



Prepared for

Georgia Power Company
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2023 SEMIANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

PLANT HAMMOND ASH POND 3 (AP-3)

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Project Number GW6581D

February 2024

CERTIFICATION STATEMENT

This 2023 *Semiannual Groundwater Monitoring and Corrective Action Report, Plant Hammond – Ash Pond 3 (AP-3)* has been prepared in compliance with the United States Environmental Protection Agency Coal Combustion Residual Rule (40 Code of Federal Regulations [CFR] 257 Subpart D), specifically 40 CFR § 257.90(e), and the Georgia Environmental Protection Division Rules for Solid Waste Management 391-3-4-.10 by a qualified groundwater scientist or engineer with Geosyntec Consultants, Inc. I hereby certify that I am a qualified groundwater scientist, in accordance with the Georgia Rules of Solid Waste Management 391-3-4-.04.



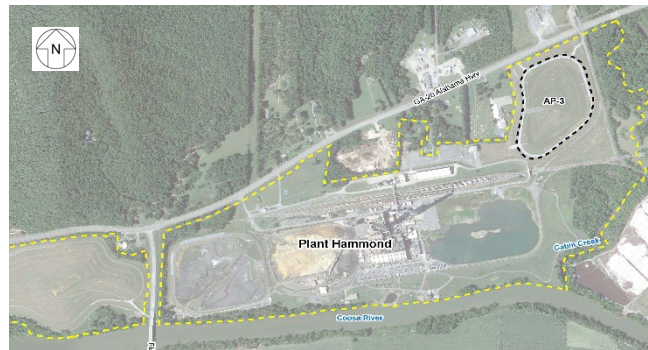
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SUMMARY

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 3 (AP-3) (the Site). This summary was prepared by Geosyntec Consultants, Inc. (Geosyntec) on behalf of Georgia Power to meet the requirements listed in Part A, Section 6¹ 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. AP-3 is located on the northeastern corner of the Plant Hammond property. In the early 1980’s, AP-3 was converted into a dry ash disposal area and in the early 1990’s the pond stopped receiving CCR materials. Final capping of the pond with a low-permeability cover system was completed in the second quarter of 2018. The Georgia Environmental Protection Division (GA EPD) approved closure permit no. 057-026D(CCR) for AP-3 on November 13, 2023.



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-3 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. Groundwater data for the event were evaluated in accordance with the certified statistical methods. Statistically significant increases of Appendix III²

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

constituents above background were observed in select monitoring wells following the August 2023 event, as summarized in the table below.

<i>Appendix III Constituent²</i>	<i>August 2023</i>
Boron	HGWC-120, HGWC-121A, HGWC-125
Calcium	HGWC-120, HGWC-121A, HGWC-125
Sulfate	HGWC-120, HGWC-121A, HGWC-125
Total dissolved solids	HGWC-120, HGWC-121A, HGWC-125

No statistically significant levels (SSLs) were identified for Appendix IV groundwater data from the August 2023 event³.

Groundwater at AP-3 will continue to be managed under the assessment monitoring program. 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 the GA EPD semiannually.

³ Antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, fluoride, lead, lithium, mercury, molybdenum, selenium, thallium, and radium 226 + 228. A statistically significant 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.

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LIST OF ACRONYMS AND ABBREVIATIONS

AP-3	Ash Pond 3
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
Georgia Power	Georgia Power Company
Geosyntec	Geosyntec Consultants, Inc.
GSC	Groundwater Stats Consulting
GWPS	Groundwater Protection Standard
HAR	Hydrogeologic Assessment Report
HDPE	high density polyethylene
<i>i</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 (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 3 (AP-3) for the reporting period of July through December 2023 (referred herein as the “semiannual reporting period”).

Groundwater monitoring and reporting for the CCR unit is performed in accordance with the monitoring requirements of § 257.90 through § 257.95 of the federal CCR Rule, and GA EPD Rules for Solid Waste Management 391-3-4-.10(6). To specify groundwater monitoring requirements, GA EPD rule 391-3-4-.10(6)(a) incorporates by reference the federal CCR Rule. For ease of reference, the federal CCR rules are cited within this report, in lieu of citing both sets of regulations.

AP-3 ceased receiving waste prior to the effective date of the federal CCR Rule promulgated in April 2015. A notification of intent to initiate closure of the inactive CCR surface impoundment was certified on December 7, 2015 and posted to Georgia Power’s website. Groundwater monitoring and reporting for AP-3 are being completed in accordance with the alternate schedule in § 257.100(e)(5) of the revised federal CCR Rule (August 5, 2016). Pursuant to § 257.96(b), Georgia Power monitors groundwater associated with AP-3 in accordance with the assessment monitoring program established for the unit in 2019, including semiannual monitoring and reporting pursuant to § 257.90 through § 257.95 of the federal CCR Rule. Also, the closure permit issued by GA EPD (i.e., no. 057-026D(CCR)) stipulates that groundwater monitoring is required for the duration of the post closure care period (30-years).

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 on July 29, 2019, and no longer produce electricity.

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

Closure of AP-3 commenced in 2016. As part of closure, AP-3 was dewatered sufficiently to remove the free liquids. The CCR material remaining in AP-3 was graded, and a final cover system installed. The final cover system consists of a 60-millimeter-high density polyethylene (HDPE) liner, geocomposite drainage media, a minimum 18-inch-thick protective soil cover, and a 6-inch-thick vegetative layer. The final cover system was designed to limit infiltration of precipitation with low permeability materials and is graded to promote positive drainage and shed stormwater away from AP-3 via riprap drainage ditches toward three outfall locations around AP-3. Final capping of the unit was completed in the second quarter of 2018. Closure permit no. 057-026D(CCR) was approved by GA EPD on November 13, 2023.

