7	6	8	4.3
8/8/2023	3	5.1							
8/10/2023			1.6						
8/11/2023				2.7	3.8	4.9	5.6	7.9	3.5

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-102	HGWA-48D (bg)	HGWA-47 (bg)	HGWC-117A
8/30/2016				
8/31/2016				
10/20/2016				
10/24/2016				
10/25/2016				
1/25/2017				
1/31/2017				
5/23/2017				
5/24/2017				
8/10/2017				
11/13/2017				
11/14/2017				
6/4/2018				
6/5/2018				
6/6/2018				
6/7/2018				
10/1/2018				
10/2/2018				
10/3/2018				
4/1/2019				
4/2/2019				
4/3/2019				
4/4/2019				
4/5/2019				
6/17/2019				
10/21/2019				
10/22/2019				
10/23/2019	7.9			
1/3/2020	7			
3/4/2020	7.1			
3/24/2020	6.5			
3/25/2020				
4/9/2020				
6/18/2020	6.9			
7/21/2020	7.2			
8/27/2020	7.1			
9/18/2020		2.6	2.7	
9/22/2020				
9/24/2020	7.2			
9/25/2020				
9/28/2020				
11/10/2020			2.7	
11/11/2020		2.6		
12/15/2020		2.7	2.9	
1/19/2021		2.7	2.8	
3/11/2021				
3/12/2021		2.6	2.7	
3/16/2021				
3/17/2021	6.9			
3/18/2021				
8/12/2021		2.2	2.3	6.3
8/13/2021	6			

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-102	HGWA-48D (bg)	HGWA-47 (bg)	HGWC-117A
8/16/2021				
9/27/2021				4.5
1/31/2022		2.5	2.6	
2/1/2022				
2/2/2022	7.2			
2/3/2022				7.8
8/2/2022			3	
8/5/2022	7.7	2.4		7.4
8/10/2022				
1/24/2023		2.8	3	
1/25/2023	7.8			5.9
8/8/2023		2.7	2.7	
8/10/2023				
8/11/2023	6.7			4.6

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-113 (bg)	HGWA-112 (bg)	HGWC-107	HGWC-105	HGWC-103	HGWC-118	HGWC-101	HGWC-109
8/30/2016	0.07 (J)	0.2 (J)	0.04 (J)						
8/31/2016				0.08 (J)	0.15 (J)	0.06 (J)	0.18 (J)	0.05 (J)	0.12 (J)
10/20/2016	0.07 (J)						0.12 (J)	0.03 (J)	
10/24/2016		0.16 (J)	0.05 (J)			0.13 (J)			
10/25/2016				0.16 (J)	0.09 (J)				0.17 (J)
1/25/2017	0.14 (J)	0.15 (J)	<0.1						
1/31/2017				0.16 (J)	0.13 (J)	<0.1	0.3	<0.1	0.05 (J)
5/23/2017		0.18 (J)	0.004 (J)			0.15 (J)	0.14 (J)	<0.1	
5/24/2017	0.02 (J)			0.009 (J)	0.07 (J)				0.13 (J)
8/10/2017	0.06 (J)	0.19 (J)	0.03 (J)	<0.1	0.03 (J)	<0.1	0.11 (J)	<0.1	0.12 (J)
11/13/2017	<0.1		<0.1						
11/14/2017		0.16 (J)		<0.1	<0.1	<0.1	0.07 (J)	<0.1	<0.1
6/4/2018	0.032 (J)		<0.1						
6/5/2018		0.18 (J)							
6/6/2018				0.057 (J)	0.074 (J)	<0.1		<0.1	0.15 (J)
6/7/2018							0.3		
10/1/2018	<0.1	0.078 (J)	<0.1						
10/2/2018				<0.1	<0.1				<0.1
10/3/2018						<0.1	0.12 (J)	<0.1	
4/1/2019	0.042 (J)								
4/2/2019		0.18 (J)	<0.1						
4/3/2019				<0.1					0.05 (J)
4/4/2019					0.03 (J)	0.042 (J)		<0.1	
4/5/2019							0.33		
6/18/2019							0.89		
8/21/2019	0.048 (J)	0.11 (J)	<0.1						
8/22/2019					<0.1	<0.1	0.07 (J)	<0.1	
8/23/2019				<0.1					0.034 (J)
10/21/2019	0.12 (J)								
10/22/2019		0.18 (J)	0.05 (J)	0.047 (J)			0.087 (J)		0.099 (J)
10/23/2019					<0.1	<0.1		<0.1	
1/3/2020									
3/4/2020									
3/24/2020	0.076 (J)		<0.1						
3/25/2020				<0.1	<0.1	<0.1	0.078 (J)	<0.1	0.075 (J)
4/9/2020		0.14 (J)							
6/18/2020									
7/21/2020									
8/25/2020	0.052 (J)	0.17	<0.1						
8/26/2020							0.072 (J)		
8/27/2020				<0.1	<0.1	<0.1		<0.1	0.094 (J)
9/18/2020	<0.1		<0.1						
9/22/2020		0.16							
9/24/2020				0.064 (J)	<0.1	<0.1		<0.1	
9/25/2020									0.091 (J)
9/28/2020							0.078 (J)		
11/10/2020									
11/11/2020									
12/15/2020									
1/19/2021									
3/11/2021	0.057 (J)								
3/12/2021			<0.1						

ND substitution: RL or RL/2 if <15% NDs.

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-113 (bg)	HGWA-112 (bg)	HGWC-107	HGWC-105	HGWC-103	HGWC-118	HGWC-101	HGWC-109
3/16/2021		0.18							
3/17/2021								<0.1	0.089 (J)
3/18/2021				<0.1	<0.1	<0.1	0.079 (J)		
8/12/2021	<0.1	0.16	<0.1						
8/13/2021				<0.1	<0.1		0.075 (J)		0.086 (J)
8/16/2021						<0.1		<0.1	
9/27/2021									
1/31/2022	0.055 (J)								
2/1/2022		0.16	<0.1						
2/2/2022				<0.1		<0.1		<0.1	0.086 (J)
2/3/2022					<0.1		0.069 (J)		
8/2/2022		0.19							
8/5/2022	0.1		0.077 (J)	0.093 (J)	0.075 (J)	0.071 (J)	0.12		0.14
8/10/2022								0.065 (J)	
1/24/2023	0.086 (J)	0.2	0.055 (J)						
1/25/2023				0.054 (J)	0.051 (J)	<0.1	0.095 (J)	<0.1	0.12
8/8/2023	0.076 (J)		0.05 (J)						
8/10/2023		0.19							
8/11/2023				<0.1	<0.1	<0.1	0.07 (J)	<0.1	0.086 (J)

ND substitution: RL or RL/2 if <15% NDs.

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-102	HGWA-48D (bg)	HGWA-47 (bg)	HGWC-117A
8/30/2016				
8/31/2016				
10/20/2016				
10/24/2016				
10/25/2016				
1/25/2017				
1/31/2017				
5/23/2017				
5/24/2017				
8/10/2017				
11/13/2017				
11/14/2017				
6/4/2018				
6/5/2018				
6/6/2018				
6/7/2018				
10/1/2018				
10/2/2018				
10/3/2018				
4/1/2019				
4/2/2019				
4/3/2019				
4/4/2019				
4/5/2019				
6/18/2019				
8/21/2019				
8/22/2019				
8/23/2019				
10/21/2019				
10/22/2019				
10/23/2019	0.22 (J)			
1/3/2020	<0.1			
3/4/2020	<0.1			
3/24/2020	<0.1			
3/25/2020				
4/9/2020				
6/18/2020	<0.1			
7/21/2020	<0.1			
8/25/2020				
8/26/2020				
8/27/2020	<0.1			
9/18/2020		0.098 (J)	0.067 (J)	
9/22/2020				
9/24/2020	<0.1			
9/25/2020				
9/28/2020				
11/10/2020			0.065 (J)	
11/11/2020		0.083 (J)		
12/15/2020		0.081 (J)	0.064 (J)	
1/19/2021		0.079 (J)	0.057 (J)	
3/11/2021				
3/12/2021		0.085 (J)	0.062 (J)	

ND substitution: RL or RL/2 if <15% NDs.

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-102	HGWA-48D (bg)	HGWA-47 (bg)	HGWC-117A
3/16/2021				
3/17/2021	<0.1			
3/18/2021				
8/12/2021		0.064 (J)	<0.1	<0.1
8/13/2021	<0.1			
8/16/2021				
9/27/2021				<0.1
1/31/2022		0.072 (J)	0.053 (J)	
2/1/2022				
2/2/2022	<0.1			
2/3/2022				0.056 (J)
8/2/2022			0.08 (J)	
8/5/2022	0.076 (J)	0.12		0.12
8/10/2022				
1/24/2023		0.092 (J)	0.081 (J)	
1/25/2023	<0.1			0.085 (J)
8/8/2023		0.091 (J)	0.072 (J)	
8/10/2023				
8/11/2023	<0.1			0.057 (J)

ND substitution: RL or RL/2 if <15% NDs.

Prediction Limit

Constituent: pH (s.u.) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWC-103	HGWC-107	HGWC-118	HGWC-101	HGWC-105	HGWC-109
8/30/2016	6.89	5.77	5.99						
8/31/2016				5.54	6.11	7.03	5.35	6.5	6.78
10/20/2016	6.73					7.01	5.3		
10/24/2016		5.61	5.84	5.48					
10/25/2016					6.04			6.34	6.55
1/25/2017	7.02	5.68	6.04						
1/31/2017				5.51	5.94	6.96	5.24	6.43	6.5
5/23/2017		5.7	6.01	5.98		6.92	5.39		
5/24/2017	6.44				6.06			6.31	6.42
8/10/2017	6.79	5.59	5.98	5.63	6.06	6.99	5.47	6.45	6.63
11/13/2017	5.94	5.56							
11/14/2017			6.16	5.59	5.99	6.9	5.4	6.53	6.5
6/4/2018	6.12	5.62							
6/5/2018			5.86						
6/6/2018				5.49	6		5.37	6.49	6.59
6/7/2018						7.03			
10/1/2018	5.92	5.62	5.94						
10/2/2018					6.18			6.18	6.54
10/3/2018				5.53		7.08	5.39		
4/1/2019	7.09								
4/2/2019		5.47	6						
4/3/2019					6.06				6.42
4/4/2019				5.44			5.31	6.17	
4/5/2019						6.96			
6/17/2019				5.53					
6/18/2019							5.3		
8/21/2019	6.6	5.8	6.05						
8/22/2019				5.55		6.93	5.39	6.04	
8/23/2019					6.26				6.76
10/21/2019	7.02								
10/22/2019		5.7	5.98		6.19	7.03			6.58
10/23/2019				5.49			5.33	6.46	
1/3/2020									
3/4/2020									
3/24/2020	7.37	5.64							
3/25/2020				5.49	6.13	6.89	5.53	6.47	6.56
4/9/2020			6.08						
6/18/2020									
7/21/2020									
8/25/2020	6.7	5.53	5.95						
8/26/2020						6.97			
8/27/2020				5.82	6.09		5.32	6.45	6.64
9/18/2020	6.46	5.58							
9/22/2020			6.1						
9/24/2020				5.6	6.11		5.48	6.63	
9/25/2020									6.79
9/28/2020						7.03			
11/10/2020									
11/11/2020									
12/15/2020									
1/19/2021									
3/11/2021	7.2								

Prediction Limit

Constituent: pH (s.u.) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-112 (bg)	HGWA-113 (bg)	HGWC-103	HGWC-107	HGWC-118	HGWC-101	HGWC-105	HGWC-109
3/12/2021		5.6							
3/16/2021			6.14						
3/17/2021							5.41		6.55
3/18/2021				5.51	6.2	7.11		6.57	
8/12/2021	6.67	5.5	6.08						
8/13/2021					6.11	6.78		6.44	6.71
8/16/2021				5.59			5.4		
9/27/2021									
1/31/2022	7.17								
2/1/2022		5.59	6.05						
2/2/2022				5.63	6.14		5.51		6.65
2/3/2022						6.79		6.48	
8/2/2022			6.08						
8/5/2022	6.97	5.43		5.71	6.07	7.07		6.46	6.81
8/10/2022							5.37		
1/24/2023	7.11	5.67	6.15						
1/25/2023				5.65	6.13	6.67	5.47	6.41	6.66
8/8/2023	7.01	5.77							
8/10/2023			6.07						
8/11/2023				5.8	6.16	7.49	5.44	6.47	6.8

Prediction Limit

Constituent: pH (s.u.) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-102	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-117A
8/30/2016				
8/31/2016				
10/20/2016				
10/24/2016				
10/25/2016				
1/25/2017				
1/31/2017				
5/23/2017				
5/24/2017				
8/10/2017				
11/13/2017				
11/14/2017				
6/4/2018				
6/5/2018				
6/6/2018				
6/7/2018				
10/1/2018				
10/2/2018				
10/3/2018				
4/1/2019				
4/2/2019				
4/3/2019				
4/4/2019				
4/5/2019				
6/17/2019				
6/18/2019				
8/21/2019				
8/22/2019				
8/23/2019				
10/21/2019				
10/22/2019				
10/23/2019	5.68			
1/3/2020	5.64			
3/4/2020	5.75			
3/24/2020	5.58			
3/25/2020				
4/9/2020				
6/18/2020	5.67			
7/21/2020	5.72			
8/25/2020				
8/26/2020				
8/27/2020	5.7			
9/18/2020		7.54	7.5	
9/22/2020				
9/24/2020	5.82			
9/25/2020				
9/28/2020				
11/10/2020		7.34		
11/11/2020			7.4	
12/15/2020		7.27	7.39	
1/19/2021		7.32	7.4	
3/11/2021				

Prediction Limit

Constituent: pH (s.u.) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-102	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-117A
3/12/2021		7.52	7.51	
3/16/2021				
3/17/2021	5.78			
3/18/2021				
8/12/2021		7.38	7.44	6.27
8/13/2021	5.45			
8/16/2021				
9/27/2021				6.14
1/31/2022		7.34	7.44	
2/1/2022				
2/2/2022	5.79			
2/3/2022				6.58
8/2/2022		7.34		
8/5/2022	5.69		7.4	6.44
8/10/2022				
1/24/2023		7.38	7.46	
1/25/2023	5.77			6.53
8/8/2023		7.27	7.37	
8/10/2023				
8/11/2023	5.79			7.09

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-113 (bg)	HGWA-112 (bg)	HGWC-107	HGWC-105	HGWC-103	HGWC-101	HGWC-118	HGWC-109
8/30/2016	1.6	14	0.63 (J)						
8/31/2016				130	190	280	110	88	36
10/20/2016	1.6						110	81	
10/24/2016		11	0.62 (J)			280			
10/25/2016				130	190				41
1/25/2017	1.6	12	0.62 (J)						
1/31/2017				130	210	300	120	87	37
5/23/2017		12	0.55 (J)			340	97	84	
5/24/2017	1.4			130	180				40
8/10/2017	1.6	11	0.66 (J)	130	180	300	96	78	40
11/13/2017	1.3		0.61 (J)						
11/14/2017		11		130	170	310	110	79	40
6/4/2018	1.4		0.73 (J)						
6/5/2018		9.9							
6/6/2018				132	168	351	95.5		49.7
6/7/2018								60.1	
10/1/2018	1	6.7	0.52 (J)						
10/2/2018				132	173				42.3
10/3/2018						381	121	91.5	
4/1/2019	1.7								
4/2/2019		8.7	0.78 (J)						
4/3/2019				139					36
4/4/2019					185	358	95.1		
4/5/2019								75.1	
6/17/2019				126	162	311			30.9
6/18/2019							102	77	
10/21/2019	1.8								
10/22/2019		6.8	0.6 (J)	123				80.9	23.2
10/23/2019					162	248	101		
1/3/2020									
3/4/2020									
3/24/2020	1.6		<1						
3/25/2020				116	161	251	85.5	78.4	27.9
4/9/2020		6.6							
6/18/2020									
7/21/2020									
8/27/2020									
9/18/2020	1		<1						
9/22/2020		5.3							
9/24/2020				126	177	293	97		
9/25/2020									24.7
9/28/2020								86	
11/10/2020									
11/11/2020									
12/15/2020									
1/19/2021									
3/11/2021	1.5								
3/12/2021			0.52 (J)						
3/16/2021		7.7							
3/17/2021							107		28.3
3/18/2021				128	196	286		87.8	
8/12/2021	1.3	10	<1						

ND substitution: RL or RL/2 if <15% NDs.

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-113 (bg)	HGWA-112 (bg)	HGWC-107	HGWC-105	HGWC-103	HGWC-101	HGWC-118	HGWC-109
8/13/2021				112	142			75.1	24.4
8/16/2021						354	72.1		
9/27/2021									
1/31/2022	1.5								
2/1/2022		8.9	0.5 (J)						
2/2/2022				111		293	100		25.5
2/3/2022					195			72.7	
8/2/2022		7.5							
8/5/2022	1.4		<1	120	217	369		69.8	23
8/10/2022							99.5		
1/24/2023	1.9	6.6	0.81 (J)						
1/25/2023				128	230	342	95	73	25.4
8/8/2023	1.5		0.71 (J)						
8/10/2023		5.1							
8/11/2023				113	237	382	102	64.9	19.8

ND substitution: RL or RL/2 if <15% NDs.

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-102	HGWA-48D (bg)	HGWA-47 (bg)	HGWC-117A
8/30/2016				
8/31/2016				
10/20/2016				
10/24/2016				
10/25/2016				
1/25/2017				
1/31/2017				
5/23/2017				
5/24/2017				
8/10/2017				
11/13/2017				
11/14/2017				
6/4/2018				
6/5/2018				
6/6/2018				
6/7/2018				
10/1/2018				
10/2/2018				
10/3/2018				
4/1/2019				
4/2/2019				
4/3/2019				
4/4/2019				
4/5/2019				
6/17/2019				
6/18/2019				
10/21/2019				
10/22/2019				
10/23/2019	<1			
1/3/2020	380			
3/4/2020	400			
3/24/2020	311			
3/25/2020				
4/9/2020				
6/18/2020	349			
7/21/2020	378			
8/27/2020	382			
9/18/2020		9.5	3.5	
9/22/2020				
9/24/2020	370			
9/25/2020				
9/28/2020				
11/10/2020			2.3	
11/11/2020		4.5		
12/15/2020		4.2	2.4	
1/19/2021		3.9	2.6	
3/11/2021				
3/12/2021		4.7	1.9	
3/16/2021				
3/17/2021	332			
3/18/2021				
8/12/2021		4.3	1.4	64.6

ND substitution: RL or RL/2 if <15% NDs.