1.2 Regional Geology and Hydrogeologic Setting

The following section summarizes the geologic and hydrogeologic conditions at AP-3 as described in the *Hydrogeologic Assessment Report (Revision 01) – Plant Hammond Ash Pond 3 (AP-3)* (HAR Rev 01) submitted to GA EPD in support of the AP-3 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-3 is underlain by the middle units of the Cambrian age Conasauga Formation, consisting of mostly shaley limestone. Based on review of site-specific subsurface investigations, the bedrock at AP-3 was identified as limestone or shaley limestone. AP-3 is underlain primarily by five units: (i) fill material; (ii) terrace alluvium; (iii) residuum; (iv) highly weathered/fractured limestone bedrock; and (v) unweathered limestone bedrock.

Based on subsurface investigations, the fill is composed of lean clay or gravelly lean clay with sand, sometimes identified by the presence of wood or roots. The terrace alluvium consists of unconsolidated sediments with high sand and gravel content associated with deposition from the Coosa River and Cabin Creek. Residual or native soils have been derived from the in-place weathering of the shaley limestone bedrock. The residuum is generally described as fat clay with typically only trace amounts of sand, and rarely gravel. Just below the residuum clay layer is a gradational zone of varying proportions of clayey residuum and sand, gravel, and cobble-sized angular pieces of partially weathered limestone, grading into a zone of fractured limestone, before grading into unweathered, fresh limestone. The upper highly weathered zone appears more as residuum with various sized rock fragments. The lower zone becomes less clayey with depth and is estimated to be approximately 5 feet thick. Most of the limestone is described as medium to dark gray with a slabby or flaggy habit when broken in pieces by the sonic drilling. The limestone is very finely laminated with lighter and darker gray layers, and contains interbeds of calcareous shale.

1.2.2 Hydrogeologic Setting

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

1.3 Groundwater Monitoring Well Network

In accordance with § 257.91, a groundwater monitoring system was installed at AP-3 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.

The current on-site network of piezometers is used to gauge water levels to define groundwater flow direction and gradients. The locations of the detection monitoring wells and piezometers associated with AP-3 are shown on **Figure 2**; well construction details are listed in **Table 1**.

2.0 GROUNDWATER MONITORING ACTIVITIES

In accordance with § 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

No additional detection monitoring wells or piezometers were installed during this semiannual reporting period.

The well and piezometer networks are inspected semiannually to evaluate 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-3 in August 2019. No SSLs of Appendix IV constituents were identified during this semiannual reporting period. Groundwater at AP-3 will continue to be managed under the assessment monitoring program stipulated by § 257.95.

For the current semiannual reporting period, one semiannual assessment monitoring event was conducted in August 2023. The number of groundwater samples collected for analysis and the dates the samples were collected at AP-3 during the semiannual reporting period are summarized in **Table 2**. Details of these events and analytical results are discussed in Section 3, while the statistical results are discussed in Section 4.

2.3 Additional Groundwater and Surface Water Evaluations

Supplemental groundwater samples were collected from the entire AP-3 detection monitoring well network during the August 2023 monitoring event and were analyzed for additional 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**.

In response to GA EPD comments received on January 26, 2021, Georgia Power added three surface water sampling locations to the stormwater outfalls at AP-3. With the issuance of closure permit no. 057-026D(CCR) on November 13, 2023, these locations will be sampled semiannually for the full Appendix IV constituent list beginning in 2024.

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-3 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-3 wells and piezometers during the August 2023 assessment monitoring event and used to calculate 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.

Surface water elevations were recorded from two surveyed gauging points located along Cabin Creek east of AP-3, as shown on **Figure 2**. One gauging location, referenced in **Table 3** as “Cabin Creek (Hwy 20)”, is located midway across the bridge along GA-20 Alabama Highway spanning Cabin Creek. The second Cabin Creek gauging location is along the railroad bridge southeast of AP-3; this location is referred to in **Table 3** as “Cabin Creek (Railroad Bridge)”.

The groundwater and surface water elevation data presented in **Table 3** were used to prepare a potentiometric surface contour map for the August 2023 event, which is presented on **Figure 3**. Groundwater in the AP-3 area flows under the influence of topography from slightly higher ground surface elevations on the western side of the Site toward lower elevations to the east of AP-3. The flow direction is generally consistent with previous observations for AP-3.

3.2 Groundwater Gradient and Flow Velocity

The horizontal groundwater hydraulic gradient within the uppermost aquifer beneath AP-3 was calculated using the groundwater elevation data from the August 2023 semiannual sampling event. The hydraulic gradient is commonly calculated 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. The hydraulic gradient in this report has been calculated between an upgradient and downgradient well

pair selected to provide the most accurate alignment possible relative to the interpreted groundwater flow path (i.e., between HGWA-122 and MW-32). The hydraulic gradient calculation is presented in **Table 4**. The general trajectory of the flow path for the August 2023 semiannual sampling event is shown on **Figure 3**. The hydraulic gradient for this semiannual reporting period across AP-3 is 0.0067 feet per foot (ft/ft).

The approximate horizontal flow velocity associated with AP-3 groundwater was calculated using the following derivative of Darcy's Law. The calculation is provided in **Table 4**.

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

where:

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

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

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

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 LETCO in 1977, Southern Company Services in 2014, and Geosyntec in 2017 to evaluate horizontal hydraulic conductivity (K_h) of the water bearing units in the vicinity of AP-3. Slug testing was performed to estimate the K_h for units above the top of bedrock, while single packer testing was used to estimate the K_h for the bedrock intervals. Additional details are presented in the HAR Rev 01 (Geosyntec, 2020).

The groundwater flow velocity calculation was performed using the geometric mean value for K_h of the highly weathered/fractured rock of 9.8×10^{-4} centimeters per second (cm/sec) or 2.76 feet per day (ft/day). An estimated effective porosity (n_e) of 0.15 is used to represent average lithologic conditions at AP-3, derived based on review of literature, observed site lithology, and professional judgement. With these variables assigned, and

accounting for the hydraulic gradient discussed above, the horizontal groundwater flow velocity underneath AP-3 for this semiannual reporting period was calculated to be 0.12 ft/day.

3.3 Groundwater Sampling Procedures

Groundwater samples were collected using low-flow sampling procedures in accordance with § 257.93(a). Purging and sampling was performed using dedicated bladder pumps with dedicated tubing, non-dedicated bladder pumps, or peristaltic pumps. For wells sampled with non-dedicated bladder pumps, the pump intake was lowered to the midpoint of the well screen (or as appropriate based on the groundwater level). Non-dedicated bladder 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 \pm 0.1 standard units (s.u.).
- Conductivity \pm 5%.
- \pm 0.2 milligram per liter (mg/L) \pm 10%, whichever is greater, for DO > 0.5 mg/L. No criterion applies if DO < 0.5 mg/L, record only.
- Turbidity measured less than 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 semiannual reporting period 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 from the August 2023 semiannual sampling event and the supplementary geochemical ionic data from the August 2023 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, 2021), 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 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 groundwater protection standards (GWPS) for the Appendix IV 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 report 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, that incorporates the statistical tests required of Subtitle C and D facilities by USEPA regulations and guidance as recommended in the USEPA document *Statistical Analysis of Groundwater Data at RCRA Facilities Unified Guidance* (Unified Guidance) (USEPA, 2009).

Appendix III statistical analysis was performed to determine if Appendix III constituents have returned to background levels. Appendix IV constituents were evaluated to assess 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 are 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. The most recent sample from each downgradient well is compared to the background limit to determine whether there are significant statistical increases (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 SSLs 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 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 analysis discussion presented in **Appendix C**, groundwater conditions have not returned to background and assessment monitoring should continue. However, no SSLs of Appendix IV constituents were identified following statistical analyses of the August 2023 data set.

5.0 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; and therefore, Georgia Power will continue to monitor groundwater at AP-3 in accordance with the assessment monitoring program regulations of § 257.95.

6.0 CONCLUSIONS AND FUTURE ACTIONS

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

Statistical analyses of the groundwater monitoring data for AP-3 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-3 is scheduled to begin in February 2024.

7.0 REFERENCES

- Geosyntec, 2020. Hydrogeologic Assessment Report (Revision 01) – Plant Hammond Ash Pond 3 (AP-3). November 2020.
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TABLES

Table 1
Monitoring Well Network Summary
Plant Hammond AP-3, Floyd County, Georgia

Well ID	Hydraulic Location	Installation Date	Northing ⁽¹⁾	Easting ⁽¹⁾	Top of Casing Elevation ⁽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-1	Upgradient	12/3/2014	1550423.32	1940770.00	595.21	573.12	563.12	32.49	10
HGWA-2	Upgradient	12/2/2015	1549796.87	1939845.15	587.92	570.29	560.29	27.95	10
HGWA-3	Upgradient	12/2/2015	1549794.41	1939833.39	587.74	553.23	543.23	44.51	10
HGWA-43D	Upgradient	8/26/2020	1550422.85	1940753.80	595.08	544.08	534.08	61.25	10
HGWA-44D	Upgradient	8/25/2020	1550409.13	1940756.18	594.79	491.76	481.76	113.28	10
HGWA-45D	Upgradient	8/19/2020	1551157.68	1941907.54	586.95	535.23	525.23	62.87	10
HGWA-122	Upgradient	11/20/2014	1551251.42	1941887.11	587.90	570.54	560.54	27.76	10
HGWC-120	Downgradient	6/27/2016	1551067.24	1942926.62	605.82	548.83	538.83	67.00	10
HGWC-121A	Downgradient	7/17/2017	1550607.97	1943030.44	584.69	556.71	546.71	37.98	10
HGWC-124	Downgradient	11/13/2014	1551624.93	1942781.05	582.52	557.80	547.80	35.12	10
HGWC-125	Downgradient	5/4/2020	1550821.41	1942962.87	608.89	556.03	546.03	63.19	10
HGWC-126	Downgradient	11/25/2019	1550422.03	1942689.40	611.24	552.72	542.72	68.52	10
Piezometer									
MW-21	Upgradient	12/3/2014	1550270.15	1941809.76	586.27	570.40	560.40	26.28	10
MW-23	Downgradient	11/24/2014	1551641.44	1942496.83	584.91	563.03	553.03	32.28	10
MW-32	Downgradient	11/22/2019	1551092.83	1943021.47	585.46	559.30	549.30	36.16	10
MW-39	Downgradient	3/16/2020	1551111.45	1943089.26	580.42	564.93	554.93	25.82	10
MW-41	Downgradient	5/18/2020	1551158.16	1943196.47	577.25	563.20	553.20	24.38	10
MW-46D	Downgradient	8/18/2020	1551056.478	1942929.10	605.72	513.92	503.92	102.05	10

Notes:

ft = feet

BTOC = below top of casing

(1) Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Survey data certified by GEL Solutions May 19, 2020. Survey data for HGWA-43D, HGWA-44D, HGWA-45D, and MW-46D certified by GEL Solutions September 10, 2020.

(2) Elevations referenced to the North American Vertical Datum of 1988 (NAVD88). Survey completed by GEL Solutions May 19, 2020. Survey data for HGWA-43D, HGWA-44D, HGWA-45D, and MW-46D certified by GEL Solutions September 10, 2020.