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-102	HGWA-48D (bg)	HGWA-47 (bg)	HGWC-117A
8/13/2021	248			
8/16/2021				
9/27/2021				69.7
1/31/2022		5.6	1.7	
2/1/2022				
2/2/2022	303			
2/3/2022				72.9
8/2/2022			2.1	
8/5/2022	358	3.4		76.1
8/10/2022				
1/24/2023		2.9	2.2	
1/25/2023	348			72.9
8/8/2023		2.9	2	
8/10/2023				
8/11/2023	370			67.7

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-113 (bg)	HGWA-112 (bg)	HGWC-118	HGWC-103	HGWC-105	HGWC-101	HGWC-107	HGWC-109
8/30/2016	172	77	76						
8/31/2016				373	483	389	278	235	182
10/20/2016	108			305			165		
10/24/2016		111	65		517				
10/25/2016						316		223	172
1/25/2017	345	155	152 (o)						
1/31/2017				361	516	437	263	346	252
5/23/2017		74	52	359	637		190		
5/24/2017	126					352		234	184
8/10/2017	174	94	60	325	459	356	175	254	208
11/13/2017	158		75						
11/14/2017		89		373	545	375	253	313	252
6/4/2018	131		70						
6/5/2018		92							
6/6/2018					559	385	188	278	224
6/7/2018				338					
10/1/2018	101	91	76						
10/2/2018						374		274	230
10/3/2018				328	582		238		
4/1/2019	213								
4/2/2019		94	69						
4/3/2019								273	210
4/4/2019					535	340	149		
4/5/2019				308					
6/17/2019					515	370		272	
6/18/2019				215					
10/21/2019	187								
10/22/2019		95	81	354				308	212
10/23/2019					507	419	221		
1/3/2020									
3/4/2020									
3/24/2020	207		52						
3/25/2020				347	507	417	187	297	213
4/9/2020		48							
6/18/2020									
7/21/2020									
8/27/2020									
9/18/2020	139		62						
9/22/2020		84							
9/24/2020					517	411	170	253	
9/25/2020									188
9/28/2020				332					
11/10/2020									
11/11/2020									
12/15/2020									
1/19/2021									
3/11/2021	207								
3/12/2021			56						
3/16/2021		99							
3/17/2021							213		171
3/18/2021				328	465	410		255	
8/12/2021	157	92	63						

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWA-111 (bg)	HGWA-113 (bg)	HGWA-112 (bg)	HGWC-118	HGWC-103	HGWC-105	HGWC-101	HGWC-107	HGWC-109
8/13/2021				336		441		291	189
8/16/2021					672		206		
9/27/2021									
1/31/2022	186								
2/1/2022		99	73						
2/2/2022					576		220	271	206
2/3/2022				316		463			
8/2/2022		85							
8/5/2022	171		44	329	692	514		274	195
8/10/2022							232		
1/24/2023	177	146	96						
1/25/2023				337	630	537	186	304	214
8/8/2023	207		57						
8/10/2023		80							
8/11/2023				346	808	630	250	296	205

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-102	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-117A
8/30/2016				
8/31/2016				
10/20/2016				
10/24/2016				
10/25/2016				
1/25/2017				
1/31/2017				
5/23/2017				
5/24/2017				
8/10/2017				
11/13/2017				
11/14/2017				
6/4/2018				
6/5/2018				
6/6/2018				
6/7/2018				
10/1/2018				
10/2/2018				
10/3/2018				
4/1/2019				
4/2/2019				
4/3/2019				
4/4/2019				
4/5/2019				
6/17/2019				
6/18/2019				
10/21/2019				
10/22/2019				
10/23/2019	736			
1/3/2020	714			
3/4/2020	764			
3/24/2020	521			
3/25/2020				
4/9/2020				
6/18/2020	652			
7/21/2020	669			
8/27/2020	663			
9/18/2020		195	224	
9/22/2020				
9/24/2020	696			
9/25/2020				
9/28/2020				
11/10/2020		229		
11/11/2020			221	
12/15/2020		233	239	
1/19/2021		199	224	
3/11/2021				
3/12/2021		217	204	
3/16/2021				
3/17/2021	626			
3/18/2021				
8/12/2021		212	234	256

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/19/2023 2:09 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-102	HGWA-47 (bg)	HGWA-48D (bg)	HGWC-117A
8/13/2021	647			
8/16/2021				
9/27/2021				223
1/31/2022		243	223	
2/1/2022				
2/2/2022	602			
2/3/2022				264
8/2/2022		222		
8/5/2022	696		224	270
8/10/2022				
1/24/2023		223	230	
1/25/2023	664			289
8/8/2023		214	220	
8/10/2023				
8/11/2023	785			280

FIGURE E.

Appendix III Trend Tests - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-4 Printed 10/19/2023, 2:16 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	**HGWC-101**	**0.009779**	**87**	**68**	**Yes**	**18**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	**HGWC-103**	**0.1375**	**85**	**74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	**HGWC-109**	**-0.03064**	**-118**	**-74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**HGWA-113 (bg)**	**0.2844**	**92**	**68**	**Yes**	**18**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**HGWC-103**	**6.488**	**103**	**74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**HGWC-105**	**6.968**	**137**	**74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	**HGWC-103**	**0.3971**	**99**	**74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**HGWA-113 (bg)**	**-0.9433**	**-96**	**-68**	**Yes**	**18**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**HGWC-107**	**-1.814**	**-77**	**-74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**HGWC-109**	**-2.891**	**-101**	**-74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Total Dissolved Solids (mg/L)	**HGWC-105**	**24.62**	**101**	**74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**

Appendix III Trend Tests - All Results

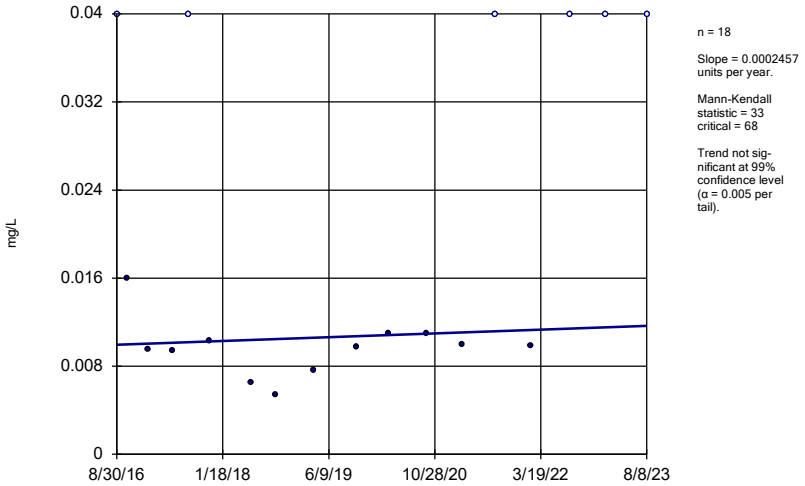
Plant Hammond Client: Southern Company Data: Hammond AP-4 Printed 10/19/2023, 2:16 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	HGWA-111 (bg)	0.0002457	33	68	No	18	33.33	n/a	n/a	0.01	NP
Boron (mg/L)	HGWA-112 (bg)	0	11	68	No	18	33.33	n/a	n/a	0.01	NP
Boron (mg/L)	HGWA-113 (bg)	0.0007341	30	68	No	18	22.22	n/a	n/a	0.01	NP
Boron (mg/L)	HGWA-47 (bg)	0.01101	20	30	No	10	60	n/a	n/a	0.01	NP
Boron (mg/L)	HGWA-48D (bg)	0	3	30	No	10	20	n/a	n/a	0.01	NP
Boron (mg/L)	**HGWC-101**	**0.009779**	**87**	**68**	**Yes**	**18**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	HGWC-102	-0.1535	-26	-48	No	14	0	n/a	n/a	0.01	NP
Boron (mg/L)	**HGWC-103**	**0.1375**	**85**	**74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	HGWC-105	0.00908	30	68	No	18	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWC-107	0.01658	51	74	No	19	0	n/a	n/a	0.01	NP
Boron (mg/L)	**HGWC-109**	**-0.03064**	**-118**	**-74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	HGWC-117A	-0.01502	-4	-14	No	6	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWC-118	-0.005615	-15	-68	No	18	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-111 (bg)	1.8	29	68	No	18	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-112 (bg)	0.06404	44	68	No	18	0	n/a	n/a	0.01	NP
Calcium (mg/L)	**HGWA-113 (bg)**	**0.2844**	**92**	**68**	**Yes**	**18**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	HGWA-47 (bg)	-0.4983	-5	-30	No	10	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-48D (bg)	0	0	30	No	10	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWC-102	2.11	8	48	No	14	0	n/a	n/a	0.01	NP
Calcium (mg/L)	**HGWC-103**	**6.488**	**103**	**74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**HGWC-105**	**6.968**	**137**	**74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	HGWC-118	0.8924	63	74	No	19	0	n/a	n/a	0.01	NP
Chloride (mg/L)	HGWA-111 (bg)	0	-2	-68	No	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	HGWA-112 (bg)	0	-10	-68	No	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	HGWA-113 (bg)	-0.03375	-48	-68	No	18	0	n/a	n/a	0.01	NP
Chloride (mg/L)	HGWA-47 (bg)	0	4	30	No	10	0	n/a	n/a	0.01	NP
Chloride (mg/L)	HGWA-48D (bg)	0	1	30	No	10	0	n/a	n/a	0.01	NP
Chloride (mg/L)	HGWC-102	0	4	48	No	14	0	n/a	n/a	0.01	NP
Chloride (mg/L)	**HGWC-103**	**0.3971**	**99**	**74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	HGWA-111 (bg)	0	-9	-68	No	18	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-112 (bg)	0.02747	27	68	No	18	22.22	n/a	n/a	0.01	NP
Sulfate (mg/L)	**HGWA-113 (bg)**	**-0.9433**	**-96**	**-68**	**Yes**	**18**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	HGWA-47 (bg)	-0.2246	-17	-30	No	10	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-48D (bg)	-0.7264	-24	-30	No	10	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-101	-1.808	-50	-74	No	19	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-102	-3.65	-8	-48	No	14	7.143	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-103	7.11	46	74	No	19	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-105	2.019	14	74	No	19	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	**HGWC-107**	**-1.814**	**-77**	**-74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**HGWC-109**	**-2.891**	**-101**	**-74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	HGWC-117A	2.408	4	14	No	6	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-118	-2.105	-72	-74	No	19	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-111 (bg)	5.263	28	68	No	18	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-112 (bg)	-0.799	-12	-63	No	17	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-113 (bg)	0.3489	4	68	No	18	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-47 (bg)	3.593	7	30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-48D (bg)	-0.365	-4	-30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWC-102	-13.69	-8	-48	No	14	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWC-103	19.95	53	74	No	19	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	**HGWC-105**	**24.62**	**101**	**74**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Total Dissolved Solids (mg/L)	HGWC-118	-2.595	-25	-74	No	19	0	n/a	n/a	0.01	NP

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

HGWA-111 (bg)



n = 18

Slope = 0.0002457 units per year.

Mann-Kendall statistic = 33
critical = 68

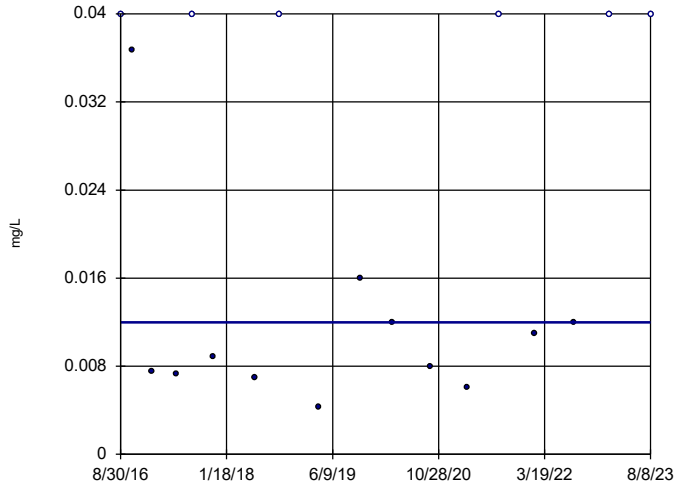
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/19/2023 2:13 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

HGWA-112 (bg)



n = 18

Slope = 0 units per year.

Mann-Kendall statistic = 11
critical = 68

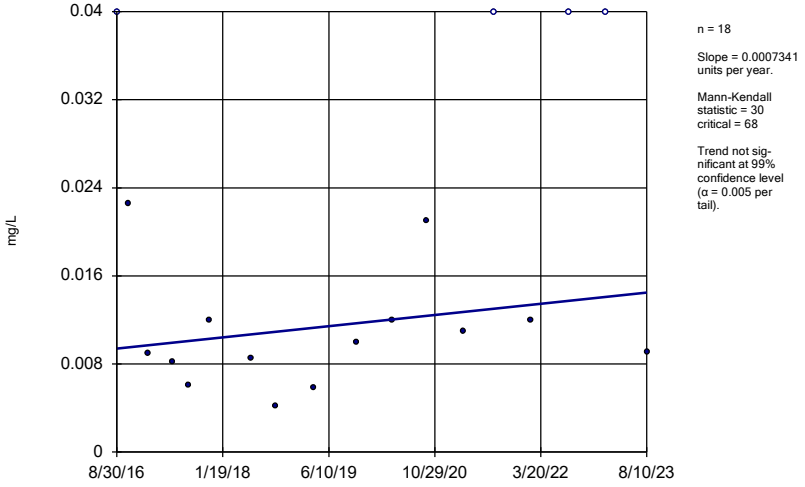
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/19/2023 2:13 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

HGWA-113 (bg)



n = 18

Slope = 0.0007341 units per year.

Mann-Kendall statistic = 30
critical = 68

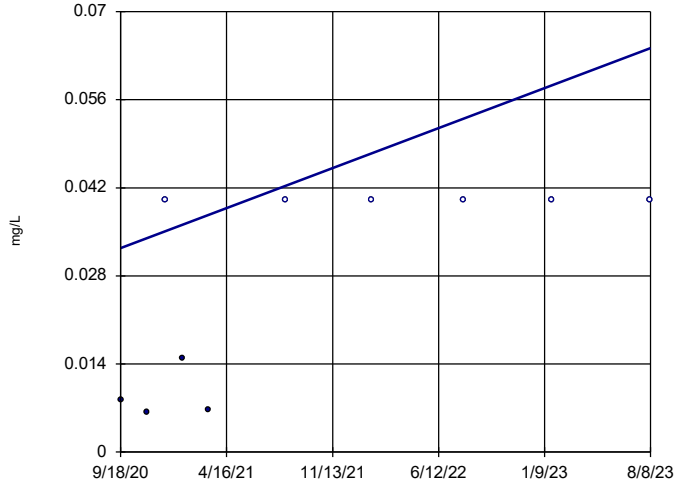
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/19/2023 2:13 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

HGWA-47 (bg)



n = 10

Slope = 0.01101 units per year.

Mann-Kendall statistic = 20
critical = 30

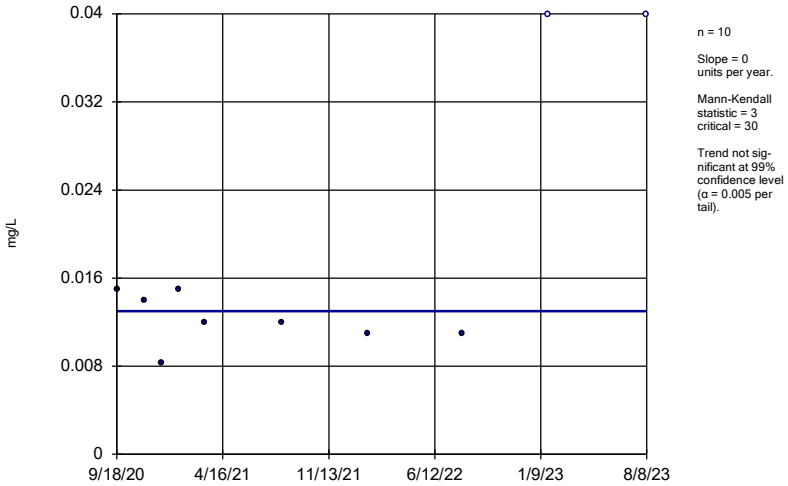
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/19/2023 2:13 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

HGWA-48D (bg)



n = 10

Slope = 0 units per year.

Mann-Kendall statistic = 3
critical = 30

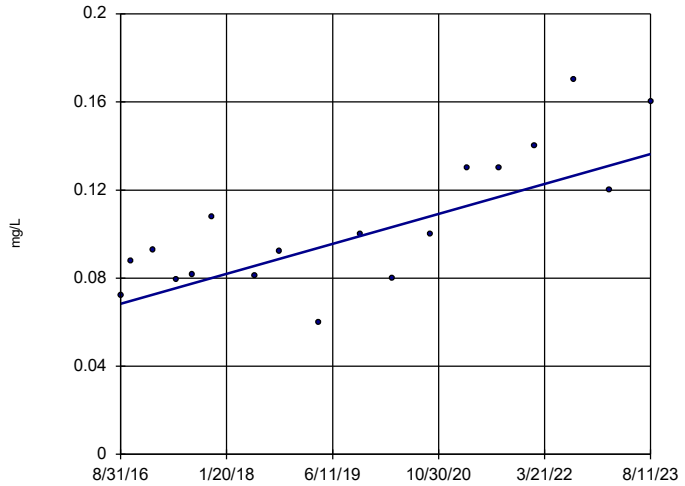
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/19/2023 2:13 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-101



n = 18

Slope = 0.009779 units per year.

Mann-Kendall statistic = 87
critical = 68

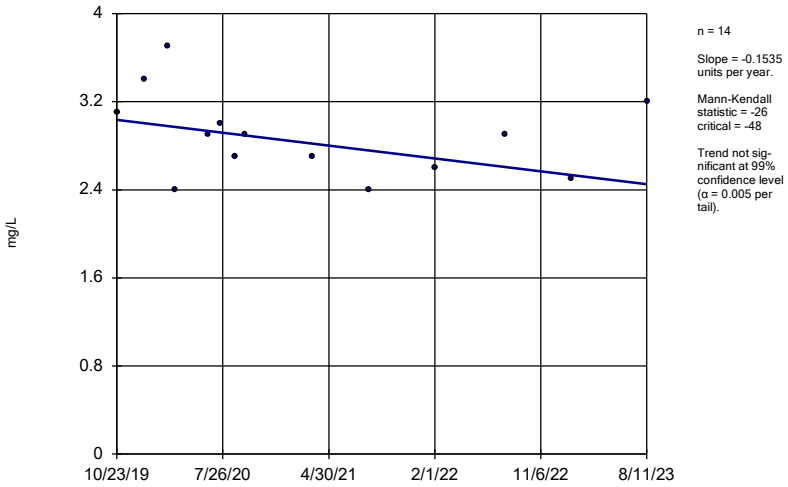
Increasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/19/2023 2:13 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-102



n = 14

Slope = -0.1535 units per year.

Mann-Kendall statistic = -26
critical = -48

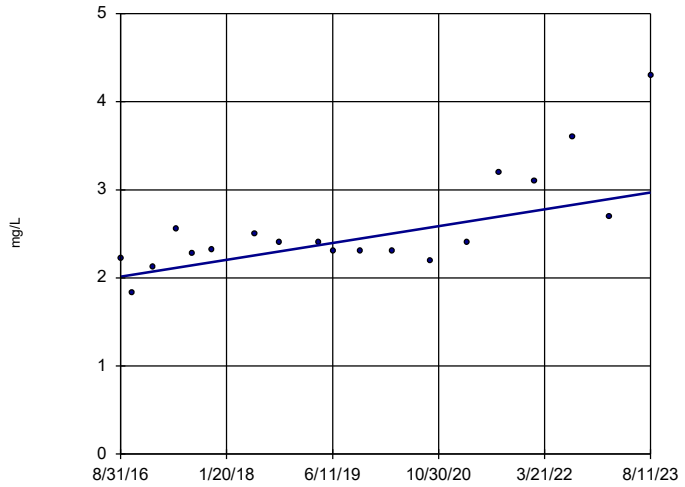
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/19/2023 2:13 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-103



n = 19

Slope = 0.1375 units per year.

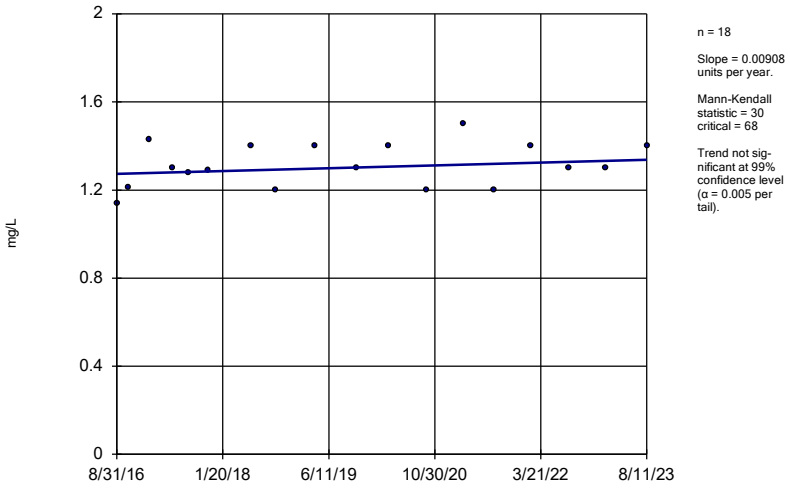
Mann-Kendall statistic = 85
critical = 74

Increasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/19/2023 2:13 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sen's Slope Estimator

HGWC-105



n = 18

Slope = 0.00908 units per year.