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

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

Well ID	Hydraulic Location	August 7-11, 2023	Status of Monitoring Well
Purpose of Sampling Event:		Assessment	
<i>Detection Monitoring Well</i>			
HGWA-1	Upgradient	X	Assessment
HGWA-2	Upgradient	X	Assessment
HGWA-3	Upgradient	X	Assessment
HGWA-43D	Upgradient	X	Assessment
HGWA-44D	Upgradient	X	Assessment
HGWA-45D	Upgradient	X	Assessment
HGWA-122	Upgradient	X	Assessment
HGWC-120	Downgradient	X	Assessment
HGWC-121A	Downgradient	X	Assessment
HGWC-124	Downgradient	X	Assessment
HGWC-125	Downgradient	X	Assessment
HGWC-126	Downgradient	X	Assessment

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

Well ID	Top of Casing Elevation (ft) ⁽¹⁾	August 7, 2023	
		Depth to Water (ft BTOC)	Groundwater Elevation (ft) ⁽¹⁾
<i>Detection Monitoring Well</i>			
HGWA-1	595.21	22.06	573.15
HGWA-2	587.92	14.68	573.24
HGWA-3	587.74	14.44	573.30
HGWA-43D	595.08	21.90	573.18
HGWA-44D	594.79	21.54	573.25
HGWA-45D	586.95	14.61	572.34
HGWA-122	587.90	15.66	572.24
HGWC-120	605.82	41.09	564.73
HGWC-121A	584.69	18.50	566.19
HGWC-124	582.52	16.81	565.71
HGWC-125	608.89	44.44	564.45
HGWC-126	611.24	41.75	569.49
<i>Piezometer</i>			
MW-21	586.27	12.32	573.95
MW-23	584.91	15.78	569.13
MW-32	585.46	20.75	564.71
MW-39	580.42	15.76	564.66
MW-41	577.25	12.67	564.58
MW-46D	605.72	40.80	564.92
<i>Surface Water Level Gauge Point</i>			
Cabin Creek (Hwy 20)	594.46	30.32	564.14
Cabin Creek (Railroad Bridge)	586.60	22.55	564.05

Notes:

ft = feet

ft BTOC = feet below top of casing

(1) Elevations referenced to the North American Vertical Datum of 1988 (ft NAVD88). Survey data certified for HGWA-43D, HGWA-44D, HGWA-45D, and MW-46D certified on September 10, 2020.

Table 4
Horizontal Groundwater Gradient and Flow Velocity Calculations
Plant Hammond AP-3, Floyd County, Georgia

August 7, 2023				
Flow Path Direction ⁽¹⁾	h ₁ (ft)	h ₂ (ft)	L (ft)	i (ft/ft)
Easterly Flow Path (HGWA-122 to MW-32)	572.24	564.71	1,120	0.0067

Flow Path Direction ⁽¹⁾	K _h (ft/day)	n _e	i (ft/ft)	V (ft/day) ⁽²⁾
Easterly Flow Path (HGWA-122 to MW-32)	2.76	0.15	0.0067	0.12

Notes:

ft = feet

ft/day = feet per day

ft/ft = feet per foot

h₁ and h₂ = groundwater elevation at location 1 and 2

i = h₁-h₂/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-3 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-3, Floyd County, Georgia

Well ID:	HGWA-1	HGWA-2	HGWA-3	HGWA-43D	HGWA-44D	HGWA-45D	HGWA-122	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126	
Sample Date:	8/8/2023	8/8/2023	8/8/2023	8/8/2023	8/8/2023	8/8/2023	8/8/2023	8/10/2023	8/10/2023	8/11/2023	8/10/2023	8/11/2023	
Parameter ^(1,2)													
APPENDIX III	Boron	0.023 J	0.060	0.011 J	0.038 J	0.55	0.15	0.18	1.0	1.7	0.30	1.6	0.016 J
	Calcium	118	30.7	78.3	52.8	8.1	48.1	64.4	171	149	97.8	173	131
	Chloride	26.0	6.6	5.3	3.5	27.0	3.6	2.2	2.6	12.2	2.1	9.0	8.1
	Fluoride	0.088 J	0.070 J	0.055 J	0.18	1.3	0.19	0.091 J	0.36	0.18	<0.050	0.15	0.49
	pH ⁽³⁾	7.05	5.01	7.42	7.39	8.20	7.39	6.67	6.96	6.89	7.20	6.29	6.95
	Sulfate	67.7	89.9	35.0	25.6	1.3	2.2	34.9	195	138	67.6	290	60.5
	TDS	457	189	285	274	361	261	248	661	642	361	760	535
APPENDIX IV	Antimony	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<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
	Barium	0.039	0.068	0.12	0.30	0.12	0.59	0.032	0.045	0.048	0.060	0.038	0.22
	Beryllium	<0.000054	0.00022 J	<0.000054	<0.000054	<0.000054	<0.000054	<0.000054	<0.000054	<0.000054	<0.000054	<0.000054	<0.000054
	Cadmium	<0.00011	0.00026 J	<0.00011	<0.00011	<0.00011	<0.00011	<0.00011	<0.00011	<0.00011	<0.00011	<0.00011	<0.00011
	Chromium	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011
	Cobalt	0.00080 J	0.029	<0.00039	<0.00039	<0.00039	<0.00039	<0.00039	0.0048 J	<0.00039	<0.00039	0.012	<0.00039
	Fluoride	0.088 J	0.070 J	0.055 J	0.18	1.3	0.19	0.091 J	0.36	0.18	<0.050	0.15	0.49
	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
	Lithium	<0.00073	0.0017 J	0.0031 J	0.0021 J	0.092	0.0049 J	<0.00073	0.023 J	0.0069 J	0.00097 J	0.0042 J	0.0041 J
	Mercury	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013
	Molybdenum	<0.00074	<0.00074	<0.00074	0.0019 J	0.0013 J	<0.00074	0.0039 J	0.035	<0.00074	<0.00074	0.0031 J	<0.00074
	Comb. Radium 226/228	0.195 U	0.175 U	0.411 U	0.503 U	0.163 U	1.54	0.892 U	0.682 U	0.585 U	0.449 U	0.953 U	1.34
Selenium	<0.0014	0.0019 J	<0.0014	<0.0014	<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	
GEOCHEM	Bicarbonate Alkalinity	331	20.2	212	251	279	286	170	320	375	227	219	463
	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
	Total Alkalinity	331	20.2	212	251	279	286	170	320	375	227	219	463
	Iron	0.35	0.29	0.87	0.29	0.065	0.23	<0.025	0.59	0.062	0.13	0.072	1.3
	Magnesium	4.7	4.3	5.2	17.7	3.9	19.3	4.9	22.0	21.4	9.4	26.4	26.1
	Manganese	0.29	0.90	0.24	0.017 J	<0.011	0.013 J	<0.011	1.2	0.65	0.19	1.9	0.14
	Potassium	0.79	1.1	0.45 J	0.86	2.6	1.8	0.80	7.7	1.2	0.85	3.7	0.76
	Sodium	37.0	10.9	5.6	22.2	135	24.6	5.8	9.0	33.1	5.7	16.2	32.4
	Sulfide	0.043 J	<0.022	<0.022	<0.022	0.14	0.16	<0.022	<0.022	<0.022	<0.022	<0.022	0.024 J