Mann-Kendall statistic = 30
critical = 68

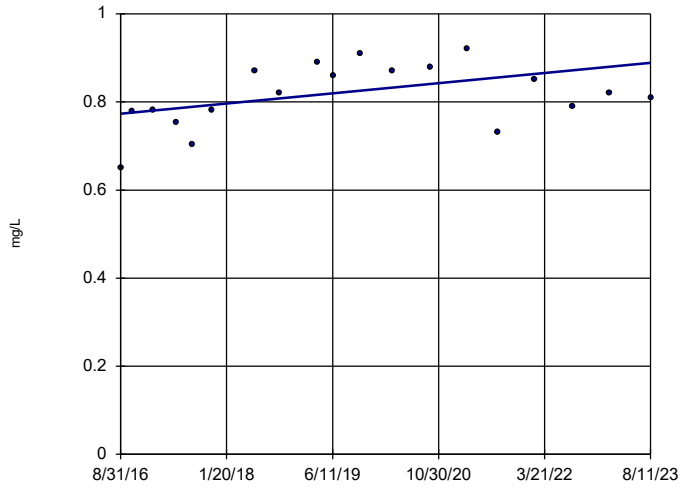
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/19/2023 2:13 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-107



n = 19

Slope = 0.01658 units per year.

Mann-Kendall statistic = 51
critical = 74

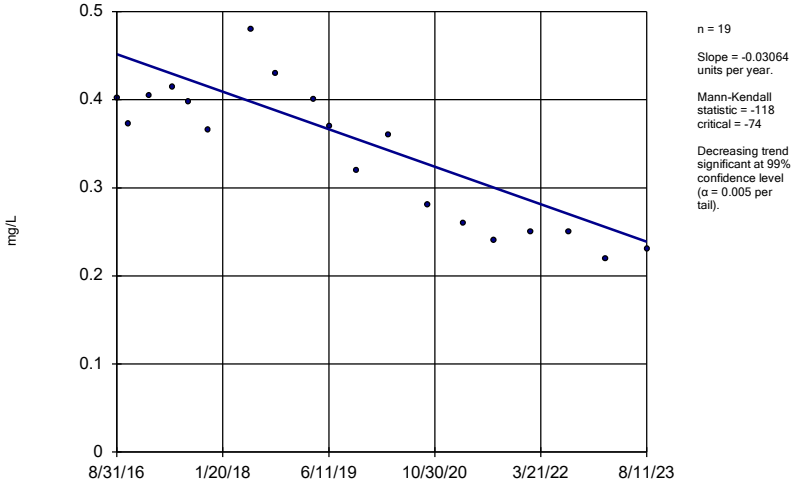
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/19/2023 2:13 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-109



n = 19

Slope = -0.03064 units per year.

Mann-Kendall statistic = -118
critical = -74

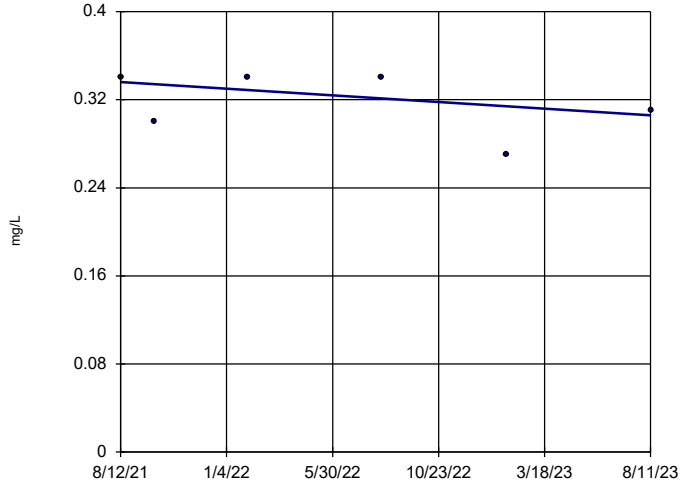
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/19/2023 2:13 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-117A



n = 6

Slope = -0.01502 units per year.

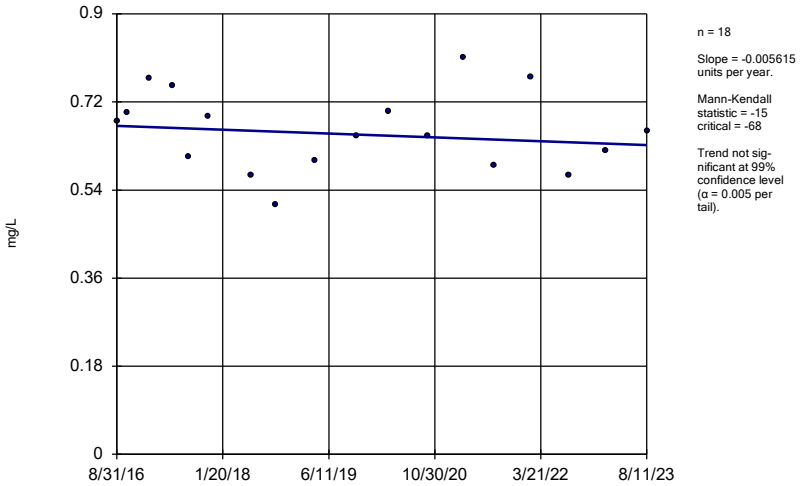
Mann-Kendall statistic = -4
critical = -14

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/19/2023 2:13 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sen's Slope Estimator

HGWC-118



n = 18

Slope = -0.005615 units per year.

Mann-Kendall statistic = -15 critical = -68

Trend not significant at 99% confidence level (α = 0.005 per tail).

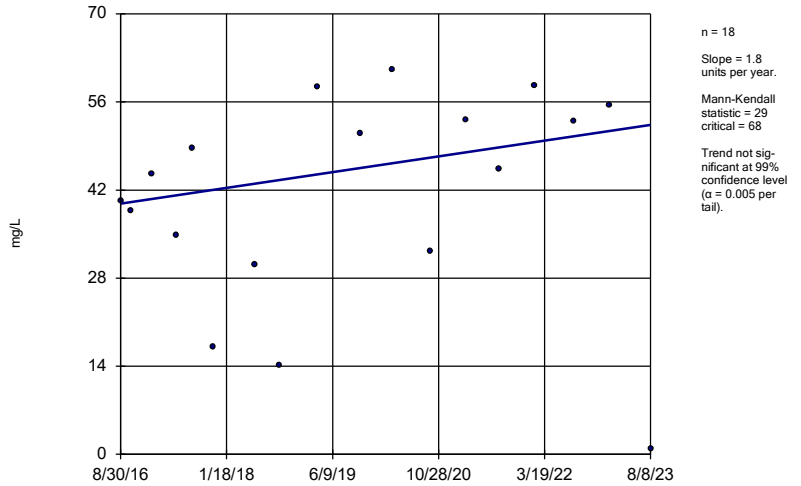
Constituent: Boron Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-111 (bg)



n = 18

Slope = 1.8 units per year.

Mann-Kendall statistic = 29 critical = 68

Trend not significant at 99% confidence level (α = 0.005 per tail).

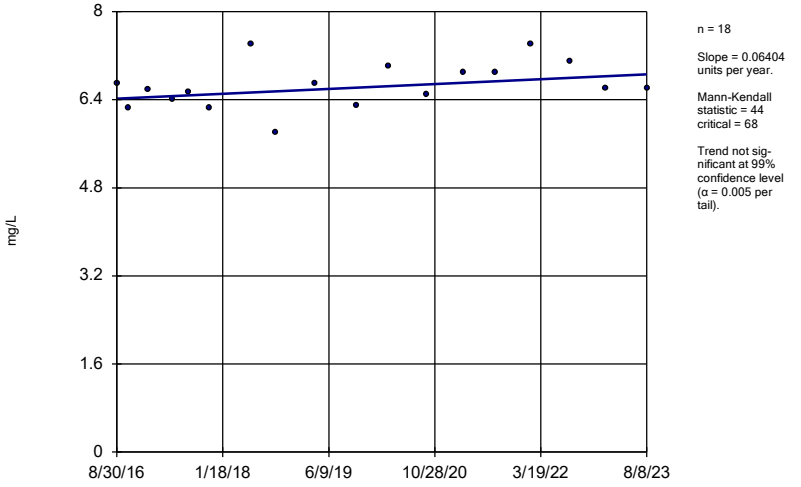
Constituent: Calcium Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-112 (bg)



n = 18

Slope = 0.06404 units per year.

Mann-Kendall statistic = 44 critical = 68

Trend not significant at 99% confidence level (α = 0.005 per tail).

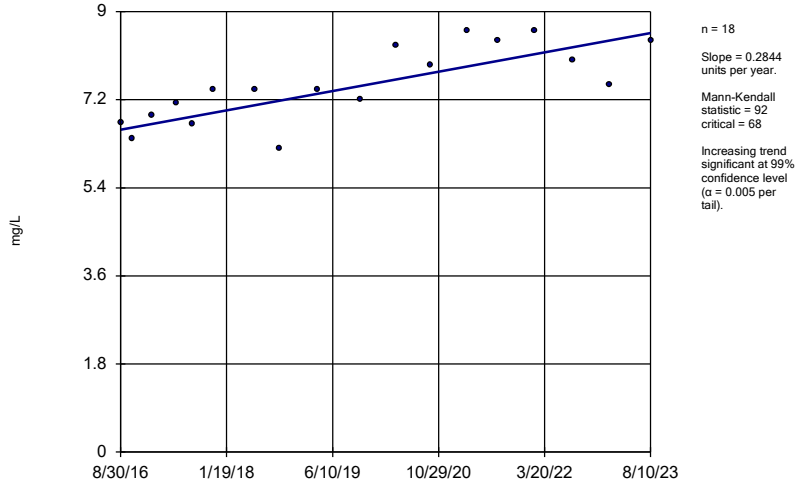
Constituent: Calcium Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-113 (bg)



n = 18

Slope = 0.2844 units per year.

Mann-Kendall statistic = 92 critical = 68

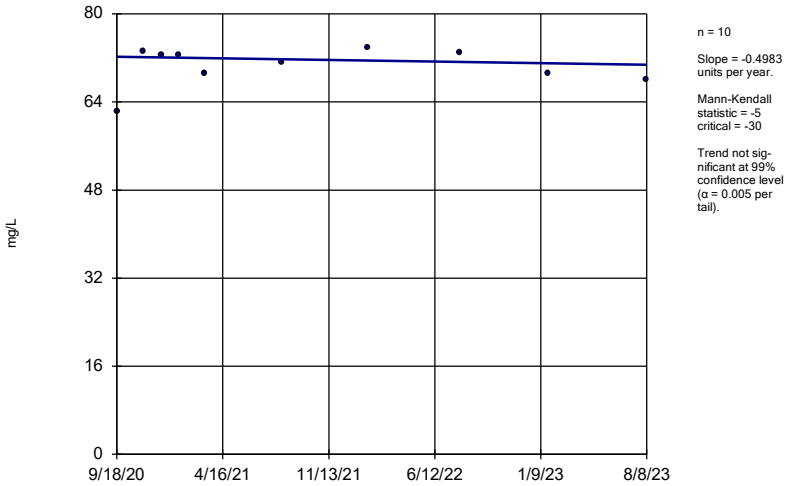
Increasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sen's Slope Estimator

HGWA-47 (bg)



n = 10

Slope = -0.4983 units per year.

Mann-Kendall statistic = -5 critical = -30

Trend not significant at 99% confidence level (α = 0.005 per tail).

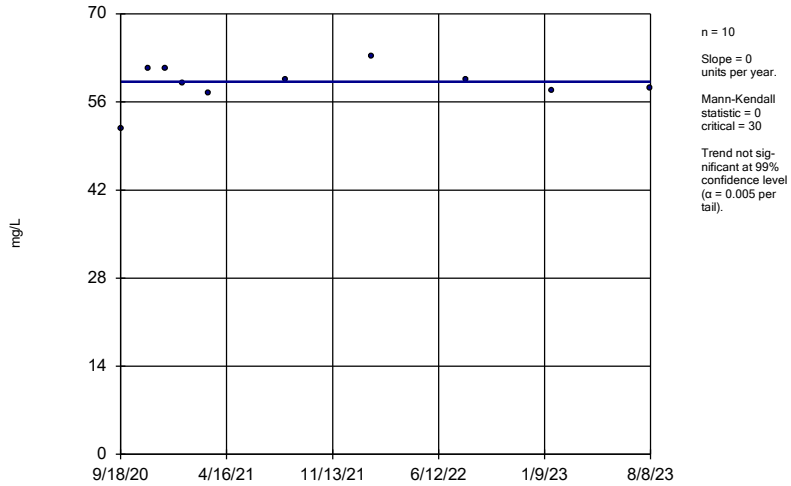
Constituent: Calcium Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-48D (bg)



n = 10

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 30

Trend not significant at 99% confidence level (α = 0.005 per tail).

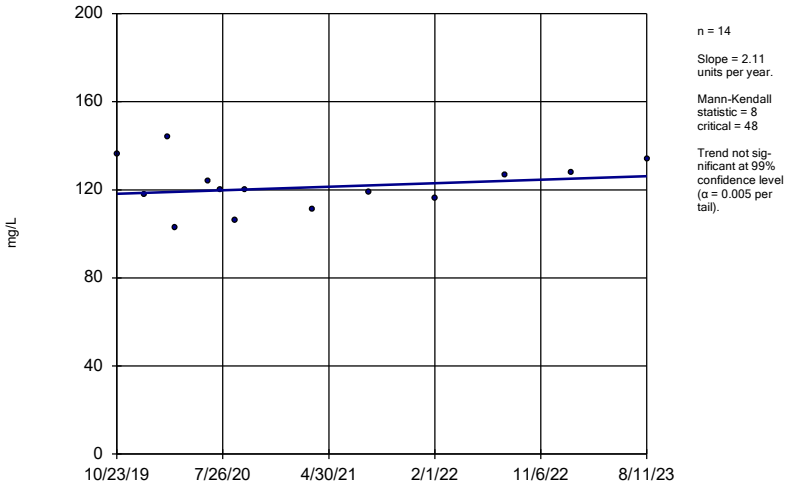
Constituent: Calcium Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-102



n = 14

Slope = 2.11 units per year.

Mann-Kendall statistic = 8 critical = 48

Trend not significant at 99% confidence level (α = 0.005 per tail).

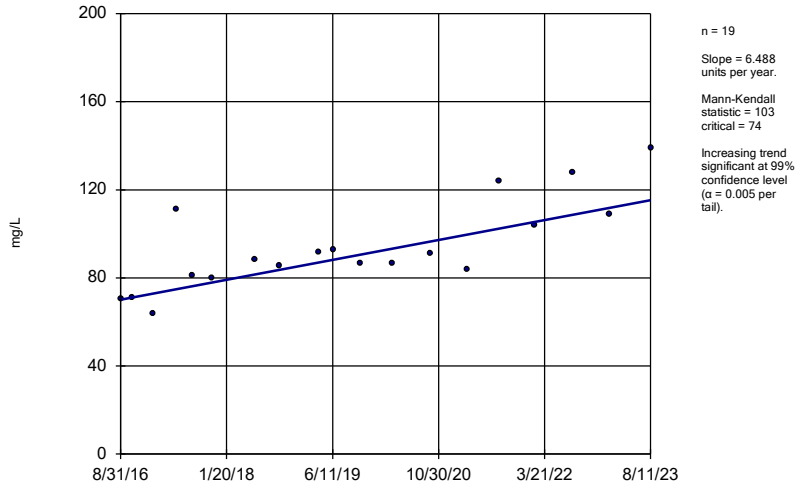
Constituent: Calcium Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-103



n = 19

Slope = 6.488 units per year.

Mann-Kendall statistic = 103 critical = 74

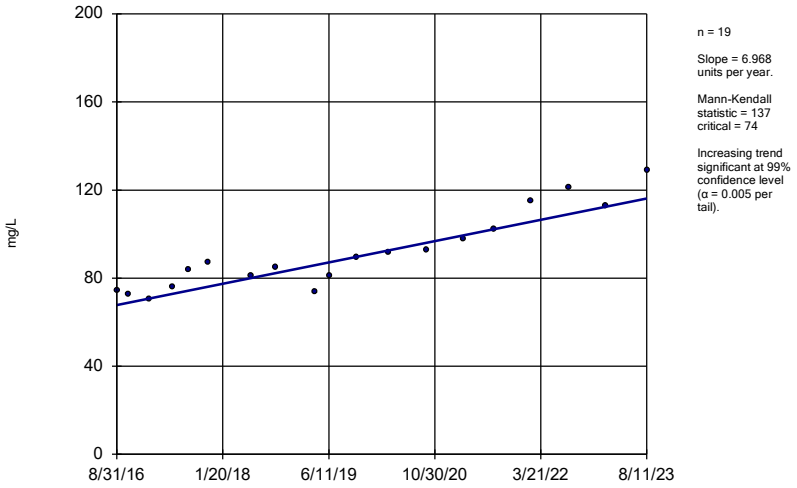
Increasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sen's Slope Estimator

HGWC-105



n = 19

Slope = 6.968 units per year.

Mann-Kendall statistic = 137 critical = 74

Increasing trend significant at 99% confidence level (α = 0.005 per tail).

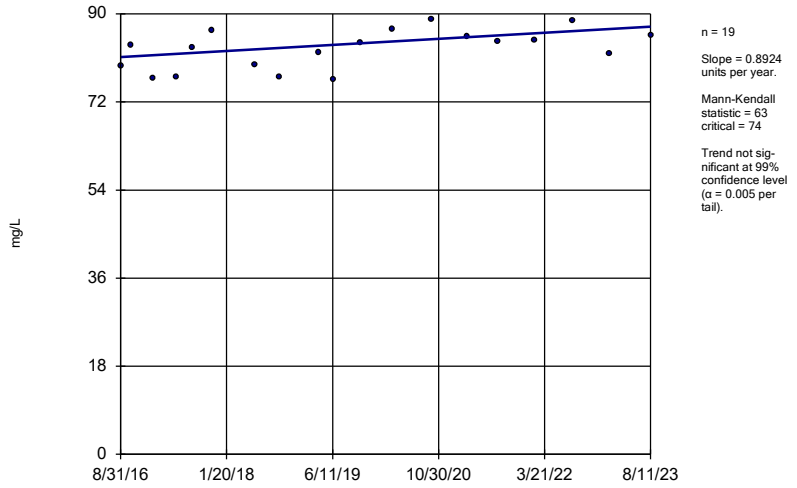
Constituent: Calcium Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-118



n = 19

Slope = 0.8924 units per year.

Mann-Kendall statistic = 63 critical = 74

Trend not significant at 99% confidence level (α = 0.005 per tail).

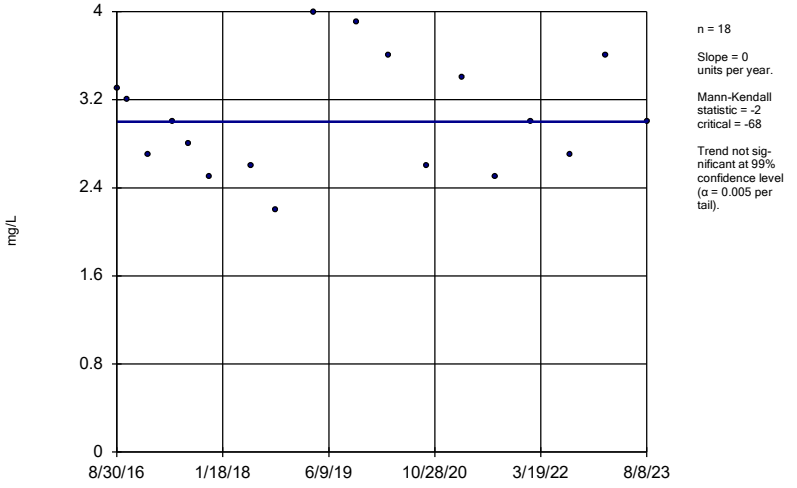
Constituent: Calcium Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-111 (bg)



n = 18

Slope = 0 units per year.