< = 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-3, 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	0.64	2
Beryllium	mg/L	0.004	N/A	0.0005	0.004
Cadmium	mg/L	0.005	N/A	0.0005	0.005
Chromium	mg/L	0.1	N/A	0.0079	0.1
Cobalt	mg/L	N/A	0.006	0.038	0.038
Fluoride	mg/L	4	N/A	1.3	4
Lead	mg/L	N/A	0.015	0.001	0.015
Lithium	mg/L	N/A	0.040	0.064	0.064
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	1.62	5

Notes:

CCR = Coal Combustion Residuals

GWPS = Groundwater Protection Standard

MCL = Maximum Contaminant Level

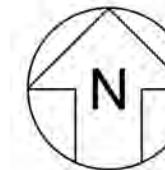
mg/L = milligrams per liter

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).
- (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; (ii) where an MCL has not been established a rule-specific GWPS; or (iii) background levels for constituents where the background level is higher than the MCL rule-specified GWPS.

FIGURES

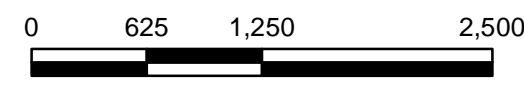


LEGEND

Plant Hammond Property Boundary



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



SCALE IN FEET

SITE LOCATION MAP

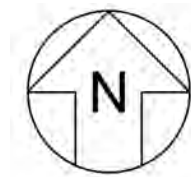
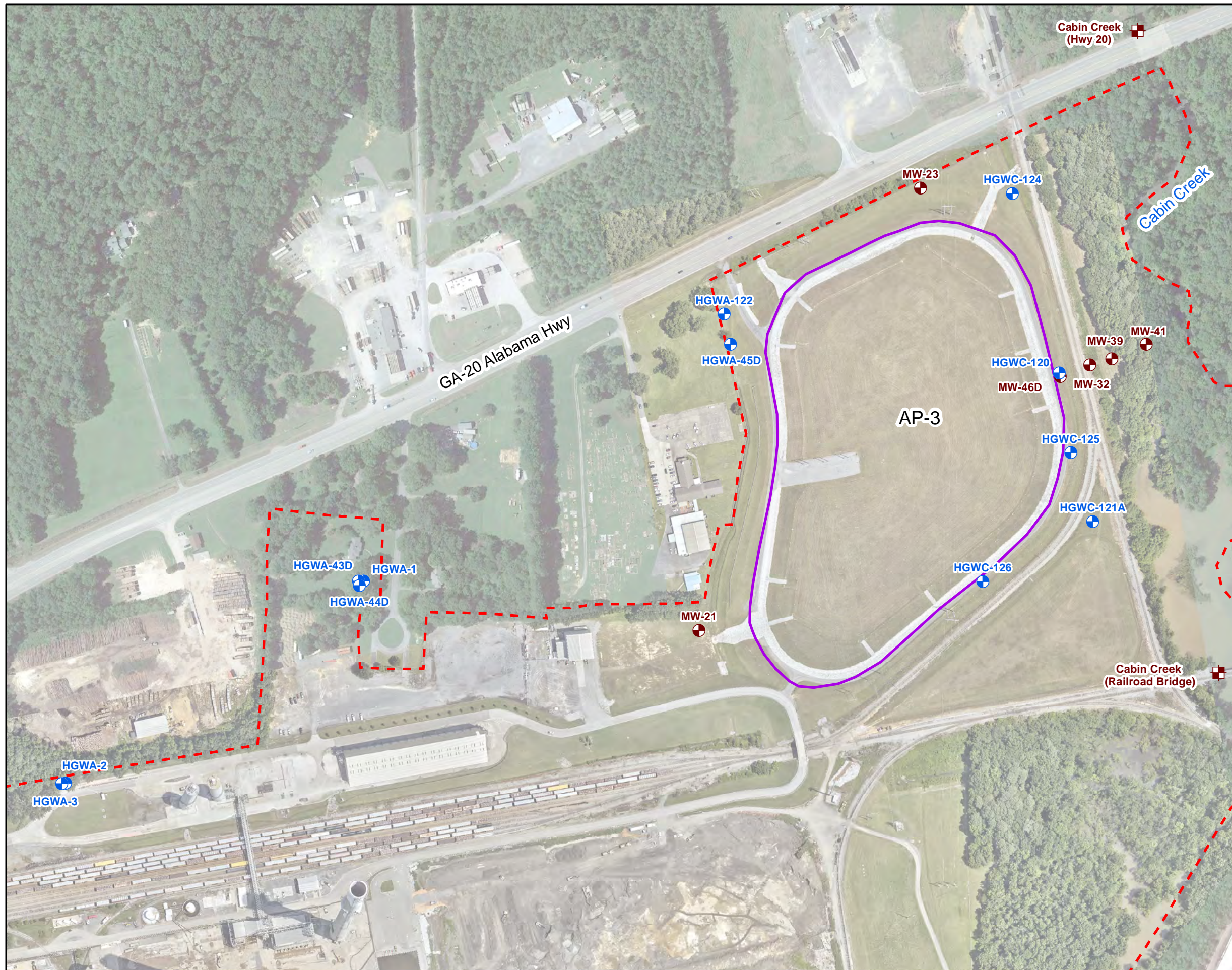
GEORGIA POWER COMPANY
 PLANT HAMMOND AP-3
 ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec
 consultants