Mann-Kendall statistic = -2 critical = -68

Trend not significant at 99% confidence level (α = 0.005 per tail).

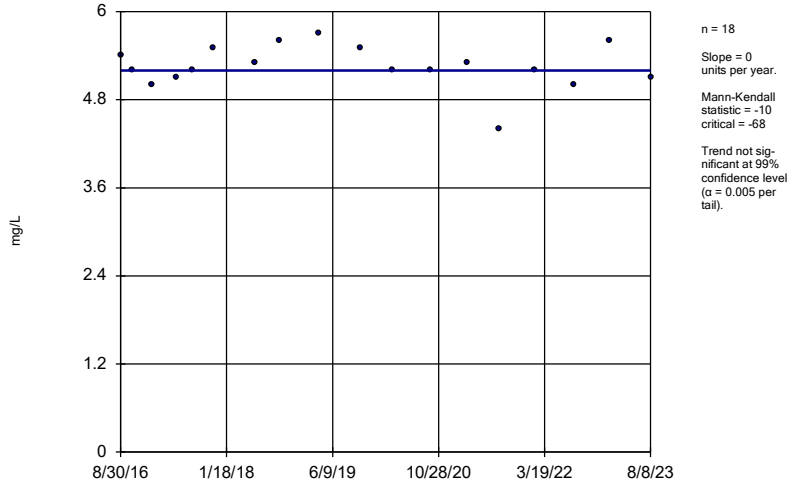
Constituent: Chloride Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-112 (bg)



n = 18

Slope = 0 units per year.

Mann-Kendall statistic = -10 critical = -68

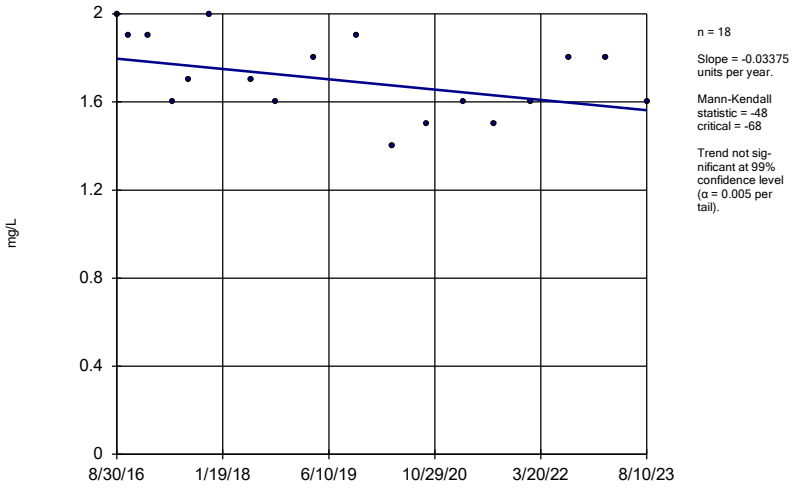
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sen's Slope Estimator

HGWA-113 (bg)



n = 18

Slope = -0.03375 units per year.

Mann-Kendall statistic = -48
critical = -68

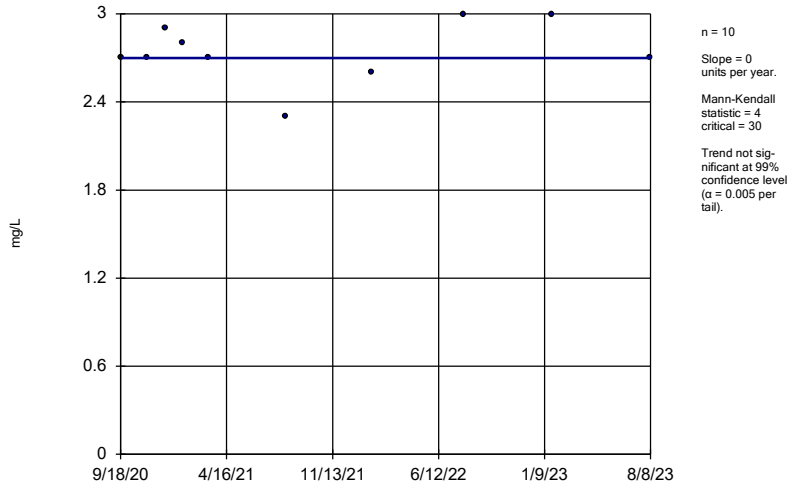
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 10/19/2023 2:13 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-47 (bg)



n = 10

Slope = 0 units per year.

Mann-Kendall statistic = 4
critical = 30

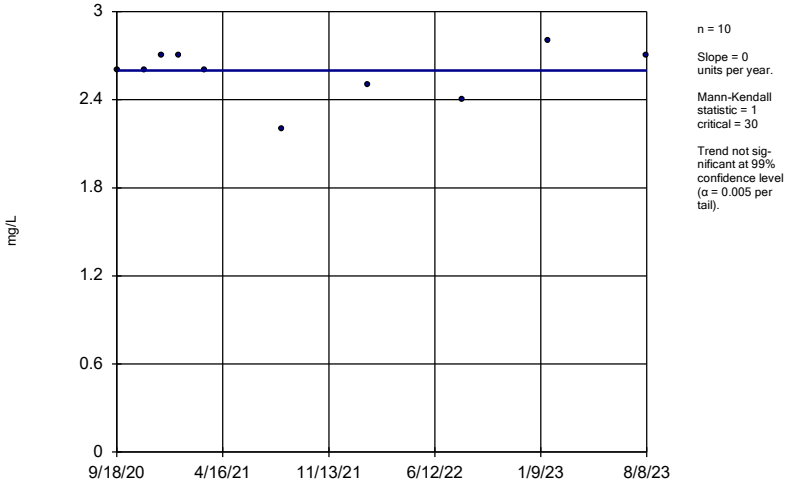
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 10/19/2023 2:13 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-48D (bg)



n = 10

Slope = 0 units per year.

Mann-Kendall statistic = 1
critical = 30

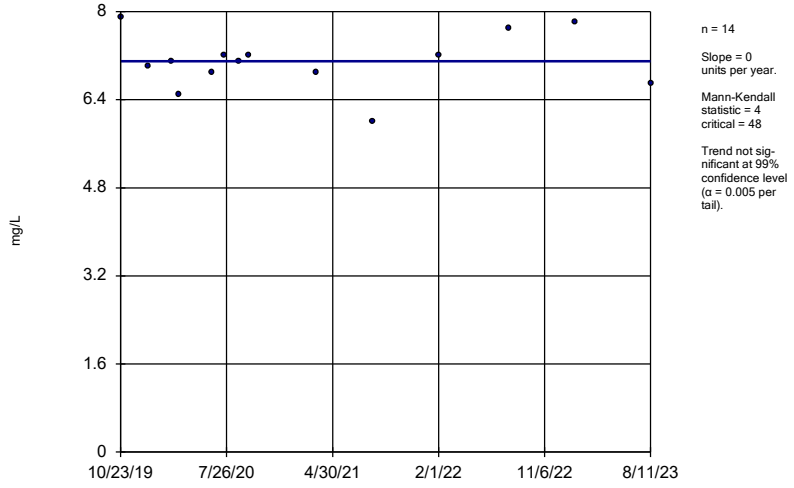
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 10/19/2023 2:13 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-102



n = 14

Slope = 0 units per year.

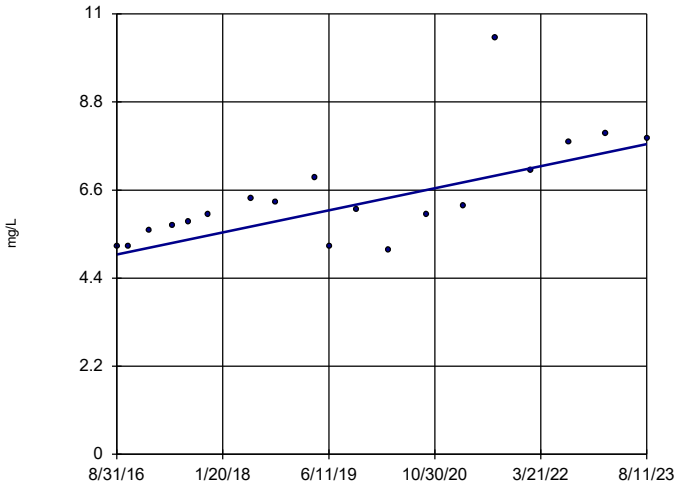
Mann-Kendall statistic = 4
critical = 48

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 10/19/2023 2:13 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sen's Slope Estimator

HGWC-103



n = 19

Slope = 0.3971 units per year.

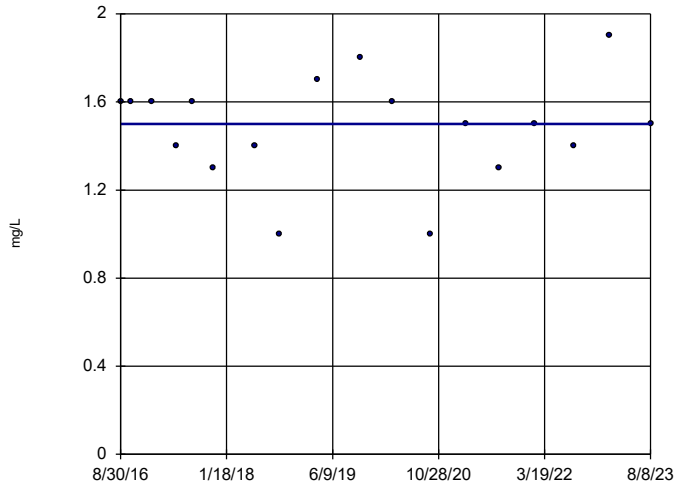
Mann-Kendall statistic = 99
critical = 74

Increasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 10/19/2023 2:13 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sen's Slope Estimator

HGWA-111 (bg)



n = 18

Slope = 0 units per year.

Mann-Kendall statistic = -9
critical = -68

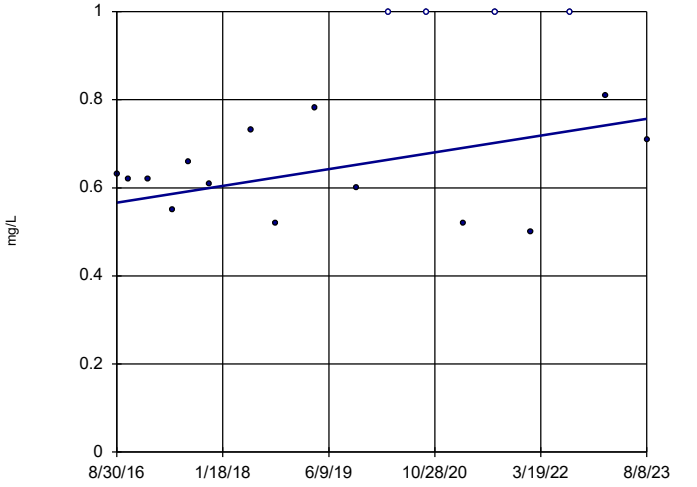
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 10/19/2023 2:13 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-4

Hollow symbols indicate censored values.

Sen's Slope Estimator

HGWA-112 (bg)



n = 18

Slope = 0.02747 units per year.

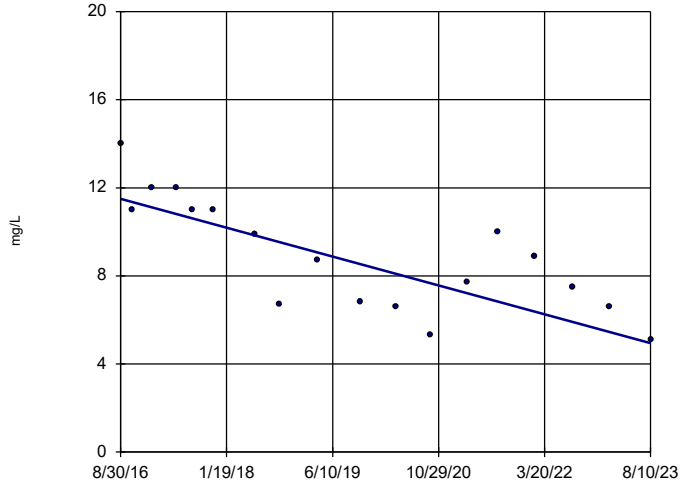
Mann-Kendall statistic = 27
critical = 68

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 10/19/2023 2:13 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sen's Slope Estimator

HGWA-113 (bg)



n = 18

Slope = -0.9433 units per year.

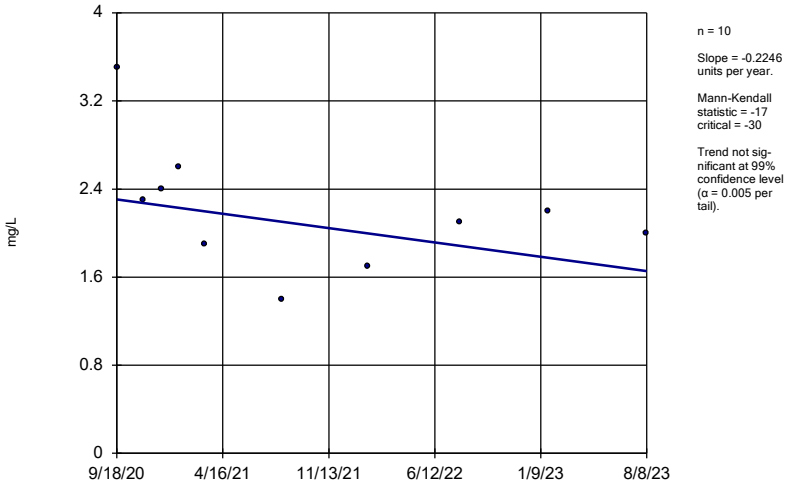
Mann-Kendall statistic = -96
critical = -68

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 10/19/2023 2:13 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sen's Slope Estimator

HGWA-47 (bg)



n = 10

Slope = -0.2246 units per year.

Mann-Kendall statistic = -17 critical = -30

Trend not significant at 99% confidence level (α = 0.005 per tail).

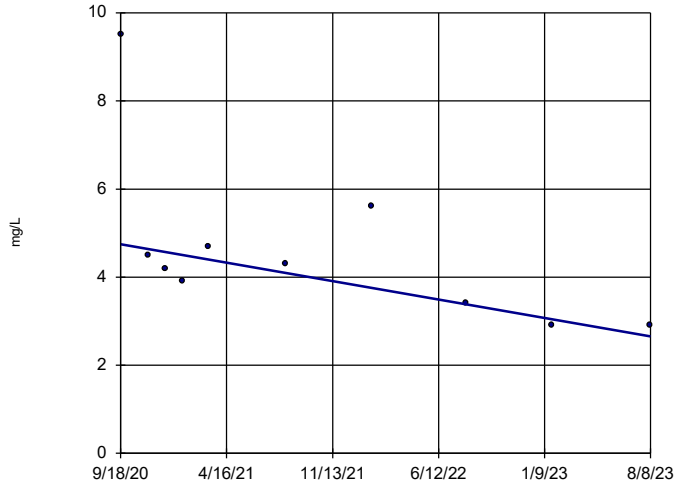
Constituent: Sulfate Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-48D (bg)



n = 10

Slope = -0.7264 units per year.

Mann-Kendall statistic = -24 critical = -30

Trend not significant at 99% confidence level (α = 0.005 per tail).

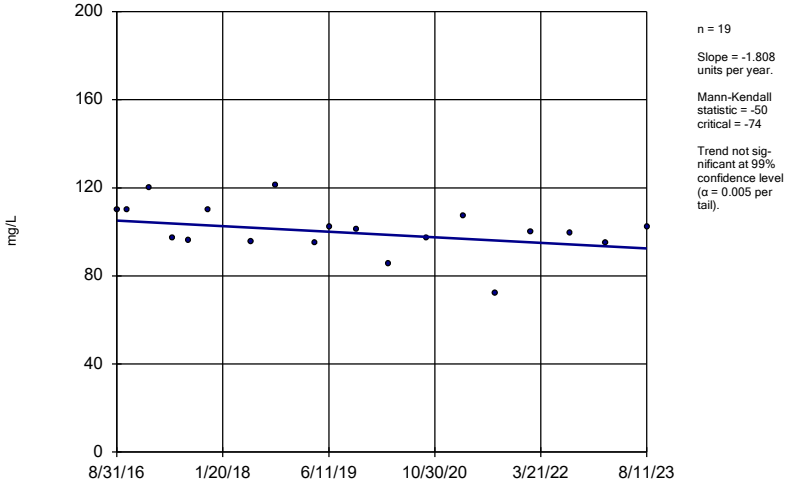
Constituent: Sulfate Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-101



n = 19

Slope = -1.808 units per year.

Mann-Kendall statistic = -50 critical = -74

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 10/19/2023 2:13 PM View: Trend Test

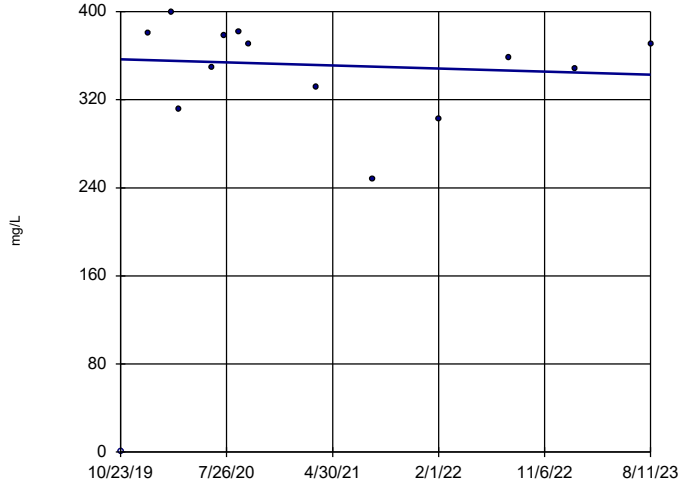
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator

HGWC-102



n = 14

Slope = -3.65 units per year.

Mann-Kendall statistic = -8 critical = -48

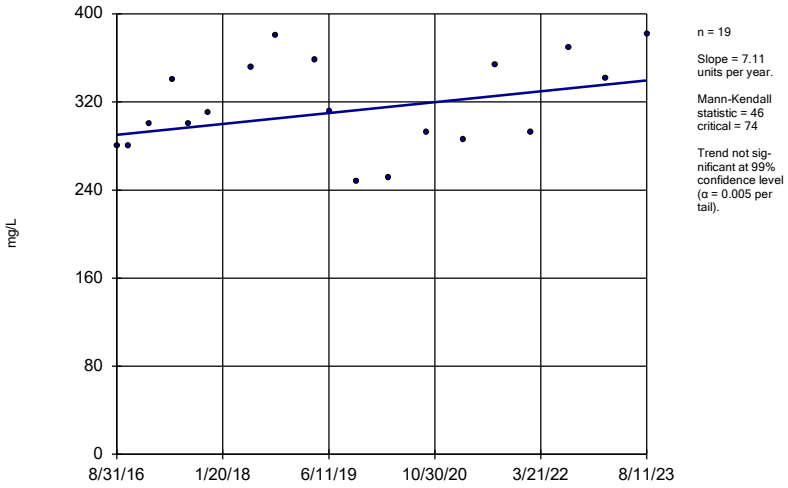
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sen's Slope Estimator

HGWC-103



n = 19

Slope = 7.11 units per year.

Mann-Kendall statistic = 46 critical = 74

Trend not significant at 99% confidence level (α = 0.005 per tail).