KENNESAW, GA FEBRUARY 2024

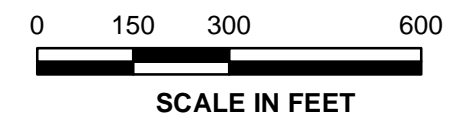
FIGURE
1



LEGEND

- Detection Monitoring Well
- Piezometer
- Surface Water Level Gauge Point
- Approximate AP-3 Boundary
- Plant Hammond Property Boundary

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



MONITORING WELL NETWORK AND SAMPLING LOCATION MAP

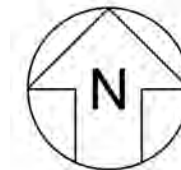
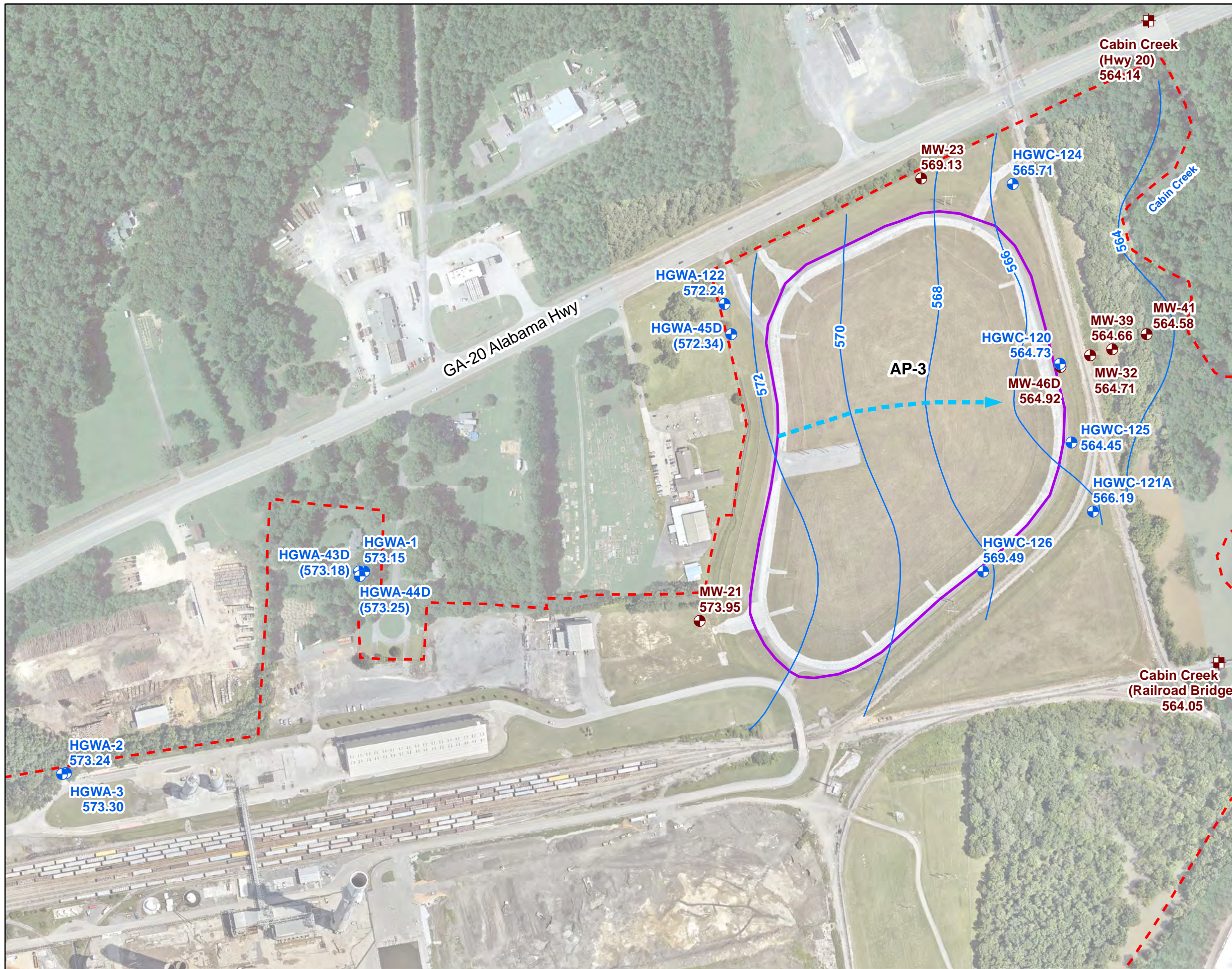
GEORGIA POWER COMPANY
 PLANT HAMMOND AP-3
 FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

FIGURE 2

KENNESAW, GA FEBRUARY 2024



LEGEND

- Detection Monitoring Well
- Piezometer
- Surface Water Level Gauge Point
- Groundwater Elevation Iso-Contour
- Approximate Groundwater Flow Direction
- Approximate AP-3 Boundary
- Plant Hammond Property Boundary



Notes:

1. Water level elevation recorded on August 7, 2023. Elevation provided in feet (ft) referenced to the North American Vertical Datum (NAVD) 88.
2. Groundwater elevations in parentheses were not used in the development of groundwater contours due to wells 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.



**POTENTIOMETRIC SURFACE CONTOUR
MAP - AUGUST 2023**

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

Prepared For: Georgia Power

Prepared By: Geosyntec
consultants

**FIGURE
3**

KENNESAW, GA FEBRUARY 2024

APPENDIX A

Well Maintenance and Repair Documentation Memorandum

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 3 (AP-3) – 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 3 (AP-3) 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-3	8/7/2023 -8/8/2023	All Wells	Checked and cleared weep holes of debris.