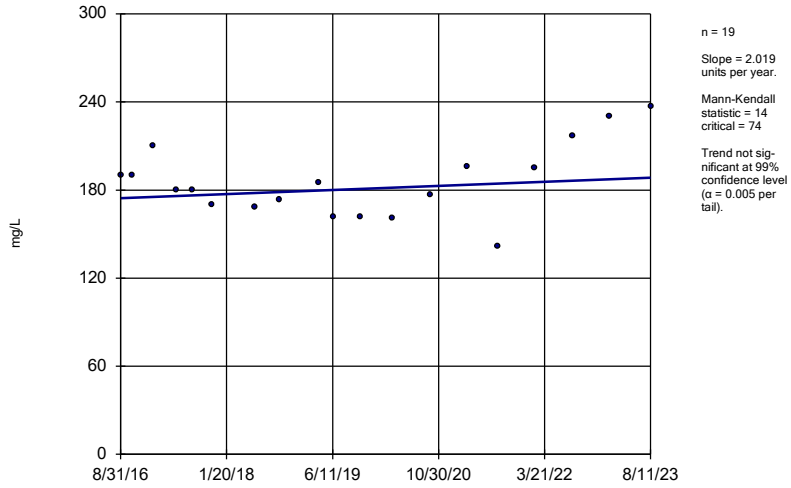
Constituent: Sulfate Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-105



n = 19

Slope = 2.019 units per year.

Mann-Kendall statistic = 14 critical = 74

Trend not significant at 99% confidence level (α = 0.005 per tail).

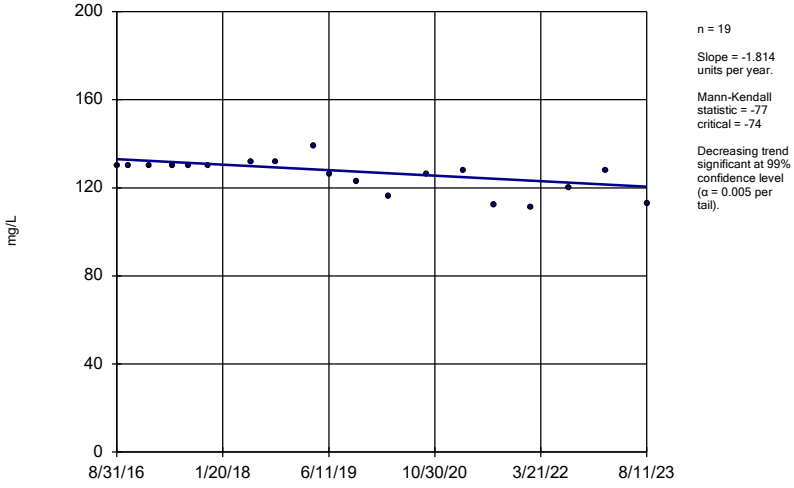
Constituent: Sulfate Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-107



n = 19

Slope = -1.814 units per year.

Mann-Kendall statistic = -77 critical = -74

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

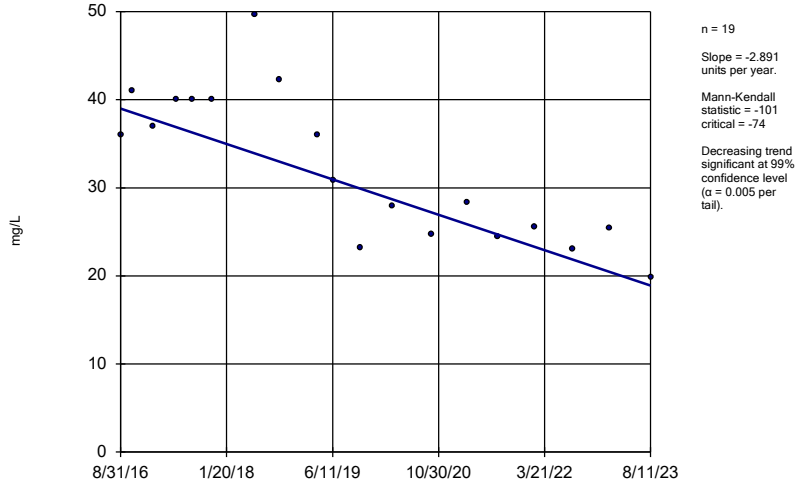
Constituent: Sulfate Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-109



n = 19

Slope = -2.891 units per year.

Mann-Kendall statistic = -101 critical = -74

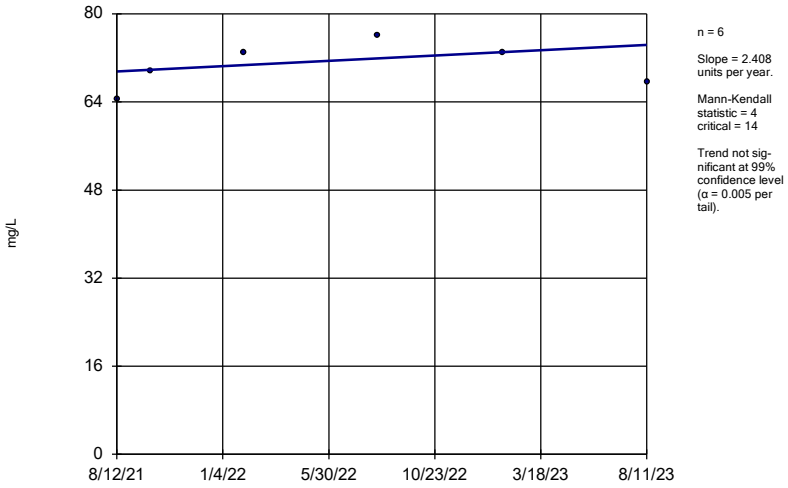
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sen's Slope Estimator

HGWC-117A



n = 6

Slope = 2.408 units per year.

Mann-Kendall statistic = 4
critical = 14

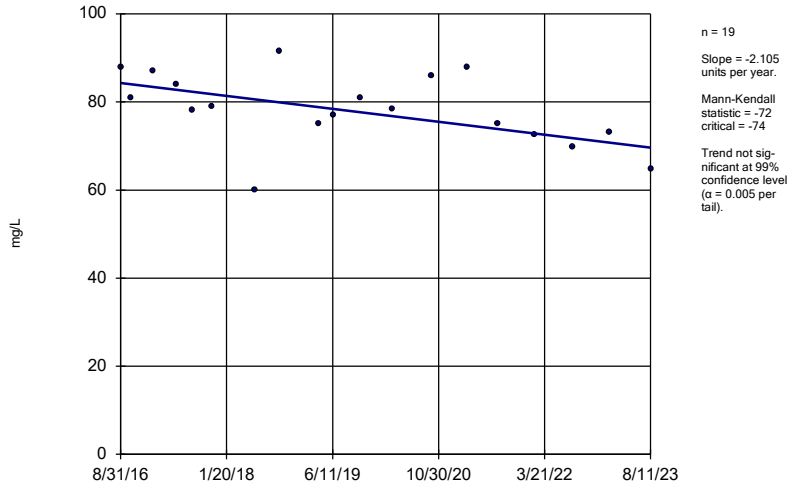
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 10/19/2023 2:13 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-118



n = 19

Slope = -2.105 units per year.

Mann-Kendall statistic = -72
critical = -74

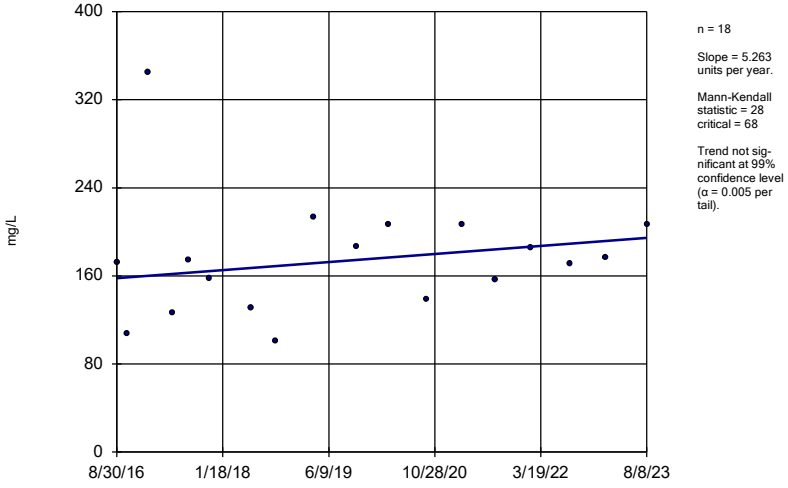
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 10/19/2023 2:13 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-111 (bg)



n = 18

Slope = 5.263 units per year.

Mann-Kendall statistic = 28
critical = 68

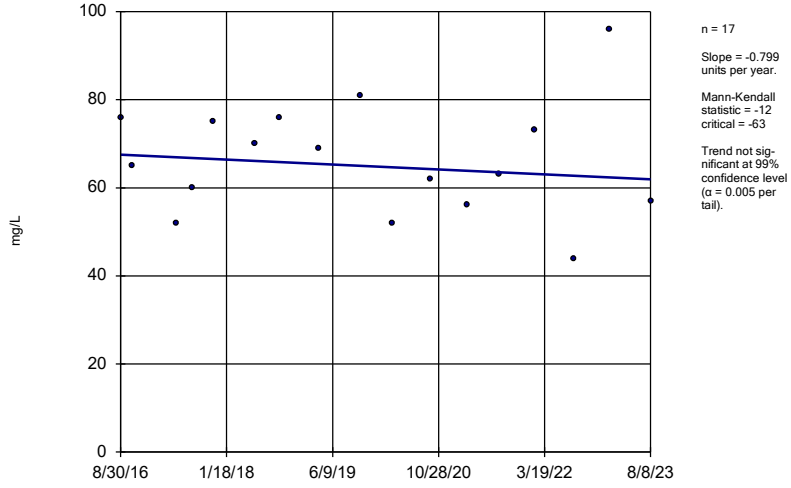
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Total Dissolved Solids Analysis Run 10/19/2023 2:13 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-112 (bg)



n = 17

Slope = -0.799 units per year.

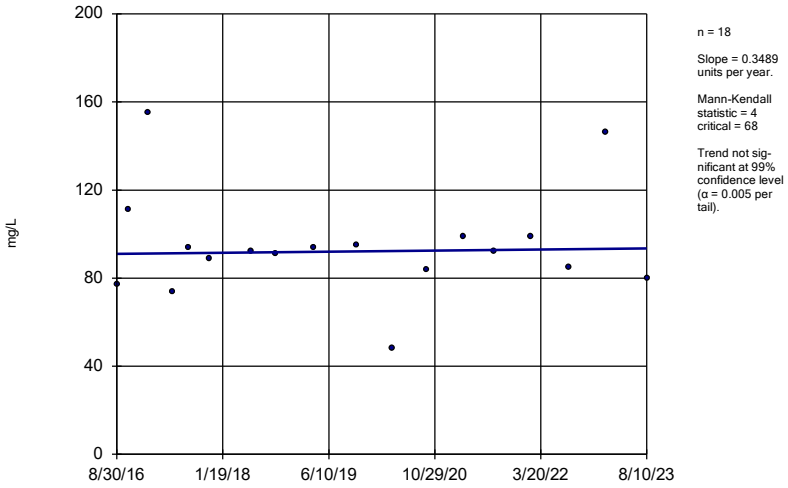
Mann-Kendall statistic = -12
critical = -63

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Total Dissolved Solids Analysis Run 10/19/2023 2:13 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sen's Slope Estimator

HGWA-113 (bg)



n = 18

Slope = 0.3489 units per year.

Mann-Kendall statistic = 4 critical = 68

Trend not significant at 99% confidence level (α = 0.005 per tail).

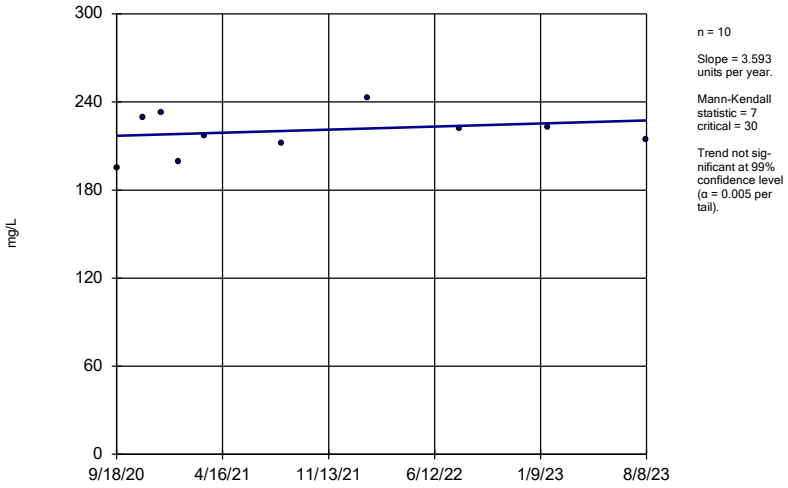
Constituent: Total Dissolved Solids Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-47 (bg)



n = 10

Slope = 3.593 units per year.

Mann-Kendall statistic = 7 critical = 30

Trend not significant at 99% confidence level (α = 0.005 per tail).

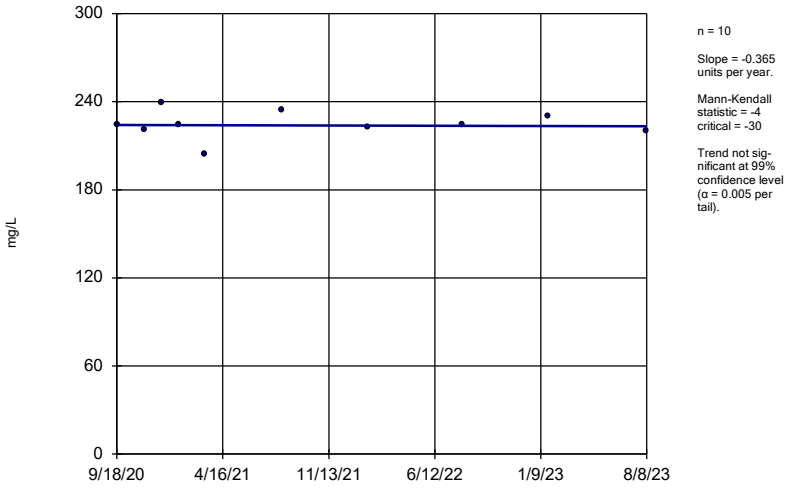
Constituent: Total Dissolved Solids Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-48D (bg)



n = 10

Slope = -0.365 units per year.

Mann-Kendall statistic = -4 critical = -30

Trend not significant at 99% confidence level (α = 0.005 per tail).

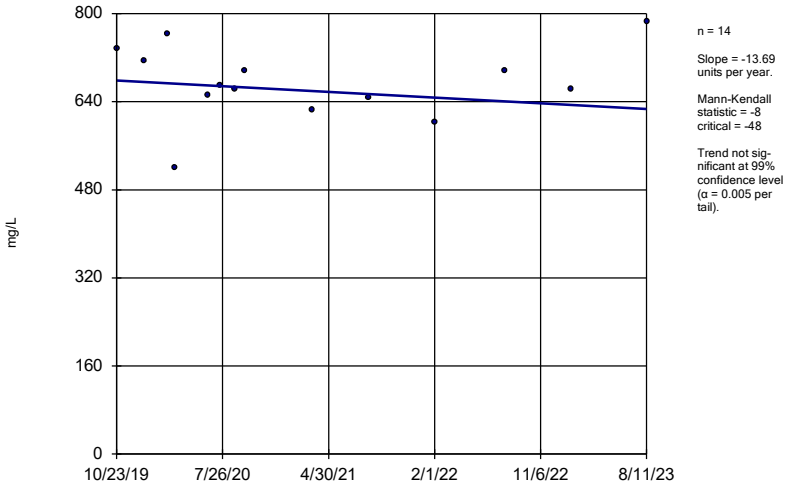
Constituent: Total Dissolved Solids Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-102



n = 14

Slope = -13.69 units per year.

Mann-Kendall statistic = -8 critical = -48

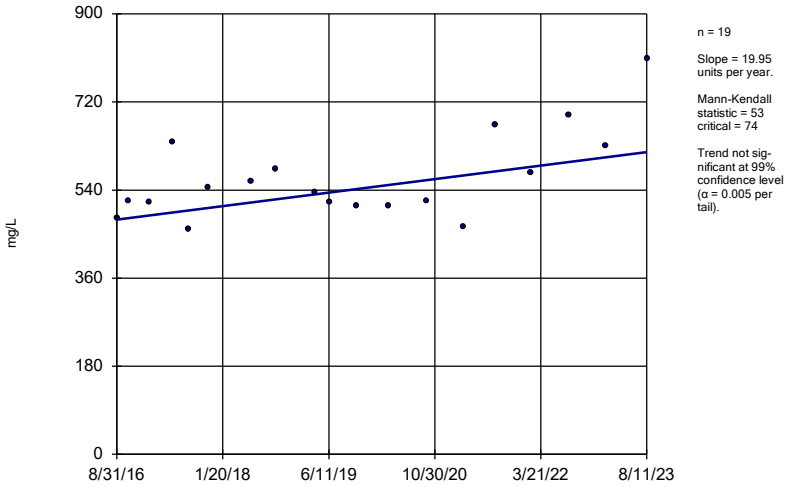
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Total Dissolved Solids Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sen's Slope Estimator

HGWC-103



n = 19

Slope = 19.95 units per year.

Mann-Kendall statistic = 53
critical = 74

Trend not significant at 99% confidence level (α = 0.005 per tail).

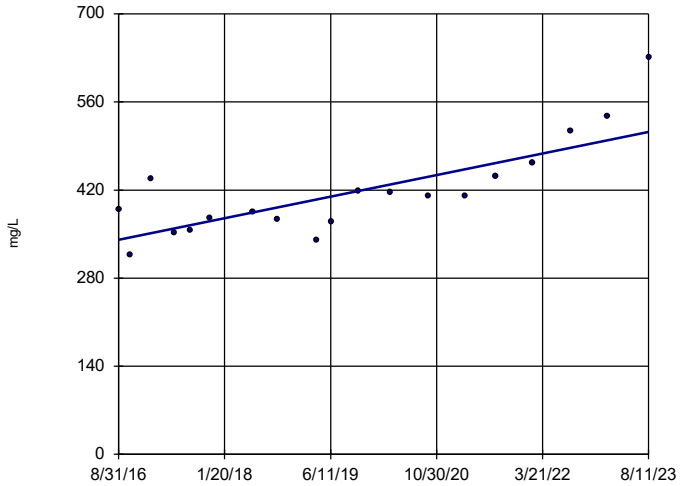
Constituent: Total Dissolved Solids Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-105



n = 19

Slope = 24.62 units per year.

Mann-Kendall statistic = 101
critical = 74

Increasing trend significant at 99% confidence level (α = 0.005 per tail).

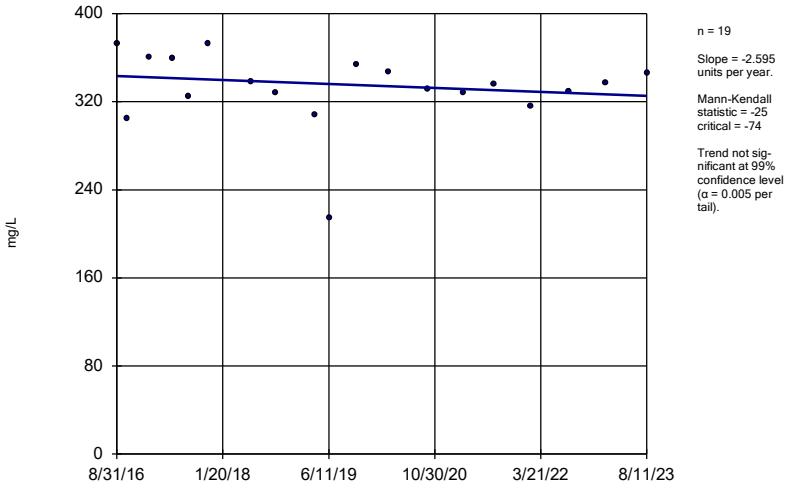
Constituent: Total Dissolved Solids Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.9.6.37a Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-118



n = 19

Slope = -2.595 units per year.

Mann-Kendall statistic = -25
critical = -74

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Total Dissolved Solids Analysis Run 10/19/2023 2:13 PM View: Trend Test

Plant Hammond Client: Southern Company Data: Hammond AP-4

FIGURE F.

Upper Tolerance Limit Summary Table

Plant Hammond Data: Hammond AP-4 Printed 10/26/2023, 1:43 PM

Constituent	Upper Lim.	Date	Observ.	Sig.	Bg N	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	0.003	n/a	n/a	n/a	63	93.65	n/a	n/a	0.0395	NP Inter(NDs)
Arsenic (mg/L)	0.005	n/a	n/a	n/a	77	93.51	n/a	n/a	0.01926	NP Inter(NDs)
Barium (mg/L)	0.11	n/a	n/a	n/a	77	0	n/a	n/a	0.01926	NP Inter(normality)
Beryllium (mg/L)	0.0019	n/a	n/a	n/a	77	90.91	n/a	n/a	0.01926	NP Inter(NDs)
Cadmium (mg/L)	0.0005	n/a	n/a	n/a	77	100	n/a	n/a	0.01926	NP Inter(NDs)
Chromium (mg/L)	0.0061	n/a	n/a	n/a	77	38.96	n/a	n/a	0.01926	NP Inter(normality)
Cobalt (mg/L)	0.005	n/a	n/a	n/a	77	89.61	n/a	n/a	0.01926	NP Inter(NDs)
Combined Radium 226 & 228 (pCi/L)	1.259	n/a	n/a	n/a	77	0	None	No	0.05	Inter
Fluoride (mg/L)	0.1685	n/a	n/a	n/a	80	21.25	Kaplan-Meier	sqrt(x)	0.05	Inter
Lead (mg/L)	0.0016	n/a	n/a	n/a	77	72.73	n/a	n/a	0.01926	NP Inter(NDs)
Lithium (mg/L)	0.03	n/a	n/a	n/a	77	36.36	n/a	n/a	0.01926	NP Inter(normality)
Mercury (mg/L)	0.0002	n/a	n/a	n/a	63	80.95	n/a	n/a	0.0395	NP Inter(NDs)
Molybdenum (mg/L)	0.01	n/a	n/a	n/a	63	84.13	n/a	n/a	0.0395	NP Inter(NDs)
Selenium (mg/L)	0.005	n/a	n/a	n/a	63	79.37	n/a	n/a	0.0395	NP Inter(NDs)
Thallium (mg/L)	0.001	n/a	n/a	n/a	63	100	n/a	n/a	0.0395	NP Inter(NDs)

FIGURE G.

PLANT HAMMOND AP-4 GWPS				
Constituent Name	**MCL**	**CCR-Rule Specified**	**Background Limit**	**GWPS**
Antimony, Total (mg/L)	0.006		0.003	0.006
Arsenic, Total (mg/L)	0.01		0.005	0.01
Barium, Total (mg/L)	2		0.11	2
Beryllium, Total (mg/L)	0.004		0.0019	0.004
Cadmium, Total (mg/L)	0.005		0.0005	0.005
Chromium, Total (mg/L)	0.1		0.0061	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.005	0.006
Combined Radium, Total (pCi/L)	5		1.26	5
Fluoride, Total (mg/L)	4		0.17	4
Lead, Total (mg/L)	n/a	0.015	0.0016	0.015
Lithium, Total (mg/L)	n/a	0.040	0.030	0.040
Mercury, Total (mg/L)	0.002		0.0002	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.01	0.1
Selenium, Total (mg/L)	0.05		0.005	0.05
Thallium, Total (mg/L)	0.002		0.001	0.002

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residuals*

**GWPS = Groundwater Protection Standard*

FIGURE H.

Confidence Intervals - All Results (No Significant)

Plant Hammond Client: Southern Company Data: Hammond AP-4 Printed 10/26/2023, 11:28 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	HGWC-102	0.003	0.003	0.006	No	13	84.62	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-103	0.003	0.0022	0.006	No	15	93.33	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-107	0.003	0.0011	0.006	No	15	93.33	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-101	0.005	0.00039	0.01	No	19	94.74	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-102	0.005	0.00083	0.01	No	14	71.43	None	No	0.01	NP (normality)
Arsenic (mg/L)	HGWC-109	0.002308	0.001423	0.01	No	19	15.79	Kaplan-Meier	ln(x)	0.01	Param.
Arsenic (mg/L)	HGWC-118	0.005	0.001	0.01	No	19	94.74	Kaplan-Meier	No	0.01	NP (NDs)
Barium (mg/L)	HGWC-101	0.04489	0.03883	2	No	19	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-102	0.03228	0.02715	2	No	14	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-103	0.03985	0.03495	2	No	19	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-105	0.088	0.0668	2	No	19	0	None	No	0.01	NP (normality)
Barium (mg/L)	HGWC-107	0.03881	0.03577	2	No	19	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-109	0.08688	0.08044	2	No	19	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-118	0.06041	0.04955	2	No	19	0	None	No	0.01	Param.
Beryllium (mg/L)	HGWC-101	0.0005	0.000062	0.004	No	19	47.37	None	No	0.01	NP (normality)
Beryllium (mg/L)	HGWC-103	0.0005	0.000088	0.004	No	19	78.95	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-118	0.0005	0.000093	0.004	No	19	94.74	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-101	0.0003	0.00011	0.005	No	19	15.79	None	No	0.01	NP (normality)
Cadmium (mg/L)	HGWC-102	0.000665	0.0003407	0.005	No	14	0	None	No	0.01	Param.
Cadmium (mg/L)	HGWC-103	0.0007837	0.0006805	0.005	No	19	0	None	No	0.01	Param.
Cadmium (mg/L)	HGWC-107	0.0005	0.0001	0.005	No	19	63.16	None	No	0.01	NP (normality)
Chromium (mg/L)	HGWC-101	0.005	0.00098	0.1	No	19	78.95	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-102	0.005	0.00063	0.1	No	14	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-103	0.005	0.00081	0.1	No	19	63.16	None	No	0.01	NP (normality)
Chromium (mg/L)	HGWC-105	0.005	0.0013	0.1	No	19	78.95	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-107	0.005	0.00074	0.1	No	19	94.74	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-109	0.005	0.0014	0.1	No	19	89.47	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-118	0.005	0.0017	0.1	No	19	73.68	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-101	0.002761	0.002144	0.006	No	19	5.263	None	No	0.01	Param.
Cobalt (mg/L)	HGWC-102	0.001878	0.001042	0.006	No	14	0	None	ln(x)	0.01	Param.
Cobalt (mg/L)	HGWC-103	0.002251	0.001823	0.006	No	19	0	None	No	0.01	Param.
Cobalt (mg/L)	HGWC-105	0.005	0.00046	0.006	No	19	31.58	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-109	0.00201	0.001226	0.006	No	19	0	None	No	0.01	Param.
Cobalt (mg/L)	HGWC-118	0.005	0.00045	0.006	No	19	52.63	None	No	0.01	NP (normality)
Combined Radium 226 & 228 (pCi/L)	HGWC-101	0.8549	0.4408	5	No	19	0	None	No	0.01	Param.
Combined Radium 226 & 228 (pCi/L)	HGWC-102	1.165	0.5859	5	No	13	0	None	No	0.01	Param.
Combined Radium 226 & 228 (pCi/L)	HGWC-103	0.873	0.4601	5	No	19	0	None	No	0.01	Param.
Combined Radium 226 & 228 (pCi/L)	HGWC-105	0.8447	0.4736	5	No	19	0	None	No	0.01	Param.
Combined Radium 226 & 228 (pCi/L)	HGWC-107	1.024	0.4983	5	No	19	0	None	No	0.01	Param.
Combined Radium 226 & 228 (pCi/L)	HGWC-109	0.7607	0.4285	5	No	19	0	None	No	0.01	Param.
Combined Radium 226 & 228 (pCi/L)	HGWC-118	1.108	0.5047	5	No	18	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-101	0.1	0.065	4	No	20	85	None	No	0.01	NP (NDs)
Fluoride (mg/L)	HGWC-102	0.22	0.076	4	No	14	85.71	None	No	0.01	NP (NDs)
Fluoride (mg/L)	HGWC-103	0.13	0.071	4	No	20	75	None	No	0.01	NP (normality)
Fluoride (mg/L)	HGWC-105	0.13	0.074	4	No	20	55	None	No	0.01	NP (normality)
Fluoride (mg/L)	HGWC-107	0.1	0.064	4	No	20	55	None	No	0.01	NP (normality)
Fluoride (mg/L)	HGWC-109	0.1257	0.08329	4	No	20	10	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-118	0.18	0.072	4	No	21	0	None	No	0.01	NP (normality)
Lead (mg/L)	HGWC-101	0.001	0.0009	0.015	No	19	94.74	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-102	0.001	0.00011	0.015	No	14	92.86	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-103	0.001	0.00028	0.015	No	19	73.68	None	No	0.01	NP (normality)
Lead (mg/L)	HGWC-105	0.001	0.000085	0.015	No	19	78.95	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-107	0.001	0.00034	0.015	No	19	78.95	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-109	0.001	0.000058	0.015	No	19	89.47	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-118	0.001	0.00036	0.015	No	19	73.68	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-102	0.0013	0.001	0.04	No	14	0	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-103	0.002	0.0014	0.04	No	19	15.79	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-105	0.004198	0.003865	0.04	No	19	0	None	No	0.01	Param.
Lithium (mg/L)	HGWC-107	0.03	0.00084	0.04	No	19	42.11	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-109	0.03	0.00088	0.04	No	19	47.37	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-118	0.03	0.0015	0.04	No	19	31.58	None	No	0.01	NP (normality)
Mercury (mg/L)	HGWC-101	0.0002	0.000099	0.002	No	15	86.67	None	No	0.01	NP (NDs)
Mercury (mg/L)	HGWC-102	0.0002	0.0001	0.002	No	13	92.31	None	No	0.01	NP (NDs)
Mercury (mg/L)	HGWC-103	0.00025	0.00017	0.002	No	15	73.33	None	No	0.01	NP (normality)
Mercury (mg/L)	HGWC-105	0.00022	0.0002	0.002	No	15	93.33	None	No	0.01	NP (NDs)
Mercury (mg/L)	HGWC-107	0.0002	0.000084	0.002	No	15	93.33	None	No	0.01	NP (NDs)
Mercury (mg/L)	HGWC-109	0.0002	0.00008	0.002	No	15	86.67	None	No	0.01	NP (NDs)
Mercury (mg/L)	HGWC-118	0.0002	0.00009	0.002	No	15	86.67	None	No	0.01	NP (NDs)

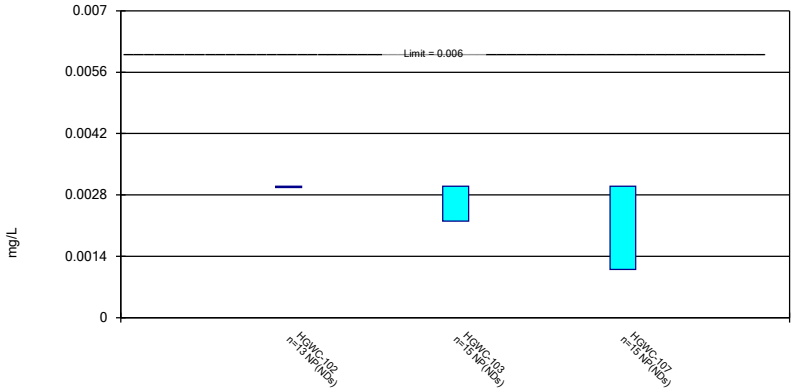
Confidence Intervals - All Results (No Significant)

Plant Hammond Client: Southern Company Data: Hammond AP-4 Printed 10/26/2023, 11:28 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	ND Adj.	Transform	Alpha	Method
Selenium (mg/L)	HGWC-102	0.005	0.0015	0.05	No	13	92.31	None	No	0.01	NP (NDs)
Thallium (mg/L)	HGWC-102	0.001	0.00008	0.002	No	13	92.31	None	No	0.01	NP (NDs)

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

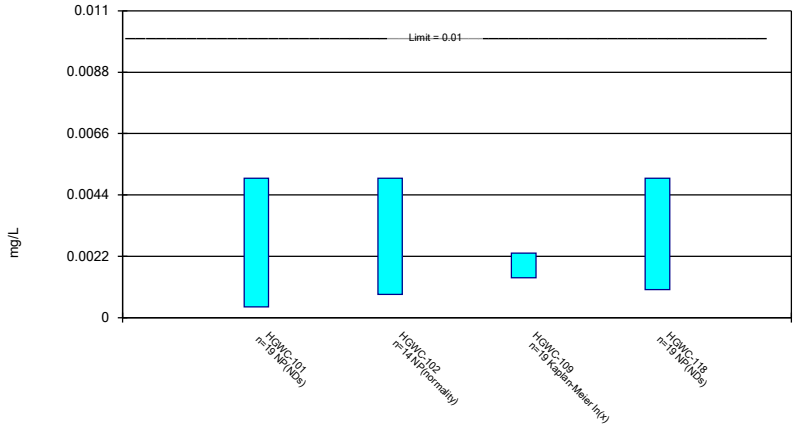


Constituent: Antimony Analysis Run 10/26/2023 11:27 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

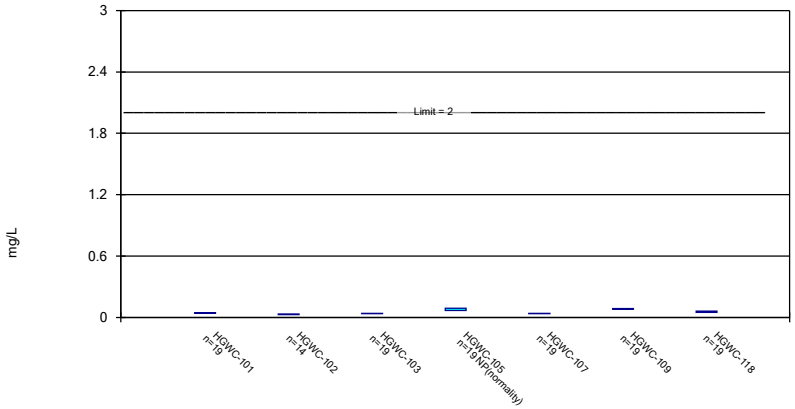


Constituent: Arsenic Analysis Run 10/26/2023 11:27 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

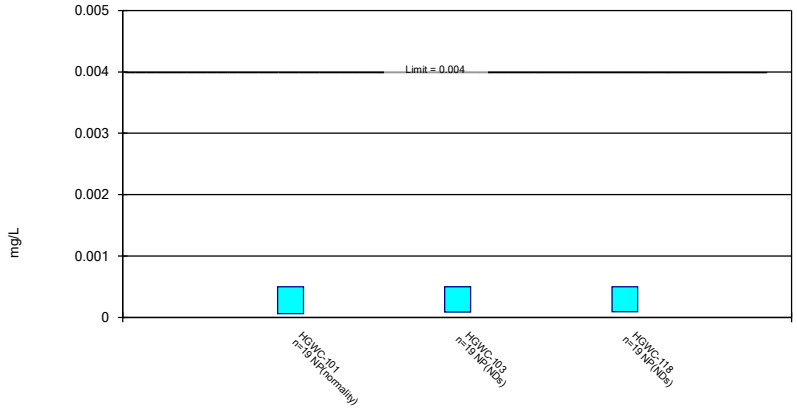


Constituent: Barium Analysis Run 10/26/2023 11:27 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

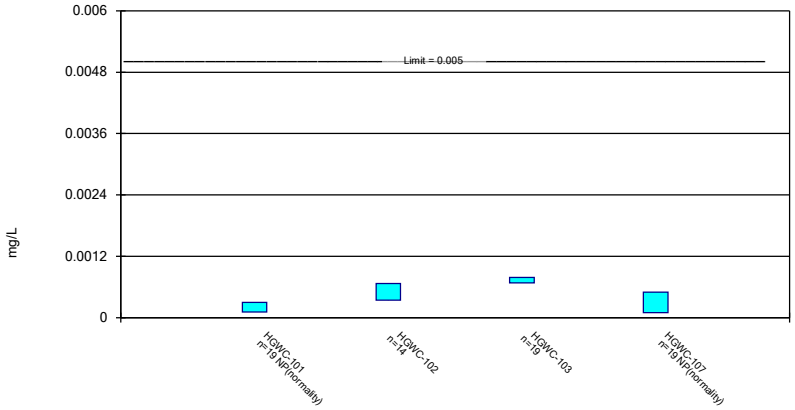
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Beryllium Analysis Run 10/26/2023 11:27 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-4

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

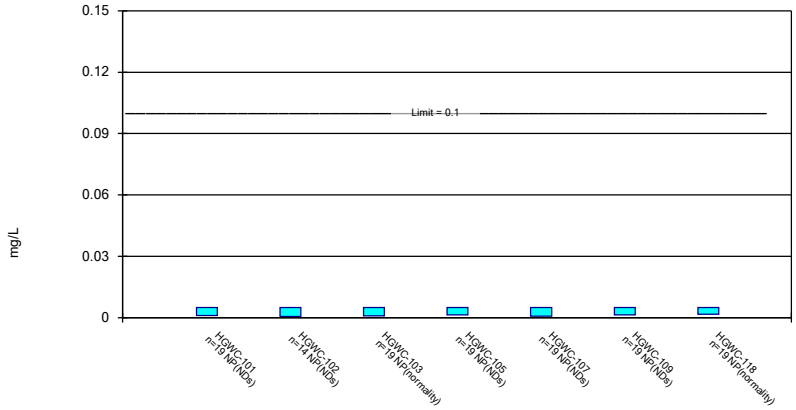


Constituent: Cadmium Analysis Run 10/26/2023 11:27 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

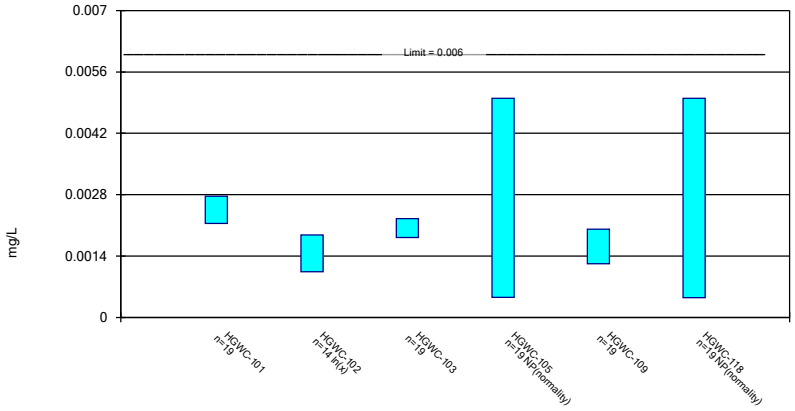


Constituent: Chromium Analysis Run 10/26/2023 11:27 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

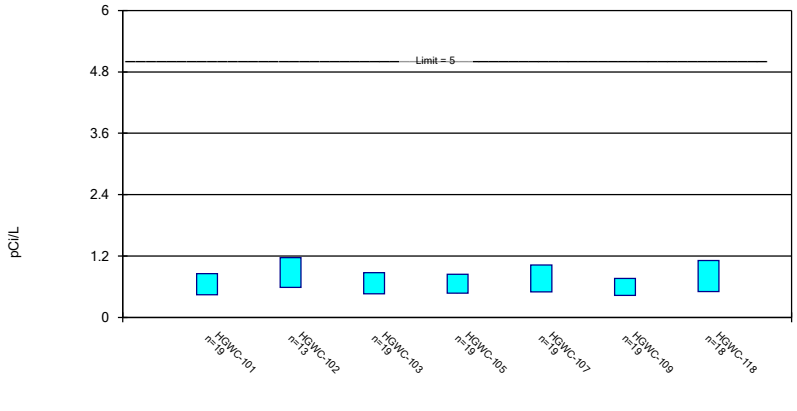


Constituent: Cobalt Analysis Run 10/26/2023 11:27 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

Parametric Confidence Interval

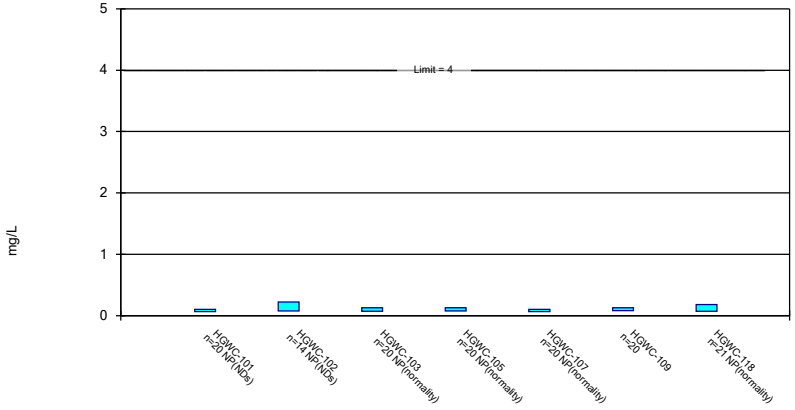
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 & 228 Analysis Run 10/26/2023 11:27 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-4