Attachment

Well Inspection Summary Table

Well Inspection

Site Name: Plant Hammond AP-3

Date: 08/07/2023

Permit Number: 057-026D (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-1	Yes	Yes	No	Yes
HGWA-2	Yes	Yes	No	Yes
HGWA-3	Yes	Yes	No	Yes
HGWA-43D	Yes	Yes	No	Yes
HGWA-44D	Yes	Yes	No	Yes
HGWA-45D	Yes	Yes	No	Yes
HGWA-122	Yes	Yes	No	Yes
HGWC-120	Yes	Yes	No	Yes
HGWC-121A	Yes	Yes	No	Yes
HGWC-124	Yes	Yes	No	Yes
HGWC-125	Yes	Yes	No	Yes
HGWC-126	Yes	Yes	No	Yes
MW-21	Yes	Yes	No	Yes
MW-23	Yes	Yes	No	Yes
MW-32	Yes	Yes	No	Yes
MW-39	Yes	Yes	No	Yes
MW-41	Yes	Yes	No	Yes
MW-46D	Yes	Yes	No	Yes

Well Inspection

Site Name: Plant Hammond AP-3

Date: 08/07/2023

Permit Number: 057-026D (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-1	Yes	Yes	Yes	Yes	Yes
HGWA-2	Yes	Yes	Yes	Yes	Yes
HGWA-3	Yes	Yes	Yes	Yes	Yes
HGWA-43D	Yes	Yes	Yes	Yes	Yes
HGWA-44D	Yes	Yes	Yes	Yes	Yes
HGWA-45D	Yes	Yes	Yes	Yes	Yes
HGWA-122	Yes	Yes	Yes	Yes	Yes
HGWC-120	Yes	Yes	Yes	Yes	Yes
HGWC-121A	Yes	Yes	Yes	Yes	Yes
HGWC-124	Yes	Yes	Yes	Yes	Yes
HGWC-125	Yes	Yes	Yes	Yes	Yes
HGWC-126	Yes	Yes	Yes	Yes	Yes
MW-21	Yes	Yes	Yes	Yes	Yes
MW-23	Yes	Yes	Yes	Yes	Yes
MW-32	Yes	Yes	Yes	Yes	Yes
MW-39	Yes	Yes	Yes	Yes	Yes
MW-41	Yes	Yes	Yes	Yes	Yes
MW-46D	Yes	Yes	Yes	Yes	Yes

Well Inspection

Site Name: Plant Hammond AP-3

Date: 08/07/2023

Permit Number: 057-026D (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-1	Yes	Yes	Yes	Yes	Yes	Yes
HGWA-2	Yes	Yes	Yes	Yes	Yes	Yes
HGWA-3	Yes	Yes	Yes	Yes	Yes	Yes
HGWA-43D	Yes	Yes	Yes	Yes	Yes	Yes
HGWA-44D	Yes	Yes	Yes	Yes	Yes	Yes
HGWA-45D	Yes	Yes	Yes	Yes	Yes	Yes
HGWA-122	Yes	Yes	Yes	Yes	Yes	Yes
HGWC-120	Yes	Yes	Yes	Yes	Yes	Yes
HGWC-121A	Yes	Yes	Yes	Yes	Yes	Yes
HGWC-124	Yes	Yes	Yes	Yes	Yes	Yes
HGWC-125	Yes	Yes	Yes	Yes	Yes	Yes
HGWC-126	Yes	Yes	Yes	Yes	Yes	Yes
MW-21	Yes	Yes	Yes	Yes	Yes	Yes
MW-23	Yes	Yes	Yes	Yes	Yes	Yes
MW-32	Yes	Yes	Yes	Yes	Yes	Yes
MW-39	Yes	Yes	Yes	Yes	Yes	Yes
MW-41	Yes	Yes	Yes	Yes	Yes	Yes
MW-46D	Yes	Yes	Yes	Yes	Yes	Yes

Well Inspection

Site Name: Plant Hammond AP-3

Date: 08/07/2023

Permit Number: 057-026D (CCR)

Field Conditions: Sunny, 70° F

	Corrective actions as needed, by date:
Well ID:	
HGWA-1	N/A
HGWA-2	N/A
HGWA-3	N/A
HGWA-43D	N/A
HGWA-44D	N/A
HGWA-45D	N/A
HGWA-122	N/A
HGWC-120	N/A
HGWC-121A	N/A
HGWC-124	N/A
HGWC-125	N/A
HGWC-126	N/A
MW-21	N/A
MW-23	N/A
MW-32	N/A
MW-39	N/A
MW-41	N/A
MW-46D	N/A

APPENDIX B

Laboratory Analytical and Field Sampling Reports

LABORATORY ANALYTICAL RESULTS



August 22, 2023

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

RE: Project: Pool Hammond Pooled Upgradient
Pace Project No.: 92681885

Dear Kristen Jurinko:

Enclosed are the analytical results for sample(s) received by the laboratory on August 09, 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



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



CERTIFICATIONS

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

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

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SAMPLE SUMMARY

Project: Pool Hammond Pooled Upgradient
Pace Project No.: 92681885

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92681885001	HAM-HGWA-1	Water	08/08/23 10:47	08/09/23 11:40
92681885002	HAM-HGWA-2	Water	08/08/23 16:08	08/09/23 11:40
92681885003	HAM-HGWA-3	Water	08/08/23 14:45	08/09/23 11:40
92681885004	HAM-HGWA-43D	Water	08/08/23 11:05	08/09/23 11:40
92681885005	HAM-HGWA-44D	Water	08/08/23 10:59	08/09/23 11:40

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92681885001	HAM-HGWA-1	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
92681885002	HAM-HGWA-2	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
92681885003	HAM-HGWA-3	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
92681885004	HAM-HGWA-43D	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
92681885005	HAM-HGWA-44D	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