Parametric and Non-Parametric (NP) Confidence Interval

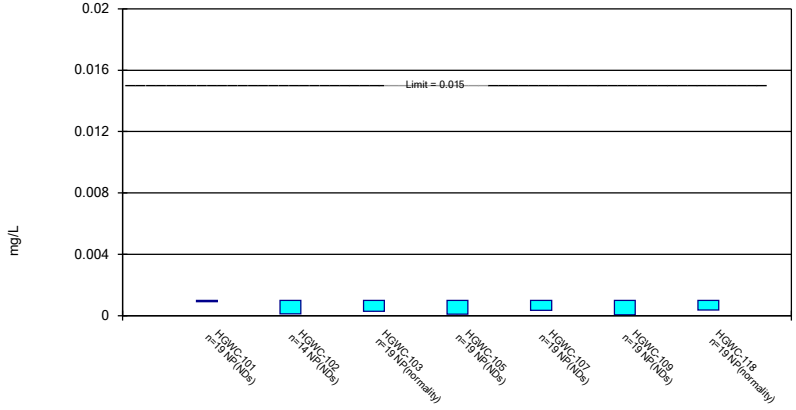
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 10/26/2023 11:27 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-4

Non-Parametric Confidence Interval

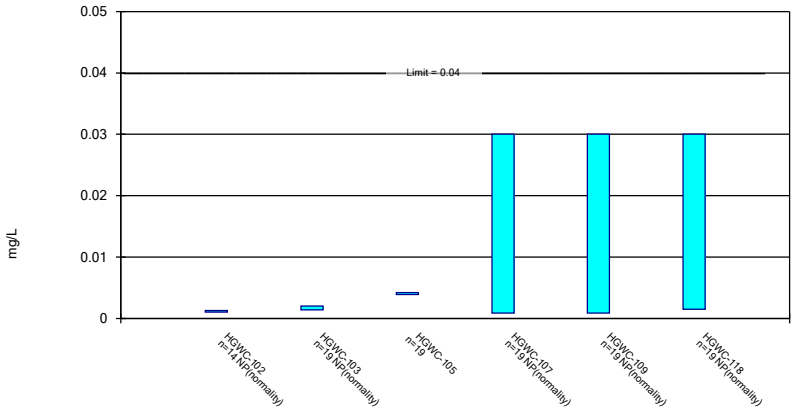
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Lead Analysis Run 10/26/2023 11:27 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-4

Parametric and Non-Parametric (NP) Confidence Interval

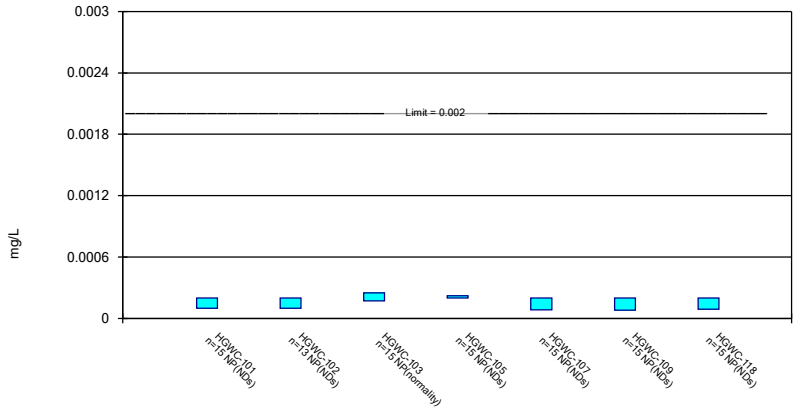
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 10/26/2023 11:27 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-4

Non-Parametric Confidence Interval

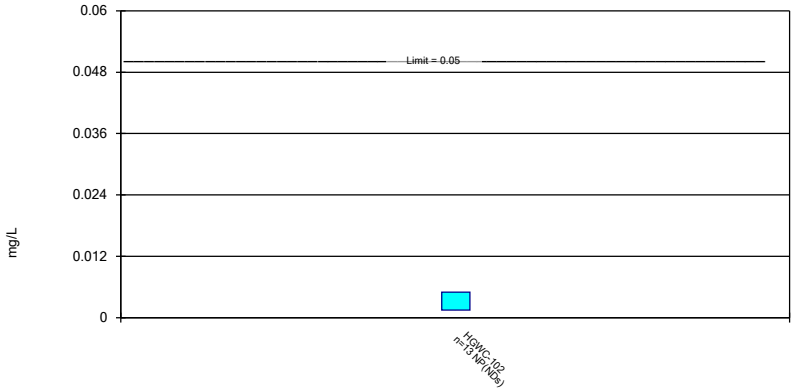
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Mercury Analysis Run 10/26/2023 11:27 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-4

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

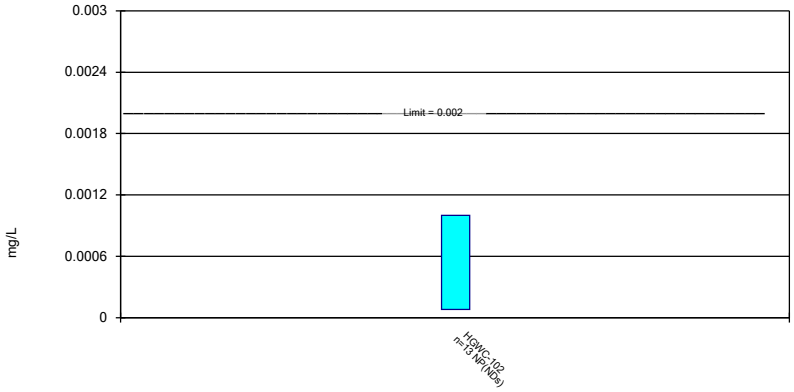


Constituent: Selenium Analysis Run 10/26/2023 11:27 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-4

Sanitas™ v.10.0.10 Sanitas software utilized by Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Thallium Analysis Run 10/26/2023 11:27 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-4

Confidence Interval

Constituent: Antimony (mg/L) Analysis Run 10/26/2023 11:28 AM View: Confidence Interval

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-102	HGWC-103	HGWC-107
8/31/2016		<0.003	<0.003
10/24/2016		<0.003	
10/25/2016			<0.003
1/31/2017		<0.003	<0.003
5/23/2017		<0.003	
5/24/2017			<0.003
8/10/2017		<0.003	<0.003
11/14/2017		<0.003	<0.003
6/6/2018		0.0022 (J)	<0.003
10/2/2018			0.0011 (J)
10/3/2018		<0.003	
8/22/2019		<0.003	
8/23/2019			<0.003
10/23/2019	<0.003		
1/3/2020	0.00076 (J)		
3/4/2020	<0.003		
3/24/2020	<0.003		
6/18/2020	<0.003		
7/21/2020	<0.003		
8/27/2020	<0.003	<0.003	<0.003
9/24/2020	<0.003		
8/13/2021	<0.003		<0.003
8/16/2021		<0.003	
2/2/2022	<0.003	<0.003	<0.003
8/5/2022	<0.003	<0.003	<0.003
1/25/2023	<0.003	<0.003	<0.003
8/11/2023	0.003	<0.003	<0.003
Mean	0.002828	0.002947	0.002873
Std. Dev.	0.0006213	0.0002066	0.0004906
Upper Lim.	0.003	0.003	0.003
Lower Lim.	0.003	0.0022	0.0011

ND substitution: RL or RL/2 if <15% NDs.

Confidence Interval

Constituent: Arsenic (mg/L) Analysis Run 10/26/2023 11:28 AM View: Confidence Interval

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-101	HGWC-102	HGWC-109	HGWC-118
8/31/2016	<0.005		0.0045 (J)	<0.005
10/20/2016	<0.005			<0.005
10/25/2016			0.003 (J)	
1/31/2017	<0.005		0.0022 (J)	<0.005
5/23/2017	<0.005			<0.005
5/24/2017			0.0012 (J)	
8/10/2017	<0.005		0.0016 (J)	<0.005
11/14/2017	<0.005		0.0011 (J)	<0.005
6/6/2018	<0.005		0.0018 (J)	
6/7/2018				<0.005
10/2/2018			0.0014 (J)	
10/3/2018	<0.005			<0.005
8/22/2019	<0.005			<0.005
8/23/2019			0.0035 (J)	
10/22/2019			0.0019 (J)	<0.005
10/23/2019	<0.005	<0.005		
1/3/2020		0.00065 (J)		
3/4/2020		0.00036 (J)		
3/24/2020		<0.005		
3/25/2020	0.00039 (J)		0.0025 (J)	<0.005
6/18/2020		0.00092 (J)		
7/21/2020		0.00083 (J)		
8/26/2020				<0.005
8/27/2020	<0.005	<0.005	0.0011 (J)	
9/24/2020	<0.005	<0.005		
9/25/2020			0.0017 (J)	
9/28/2020				<0.005
3/17/2021	<0.005	<0.005	0.0019 (J)	
3/18/2021				0.001 (J)
8/13/2021		<0.005	0.0019 (J)	<0.005
8/16/2021	<0.005			
2/2/2022	<0.005	<0.005	<0.005	
2/3/2022				<0.005
8/5/2022		<0.005	0.0022 (J)	<0.005
8/10/2022	<0.005			
1/25/2023	<0.005	<0.005	<0.005	<0.005
8/11/2023	<0.005	<0.005	<0.005	<0.005
Mean	0.004757	0.003769	0.002553	0.004789
Std. Dev.	0.001058	0.002024	0.001374	0.0009177
Upper Lim.	0.005	0.005	0.002308	0.005
Lower Lim.	0.00039	0.00083	0.001423	0.001

ND substitution: RL or RL/2 if <15% NDs.

Confidence Interval

Constituent: Barium (mg/L) Analysis Run 10/26/2023 11:28 AM View: Confidence Interval

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-101	HGWC-102	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-118
8/31/2016	0.0527		0.045	0.067	0.0391	0.0883	0.0595
10/20/2016	0.0477						0.055
10/24/2016			0.0386				
10/25/2016				0.0745	0.041	0.0831	
1/31/2017	0.0527		0.0365	0.0674	0.0382	0.0844	0.0613
5/23/2017	0.0436		0.0254				0.068
5/24/2017				0.0668	0.0377	0.0784	
8/10/2017	0.0419		0.0396	0.067	0.0385	0.0903	0.0638
11/14/2017	0.0407		0.0385	0.0643	0.039	0.083	0.07
6/6/2018	0.043		0.043	0.068	0.039	0.095	
6/7/2018							0.059
10/2/2018				0.066	0.038	0.089	
10/3/2018	0.041		0.04				0.056
8/22/2019	0.043		0.036	0.066			0.052
8/23/2019					0.038	0.088	
10/22/2019					0.039	0.087	0.054
10/23/2019	0.043	0.037	0.039	0.066			
1/3/2020		0.036					
3/4/2020		0.033					
3/24/2020		0.024					
3/25/2020	0.038		0.036	0.074	0.037	0.084	0.06
6/18/2020		0.029					
7/21/2020		0.028					
8/26/2020							0.056
8/27/2020	0.045	0.028	0.038	0.068	0.034	0.083	
9/24/2020	0.041	0.029	0.036	0.075	0.039		
9/25/2020						0.085	
9/28/2020							0.046
3/17/2021	0.04	0.031				0.077	
3/18/2021			0.042	0.082	0.041		0.067
8/13/2021		0.026		0.073	0.033	0.08	0.043
8/16/2021	0.037		0.037				
2/2/2022	0.036	0.029	0.036		0.034	0.072	
2/3/2022				0.093			0.047
8/5/2022		0.031	0.037	0.088	0.036	0.085	0.039
8/10/2022	0.04						
1/25/2023	0.033	0.027	0.032	0.094	0.035	0.076	0.048
8/11/2023	0.036	0.028	0.035	0.089	0.032	0.081	0.04
Mean	0.04186	0.02971	0.0374	0.07416	0.03729	0.08366	0.05498
Std. Dev.	0.005171	0.003625	0.004186	0.009998	0.002593	0.005504	0.009272
Upper Lim.	0.04489	0.03228	0.03985	0.088	0.03881	0.08688	0.06041
Lower Lim.	0.03883	0.02715	0.03495	0.0668	0.03577	0.08044	0.04955

Confidence Interval

Constituent: Beryllium (mg/L) Analysis Run 10/26/2023 11:28 AM View: Confidence Interval

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-101	HGWC-103	HGWC-118
8/31/2016	<0.0005	<0.0005	<0.0005
10/20/2016	<0.0005		<0.0005
10/24/2016		<0.0005	
1/31/2017	<0.0005	<0.0005	<0.0005
5/23/2017	7E-05 (J)	<0.0005	<0.0005
8/10/2017	<0.0005	<0.0005	<0.0005
11/14/2017	<0.0005	<0.0005	<0.0005
6/6/2018	5.9E-05 (J)	<0.0005	
6/7/2018			<0.0005
10/3/2018	6.5E-05 (J)	<0.0005	<0.0005
8/22/2019	<0.0005	<0.0005	<0.0005
10/22/2019			<0.0005
10/23/2019	7.5E-05 (J)	<0.0005	
3/25/2020	<0.0005	<0.0005	<0.0005
8/26/2020			<0.0005
8/27/2020	5.7E-05 (J)	5E-05 (J)	
9/24/2020	4.8E-05 (J)	8.8E-05 (J)	
9/28/2020			<0.0005
3/17/2021	5.9E-05 (J)		
3/18/2021		6.1E-05 (J)	9.3E-05 (J)
8/13/2021			<0.0005
8/16/2021	<0.0005	<0.0005	
2/2/2022	6.2E-05 (J)	7.7E-05 (J)	
2/3/2022			<0.0005
8/5/2022		<0.0005	<0.0005
8/10/2022	6.4E-05 (J)		
1/25/2023	<0.0005	<0.0005	<0.0005
8/11/2023	7E-05 (J)	<0.0005	<0.0005
Mean	0.0002699	0.0004093	0.0004786
Std. Dev.	0.0002243	0.0001807	9.337E-05
Upper Lim.	0.0005	0.0005	0.0005
Lower Lim.	6.2E-05	8.8E-05	9.3E-05

ND substitution: RL or RL/2 if <15% NDs.

Confidence Interval

Constituent: Cadmium (mg/L) Analysis Run 10/26/2023 11:28 AM View: Confidence Interval

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-101	HGWC-102	HGWC-103	HGWC-107
8/31/2016	0.0002 (J)		0.0006 (J)	0.0001 (J)
10/20/2016	0.0003 (J)			
10/24/2016			0.0008 (J)	
10/25/2016				8E-05 (J)
1/31/2017	0.0001 (J)		0.0006 (J)	9E-05 (J)
5/23/2017	0.0002 (J)		0.0006 (J)	
5/24/2017				0.0001 (J)
8/10/2017	0.0002 (J)		0.0007 (J)	<0.0005
11/14/2017	<0.0005		0.0007 (J)	<0.0005
6/6/2018	9.5E-05 (J)		0.00073 (J)	0.00012 (J)
10/2/2018				0.0001 (J)
10/3/2018	0.00018 (J)		0.00078 (J)	
8/22/2019	0.00014 (J)		0.0008 (J)	
8/23/2019				0.00011 (J)
10/22/2019				<0.0005
10/23/2019	0.0002 (J)	0.00026 (J)	0.00091 (J)	
1/3/2020		0.0002 (J)		
3/4/2020		0.00026 (J)		
3/24/2020		0.00068 (J)		
3/25/2020	0.00014 (J)		0.00068 (J)	<0.0005
6/18/2020		0.00047 (J)		
7/21/2020		0.00083 (J)		
8/27/2020	0.00019 (J)	0.00038 (J)	0.00082 (J)	<0.0005
9/24/2020	0.00014 (J)	0.00032 (J)	0.00076 (J)	<0.0005
3/17/2021	<0.0005	0.00094		
3/18/2021			0.00068	<0.0005
8/13/2021		0.00069		<0.0005
8/16/2021	0.00015 (J)		0.00081	
2/2/2022	<0.0005	0.00055	0.0008	<0.0005
8/5/2022		0.00044 (J)	0.00081	<0.0005
8/10/2022	0.00011 (J)			
1/25/2023	0.00011 (J)	0.00035 (J)	0.00063	<0.0005
8/11/2023	0.00015 (J)	0.00067	0.0007	<0.0005
Mean	0.0002161	0.0005029	0.0007321	0.0003526
Std. Dev.	0.0001351	0.0002289	8.81E-05	0.0001984
Upper Lim.	0.0003	0.000665	0.0007837	0.0005
Lower Lim.	0.00011	0.0003407	0.0006805	0.0001

ND substitution: RL or RL/2 if <15% NDs.

Confidence Interval

Constituent: Chromium (mg/L) Analysis Run 10/26/2023 11:28 AM View: Confidence Interval

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-101	HGWC-102	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-118
8/31/2016	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005
10/20/2016	<0.005						<0.005
10/24/2016			<0.005				
10/25/2016				<0.005	<0.005	<0.005	
1/31/2017	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005
5/23/2017	0.0006 (J)		<0.005				<0.005
5/24/2017				<0.005	<0.005	<0.005	
8/10/2017	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005
11/14/2017	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005
6/6/2018	<0.005		<0.005	<0.005	<0.005	<0.005	
6/7/2018							<0.005
10/2/2018				<0.005	<0.005	<0.005	
10/3/2018	<0.005		<0.005				<0.005
8/22/2019	0.00064 (J)		0.00063 (J)	<0.005			<0.005
8/23/2019					<0.005	<0.005	
10/22/2019					<0.005	0.00062 (J)	0.00066 (J)
10/23/2019	<0.005	<0.005	0.0015 (J)	0.0004 (J)			
1/3/2020		0.00063 (J)					
3/4/2020		<0.005					
3/24/2020		0.00051 (J)					
3/25/2020	0.00098 (J)		0.00045 (J)	0.0013 (J)	0.00074 (J)	0.0014 (J)	0.00081 (J)
6/18/2020		<0.005					
7/21/2020		<0.005					
8/26/2020							0.00098 (J)
8/27/2020	<0.005	<0.005	0.00069 (J)	<0.005	<0.005	<0.005	
9/24/2020	<0.005	<0.005	0.00081 (J)	0.00064 (J)	<0.005		
9/25/2020						<0.005	
9/28/2020							0.0017 (J)
3/17/2021	0.00075 (J)	<0.005				<0.005	
3/18/2021			0.003 (J)	0.00058 (J)	<0.005		0.0021 (J)
8/13/2021		<0.005		<0.005	<0.005	<0.005	<0.005
8/16/2021	<0.005		<0.005				
2/2/2022	<0.005	<0.005	0.0013 (J)		<0.005	<0.005	
2/3/2022				<0.005			<0.005
8/5/2022		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
8/10/2022	<0.005						
1/25/2023	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
8/11/2023	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Mean	0.004104	0.004367	0.003599	0.004101	0.004776	0.00458	0.004013
Std. Dev.	0.001785	0.001609	0.001952	0.001796	0.0009773	0.001265	0.001722
Upper Lim.	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Lower Lim.	0.00098	0.00063	0.00081	0.0013	0.00074	0.0014	0.0017

ND substitution: RL or RL/2 if <15% NDs.

Confidence Interval

Constituent: Cobalt (mg/L) Analysis Run 10/26/2023 11:28 AM View: Confidence Interval

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-101	HGWC-102	HGWC-103	HGWC-105	HGWC-109	HGWC-118
8/31/2016	0.0033 (J)		0.0018 (J)	0.0014 (J)	0.0023 (J)	<0.005
10/20/2016	0.0025 (J)					<0.005
10/24/2016			0.0018 (J)			
10/25/2016				0.0013 (J)	0.0017 (J)	
1/31/2017	0.001 (J)		0.0016 (J)	0.0006 (J)	0.0017 (J)	<0.005
5/23/2017	0.0025 (J)		0.0014 (J)			0.0005 (J)
5/24/2017				0.0007 (J)	0.002 (J)	
8/10/2017	0.0029 (J)		0.0025 (J)	0.0006 (J)	0.0012 (J)	0.0003 (J)
11/14/2017	0.003 (J)		0.002 (J)	0.0005 (J)	0.0014 (J)	0.0004 (J)
6/6/2018	0.0016 (J)		0.0031 (J)	0.00056 (J)	0.0014 (J)	
6/7/2018						<0.005
10/2/2018				<0.005	0.00081 (J)	
10/3/2018	0.0028 (J)		0.0023 (J)			<0.005
8/22/2019	<0.005		0.0019 (J)	<0.005		0.0003 (J)
8/23/2019					0.0027 (J)	
10/22/2019					0.0022 (J)	0.00061 (J)
10/23/2019	0.0023 (J)	0.0018 (J)	0.0021 (J)	0.00038 (J)		
1/3/2020		0.0038 (J)				
3/4/2020		0.0021 (J)				
3/24/2020		0.0019 (J)				
3/25/2020	0.0021 (J)		0.0022 (J)	0.00047 (J)	0.0022 (J)	<0.005
6/18/2020		0.0012 (J)				
7/21/2020		0.00098 (J)				
8/26/2020						0.00061 (J)
8/27/2020	0.0027 (J)	0.001 (J)	0.0019 (J)	<0.005	0.00086 (J)	
9/24/2020	0.0021 (J)	0.0011 (J)	0.0019 (J)	0.00044 (J)		
9/25/2020					0.001 (J)	
9/28/2020						0.00048 (J)
3/17/2021	0.0023 (J)	0.0012 (J)			0.003 (J)	
3/18/2021			0.0021 (J)	0.00045 (J)		0.0012 (J)
8/13/2021		0.00085 (J)		<0.005	0.0011 (J)	<0.005
8/16/2021	0.0026 (J)		0.0022 (J)			
2/2/2022	0.0027 (J)	0.0019 (J)	0.0022 (J)		0.002 (J)	
2/3/2022				<0.005		0.00045 (J)
8/5/2022		0.001 (J)	0.0021 (J)	<0.005	0.0008 (J)	<0.005
8/10/2022	0.0028 (J)					
1/25/2023	0.0021 (J)	0.0016 (J)	0.0017 (J)	0.00046 (J)	0.0016 (J)	<0.005
8/11/2023	0.0028 (J)	0.001 (J)	0.0019 (J)	0.00047 (J)	0.00077 (J)	<0.005
Mean	0.002453	0.001531	0.002037	0.002017	0.001618	0.002887
Std. Dev.	0.0005264	0.0007766	0.0003655	0.002099	0.0006693	0.002296
Upper Lim.	0.002761	0.001878	0.002251	0.005	0.00201	0.005
Lower Lim.	0.002144	0.001042	0.001823	0.00046	0.001226	0.00045

ND substitution: RL or RL/2 if <15% NDs.

Confidence Interval

Constituent: Combined Radium 226 & 228 (pCi/L) Analysis Run 10/26/2023 11:28 AM View: Confidence Interval

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-101	HGWC-102	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-118
8/31/2016	0.621 (U)		1.62	0.906 (U)	1.2	1.03	
10/20/2016	1.4						1.97
10/24/2016			1.01 (U)				
10/25/2016				1.03	1.11 (U)	1.07	
1/31/2017	0.906 (U)		0.976 (U)	0.868 (U)	1.45	0.588 (U)	1.03
5/23/2017	0.388 (U)		0.891 (U)				0.398 (U)
5/24/2017				0.728 (U)	0.393 (U)	0.593 (U)	
8/10/2017	1.03 (U)		0.601 (U)	1.35	0.84 (U)	0.691 (U)	0.938 (U)
11/14/2017	0.769 (U)		0.567 (U)	0.817 (U)	1.01 (U)	0.653 (U)	0.335 (U)
6/6/2018	1.28 (U)		0.836 (U)	0.559 (U)	0.365 (U)	0.939 (U)	
6/7/2018							0.696 (U)
10/2/2018				0.336 (U)	1.23	0.225 (U)	
10/3/2018	0.302 (U)		0.111 (U)				1.6 (U)
8/22/2019	0.474 (U)		0.946 (U)	0.694 (U)			0.904 (U)
8/23/2019					1.69	0.47 (U)	
10/22/2019					0.705 (U)	0.545 (U)	0.424 (U)
10/23/2019	0.776 (U)	0.858 (U)	0.571 (U)	0.584 (U)			
1/22/2020		1.04 (U)					
3/4/2020		1.32					
3/24/2020		1.23 (U)					
3/25/2020	0.603 (U)		0.403 (U)	0.663 (U)	0.673 (U)	0.508 (U)	0.915 (U)
7/21/2020		0.0938 (U)					
8/26/2020							1.19
8/27/2020	0.109 (U)	1.17 (U)	0.37 (U)	0.416 (U)	0.264 (U)	0.989 (U)	
9/24/2020	0.625 (U)	1.42	0.804 (U)	1.11 (U)	0.576 (U)		
9/25/2020						0.584 (U)	
9/28/2020							0.613 (U)
3/17/2021	0.248 (U)	0.401 (U)				0.556 (U)	
3/18/2021			0.274 (U)	0.252 (U)	0.145 (U)		0.323 (U)
8/13/2021		0.828 (U)		0.513 (U)	0.815 (U)	0.794 (U)	0.228 (U)
8/16/2021	0.667 (U)		0.493 (U)				
2/1/2022	0.162 (U)	0.806 (U)	0.569 (U)		0.0564 (U)	0.542 (U)	
2/3/2022				0.835			0.5 (U)
8/5/2022		0.618 (U)	0.205 (U)	0.139 (U)	0.917 (U)	0.22 (U)	0.206 (U)
8/10/2022	0.601 (U)						
1/25/2023	0.419 (U)	0.513 (U)	0.568 (U)	0.432 (U)	0.71 (U)	0.195 (U)	1.44
8/11/2023	0.93 (U)	1.08	0.849 (U)	0.292 (U)	0.314 (U)	0.105 (U)	0.806 (U)
Mean	0.6479	0.8752	0.6665	0.6592	0.7612	0.5946	0.8064
Std. Dev.	0.3536	0.3891	0.3526	0.3169	0.4491	0.2837	0.4987
Upper Lim.	0.8549	1.165	0.873	0.8447	1.024	0.7607	1.108
Lower Lim.	0.4408	0.5859	0.4601	0.4736	0.4983	0.4285	0.5047

Confidence Interval

Constituent: Fluoride (mg/L) Analysis Run 10/26/2023 11:28 AM View: Confidence Interval

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-101	HGWC-102	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-118
8/31/2016	0.05 (J)		0.06 (J)	0.15 (J)	0.08 (J)	0.12 (J)	0.18 (J)
10/20/2016	0.03 (J)						0.12 (J)
10/24/2016			0.13 (J)				
10/25/2016				0.09 (J)	0.16 (J)	0.17 (J)	
1/31/2017	<0.1		<0.1	0.13 (J)	0.16 (J)	0.05 (J)	0.3
5/23/2017	<0.1		0.15 (J)				0.14 (J)
5/24/2017				0.07 (J)	0.009 (J)	0.13 (J)	
8/10/2017	<0.1		<0.1	0.03 (J)	<0.1	0.12 (J)	0.11 (J)
11/14/2017	<0.1		<0.1	<0.1	<0.1	<0.3	0.07 (J)
6/6/2018	<0.1		<0.1	0.074 (J)	0.057 (J)	0.15 (J)	
6/7/2018							0.3
10/2/2018				<0.1	<0.1	<0.3	
10/3/2018	<0.1		<0.1				0.12 (J)
4/3/2019					<0.1	0.05 (J)	
4/4/2019	<0.1		0.042 (J)	0.03 (J)			
4/5/2019							0.33
6/18/2019							0.89
8/22/2019	<0.1		<0.1	<0.1			0.07 (J)
8/23/2019					<0.1	0.034 (J)	
10/22/2019					0.047 (J)	0.099 (J)	0.087 (J)
10/23/2019	<0.1	0.22 (J)	<0.1	<0.1			
1/3/2020		<0.1					
3/4/2020		<0.1					
3/24/2020		<0.1					
3/25/2020	<0.1		<0.1	<0.1	<0.1	0.075 (J)	0.078 (J)
6/18/2020		<0.1					
7/21/2020		<0.1					
8/26/2020							0.072 (J)
8/27/2020	<0.1	<0.1	<0.1	<0.1	<0.1	0.094 (J)	
9/24/2020	<0.1	<0.1	<0.1	<0.1	0.064 (J)		
9/25/2020						0.091 (J)	
9/28/2020							0.078 (J)
3/17/2021	<0.1	<0.1				0.089 (J)	
3/18/2021			<0.1	<0.1	<0.1		0.079 (J)
8/13/2021		<0.1		<0.1	<0.1	0.086 (J)	0.075 (J)
8/16/2021	<0.1		<0.1				
2/2/2022	<0.1	<0.1	<0.1		<0.1	0.086 (J)	
2/3/2022				<0.1			0.069 (J)
8/5/2022		0.076 (J)	0.071 (J)	0.075 (J)	0.093 (J)	0.14	0.12
8/10/2022	0.065 (J)						
1/25/2023	<0.1	<0.1	<0.1	0.051 (J)	0.054 (J)	0.12	0.095 (J)
8/11/2023	<0.1	<0.1	<0.1	<0.1	<0.1	0.086 (J)	0.07 (J)
Mean	0.09225	0.1069	0.09765	0.09	0.0912	0.1045	0.1644
Std. Dev.	0.01977	0.03319	0.02188	0.02893	0.03438	0.03735	0.1852
Upper Lim.	0.1	0.22	0.13	0.13	0.1	0.1257	0.18
Lower Lim.	0.065	0.076	0.071	0.074	0.064	0.08329	0.072

ND substitution: RL or RL/2 if <15% NDs.

Confidence Interval

Constituent: Lead (mg/L) Analysis Run 10/26/2023 11:28 AM View: Confidence Interval

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-101	HGWC-102	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-118
8/31/2016	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001
10/20/2016	<0.001						<0.001
10/24/2016			<0.001				
10/25/2016				<0.001	<0.001	<0.001	
1/31/2017	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001
5/23/2017	0.0009 (J)		<0.001				<0.001
5/24/2017				<0.001	<0.001	<0.001	
8/10/2017	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001
11/14/2017	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001
6/6/2018	<0.001		<0.001	<0.001	<0.001	<0.001	
6/7/2018							<0.001
10/2/2018				<0.001	<0.001	<0.001	
10/3/2018	<0.001		<0.001				<0.001
8/22/2019	<0.001		<0.001	<0.001			<0.001
8/23/2019					<0.001	5.8E-05 (J)	
10/22/2019					7.9E-05 (J)	5.4E-05 (J)	0.00025 (J)
10/23/2019	<0.001	<0.001	0.00043 (J)	6.8E-05 (J)			
1/3/2020		<0.001					
3/4/2020		0.00011 (J)					
3/24/2020		<0.001					
3/25/2020	<0.001		7.6E-05 (J)	8.5E-05 (J)	0.00021 (J)	<0.001	0.0001 (J)
6/18/2020		<0.001					
7/21/2020		<0.001					
8/26/2020							0.00036 (J)
8/27/2020	<0.001	<0.001	0.00018 (J)	<0.001	<0.001	<0.001	
9/24/2020	<0.001	<0.001	0.00028 (J)	4.9E-05 (J)	0.00034 (J)		
9/25/2020						<0.001	
9/28/2020							0.00022 (J)
3/17/2021	<0.001	<0.001				<0.001	
3/18/2021			0.00024 (J)	5.8E-05 (J)	9.1E-05 (J)		0.00088 (J)
8/13/2021		<0.001		<0.001	<0.001	<0.001	<0.001
8/16/2021	<0.001		<0.001				
2/2/2022	<0.001	<0.001	<0.001		<0.001	<0.001	
2/3/2022				<0.001			<0.001
8/5/2022		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
8/10/2022	<0.001						
1/25/2023	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
8/11/2023	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Mean	0.0009947	0.0009364	0.0008003	0.0008032	0.0008274	0.0009006	0.0008321
Std. Dev.	2.294E-05	0.0002379	0.0003488	0.0003917	0.0003471	0.0002976	0.0003223
Upper Lim.	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Lower Lim.	0.0009	0.00011	0.00028	8.5E-05	0.00034	5.8E-05	0.00036

ND substitution: RL or RL/2 if <15% NDs.

Confidence Interval

Constituent: Lithium (mg/L) Analysis Run 10/26/2023 11:28 AM View: Confidence Interval

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-102	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-118
8/31/2016		<0.03	0.0034 (J)	<0.03	<0.03	<0.03
10/20/2016						<0.03
10/24/2016		<0.03				
10/25/2016			0.0043 (J)	<0.03	<0.03	
1/31/2017		<0.03	0.0042 (J)	<0.03	<0.03	<0.03
5/23/2017		0.0012 (J)				0.0012 (J)
5/24/2017			0.0039 (J)	<0.03	0.0012 (J)	
8/10/2017		0.0016 (J)	0.004 (J)	<0.03	<0.03	<0.03
11/14/2017		0.0015 (J)	0.0044 (J)	<0.03	<0.03	<0.03
6/6/2018		0.0017 (J)	0.0041 (J)	0.00099 (J)	0.0013 (J)	
6/7/2018						0.0015 (J)
10/2/2018			0.0041 (J)	<0.03	0.0013 (J)	
10/3/2018		0.0016 (J)				<0.03
8/22/2019		0.0015 (J)	0.004 (J)			0.0018 (J)
8/23/2019				0.00092 (J)	0.0009 (J)	
10/22/2019				0.00094 (J)	0.00088 (J)	0.0027 (J)
10/23/2019	0.0012 (J)	0.002 (J)	0.0039 (J)			
1/3/2020	0.0011 (J)					
3/4/2020	0.0013 (J)					
3/24/2020	0.00084 (J)					
3/25/2020		0.0016 (J)	0.0041 (J)	0.00091 (J)	<0.03	0.0017 (J)
6/18/2020	0.0013 (J)					
7/21/2020	0.0013 (J)					
8/26/2020						0.0028 (J)
8/27/2020	0.0011 (J)	0.0016 (J)	0.0037 (J)	<0.03	0.0011 (J)	
9/24/2020	0.0011 (J)	0.0017 (J)	0.0038 (J)	0.00098 (J)		
9/25/2020					0.001 (J)	
9/28/2020						0.0022 (J)
3/17/2021	0.0012 (J)				<0.03	
3/18/2021		0.0018 (J)	0.0042 (J)	0.0011 (J)		0.0029 (J)
8/13/2021	0.0011 (J)		0.0038 (J)	0.00084 (J)	<0.03	0.0017 (J)
8/16/2021		0.0016 (J)				
2/2/2022	0.0013 (J)	0.0019 (J)		0.001 (J)	0.00084 (J)	
2/3/2022			0.0046 (J)			0.0015 (J)
8/5/2022	0.0013 (J)	0.0014 (J)	0.0039 (J)	0.00082 (J)	0.00087 (J)	0.0018 (J)
1/25/2023	0.001 (J)	0.0012 (J)	0.0038 (J)	0.00081 (J)	<0.03	0.001 (J)
8/11/2023	0.0013 (J)	0.0014 (J)	0.0044 (J)	0.00083 (J)	0.00076 (J)	0.0023 (J)
Mean	0.001174	0.006068	0.004032	0.01317	0.01474	0.01079
Std. Dev.	0.0001415	0.01065	0.0002849	0.01475	0.01487	0.01341
Upper Lim.	0.0013	0.002	0.004198	0.03	0.03	0.03
Lower Lim.	0.001	0.0014	0.003865	0.00084	0.00088	0.0015

ND substitution: RL or RL/2 if <15% NDs.

Confidence Interval

Constituent: Mercury (mg/L) Analysis Run 10/26/2023 11:28 AM View: Confidence Interval

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-101	HGWC-102	HGWC-103	HGWC-105	HGWC-107	HGWC-109	HGWC-118
8/31/2016	<0.0002		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
10/20/2016	<0.0002						<0.0002
10/24/2016			<0.0002				
10/25/2016				<0.0002	<0.0002	<0.0002	
1/31/2017	9.3E-05 (J)		8E-05 (J)	<0.0002	<0.0002	8E-05 (J)	9E-05 (J)
5/23/2017	<0.0002		<0.0002				<0.0002
5/24/2017				<0.0002	<0.0002	<0.0002	
8/10/2017	<0.0002		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
11/14/2017	<0.0002		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
6/6/2018	<0.0002		<0.0002	<0.0002	<0.0002	<0.0002	
6/7/2018							<0.0002
10/2/2018				<0.0002	<0.0002	<0.0002	
10/3/2018	<0.0002		<0.0002				<0.0002
8/22/2019	<0.0002		<0.0002	<0.0002			<0.0002
8/23/2019					<0.0002	<0.0002	
10/23/2019		<0.0002					
1/3/2020		<0.0002					
3/4/2020		<0.0002					
3/24/2020		<0.0002					
6/18/2020		<0.0002					
7/21/2020		<0.0002					
8/26/2020							<0.0002
8/27/2020	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
9/24/2020		<0.0002					
8/13/2021		0.0001 (J)		0.00022	8.4E-05 (J)	8E-05 (J)	8.1E-05 (J)
8/16/2021	9.9E-05 (J)		0.00027				
2/2/2022	<0.0002	<0.0002	<0.0002		<0.0002	<0.0002	
2/3/2022				<0.0002			<0.0002
8/5/2022		<0.0002	0.00017 (J)	<0.0002	<0.0002	<0.0002	<0.0002
8/10/2022	<0.0002						
1/25/2023	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
8/11/2023	<0.0002	<0.0002	0.00025	<0.0002	<0.0002	<0.0002	<0.0002
Mean	0.0001861	0.0001923	0.000198	0.0002013	0.0001923	0.000184	0.0001847
Std. Dev.	3.661E-05	2.774E-05	4.021E-05	5.164E-06	2.995E-05	4.222E-05	4.032E-05
Upper Lim.	0.0002	0.0002	0.00025	0.00022	0.0002	0.0002	0.0002
Lower Lim.	9.9E-05	0.0001	0.00017	0.0002	8.4E-05	8E-05	9E-05

ND substitution: RL or RL/2 if <15% NDs.

Confidence Interval

Constituent: Selenium (mg/L) Analysis Run 10/26/2023 11:28 AM View: Confidence Interval

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-102
10/23/2019	<0.005
1/3/2020	0.0015 (J)
3/4/2020	<0.005
3/24/2020	<0.005
6/18/2020	<0.005
7/21/2020	<0.005
8/27/2020	<0.005
9/24/2020	<0.005
8/13/2021	<0.005
2/2/2022	<0.005
8/5/2022	<0.005
1/25/2023	<0.005
8/11/2023	<0.005
Mean	0.004731
Std. Dev.	0.0009707
Upper Lim.	0.005
Lower Lim.	0.0015

ND substitution: RL or RL/2 if <15% NDs.

Confidence Interval

Constituent: Thallium (mg/L) Analysis Run 10/26/2023 11:28 AM View: Confidence Interval

Plant Hammond Client: Southern Company Data: Hammond AP-4

	HGWC-102
10/23/2019	<0.001
1/3/2020	8E-05 (J)
3/4/2020	<0.001
3/24/2020	<0.001
6/18/2020	<0.001
7/21/2020	<0.001
8/27/2020	<0.001
9/24/2020	<0.001
8/13/2021	<0.001
2/2/2022	<0.001
8/5/2022	<0.001
1/25/2023	<0.001
8/11/2023	<0.001
Mean	0.0009292
Std. Dev.	0.0002552
Upper Lim.	0.001
Lower Lim.	8E-05

ND substitution: RL or RL/2 if <15% NDs.