PASI-A = Pace Analytical Services - Asheville

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

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92681885001	HAM-HGWA-1					
EPA 6010D	Iron	0.35	mg/L	0.040	08/12/23 06:33	
EPA 6010D	Manganese	0.29	mg/L	0.040	08/12/23 06:33	
EPA 6010D	Potassium	0.79	mg/L	0.50	08/12/23 06:33	
EPA 6010D	Sodium	37.0	mg/L	1.0	08/12/23 06:33	
EPA 6010D	Calcium	118	mg/L	1.0	08/12/23 06:33	
EPA 6010D	Magnesium	4.7	mg/L	0.050	08/12/23 06:33	
EPA 6020B	Barium	0.039	mg/L	0.0050	08/18/23 18:29	
EPA 6020B	Boron	0.023J	mg/L	0.040	08/18/23 18:29	
EPA 6020B	Cobalt	0.00080J	mg/L	0.0050	08/18/23 18:29	
SM 2540C-2015	Total Dissolved Solids	457	mg/L	25.0	08/11/23 14:00	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	331	mg/L	5.0	08/16/23 11:12	
SM 2320B-2011	Alkalinity, Total as CaCO3	331	mg/L	5.0	08/16/23 11:12	
SM 4500-S2D-2011	Sulfide	0.043J	mg/L	0.10	08/15/23 06:15	
EPA 300.0 Rev 2.1 1993	Chloride	26.0	mg/L	1.0	08/12/23 19:54	
EPA 300.0 Rev 2.1 1993	Fluoride	0.088J	mg/L	0.10	08/12/23 19:54	
EPA 300.0 Rev 2.1 1993	Sulfate	67.7	mg/L	1.0	08/12/23 19:54	
92681885002	HAM-HGWA-2					
EPA 6010D	Iron	0.29	mg/L	0.040	08/12/23 06:28	
EPA 6010D	Manganese	0.90	mg/L	0.040	08/12/23 06:28	
EPA 6010D	Potassium	1.1	mg/L	0.50	08/12/23 06:28	
EPA 6010D	Sodium	10.9	mg/L	1.0	08/12/23 06:28	
EPA 6010D	Calcium	30.7	mg/L	1.0	08/12/23 06:28	
EPA 6010D	Magnesium	4.3	mg/L	0.050	08/12/23 06:28	
EPA 6020B	Barium	0.068	mg/L	0.0050	08/18/23 18:33	
EPA 6020B	Beryllium	0.00022J	mg/L	0.00050	08/18/23 18:33	
EPA 6020B	Boron	0.060	mg/L	0.040	08/18/23 18:33	
EPA 6020B	Cadmium	0.00026J	mg/L	0.00050	08/18/23 18:33	
EPA 6020B	Cobalt	0.029	mg/L	0.0050	08/18/23 18:33	
EPA 6020B	Lithium	0.0017J	mg/L	0.030	08/18/23 18:33	
EPA 6020B	Selenium	0.0019J	mg/L	0.0050	08/18/23 18:33	
SM 2540C-2015	Total Dissolved Solids	189	mg/L	25.0	08/14/23 13:15	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	20.2	mg/L	5.0	08/15/23 21:59	
SM 2320B-2011	Alkalinity, Total as CaCO3	20.2	mg/L	5.0	08/15/23 21:59	
EPA 300.0 Rev 2.1 1993	Chloride	6.6	mg/L	1.0	08/12/23 20:08	
EPA 300.0 Rev 2.1 1993	Fluoride	0.070J	mg/L	0.10	08/12/23 20:08	
EPA 300.0 Rev 2.1 1993	Sulfate	89.9	mg/L	1.0	08/12/23 20:08	
92681885003	HAM-HGWA-3					
EPA 6010D	Iron	0.87	mg/L	0.040	08/12/23 06:38	
EPA 6010D	Manganese	0.24	mg/L	0.040	08/12/23 06:38	
EPA 6010D	Potassium	0.45J	mg/L	0.50	08/12/23 06:38	
EPA 6010D	Sodium	5.6	mg/L	1.0	08/12/23 06:38	
EPA 6010D	Calcium	78.3	mg/L	1.0	08/12/23 06:38	
EPA 6010D	Magnesium	5.2	mg/L	0.050	08/12/23 06:38	
EPA 6020B	Barium	0.12	mg/L	0.0050	08/18/23 18:37	
EPA 6020B	Boron	0.011J	mg/L	0.040	08/18/23 18:37	
EPA 6020B	Lithium	0.0031J	mg/L	0.030	08/18/23 18:37	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92681885003 HAM-HGWA-3						
SM 2540C-2015	Total Dissolved Solids	285	mg/L	25.0	08/14/23 13:16	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	212	mg/L	5.0	08/15/23 22:06	
SM 2320B-2011	Alkalinity, Total as CaCO3	212	mg/L	5.0	08/15/23 22:06	M1
EPA 300.0 Rev 2.1 1993	Chloride	5.3	mg/L	1.0	08/12/23 20:23	
EPA 300.0 Rev 2.1 1993	Fluoride	0.055J	mg/L	0.10	08/12/23 20:23	
EPA 300.0 Rev 2.1 1993	Sulfate	35.0	mg/L	1.0	08/12/23 20:23	
92681885004 HAM-HGWA-43D						
EPA 6010D	Iron	0.29	mg/L	0.040	08/12/23 06:43	
EPA 6010D	Manganese	0.017J	mg/L	0.040	08/12/23 06:43	
EPA 6010D	Potassium	0.86	mg/L	0.50	08/12/23 06:43	
EPA 6010D	Sodium	22.2	mg/L	1.0	08/12/23 06:43	
EPA 6010D	Calcium	52.8	mg/L	1.0	08/12/23 06:43	
EPA 6010D	Magnesium	17.7	mg/L	0.050	08/12/23 06:43	
EPA 6020B	Barium	0.30	mg/L	0.0050	08/18/23 18:48	
EPA 6020B	Boron	0.038J	mg/L	0.040	08/18/23 18:48	
EPA 6020B	Lithium	0.0021J	mg/L	0.030	08/18/23 18:48	
EPA 6020B	Molybdenum	0.0019J	mg/L	0.010	08/18/23 18:48	
SM 2540C-2015	Total Dissolved Solids	274	mg/L	25.0	08/14/23 13:16	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	251	mg/L	5.0	08/16/23 11:21	
SM 2320B-2011	Alkalinity, Total as CaCO3	251	mg/L	5.0	08/16/23 11:21	
EPA 300.0 Rev 2.1 1993	Chloride	3.5	mg/L	1.0	08/12/23 21:08	
EPA 300.0 Rev 2.1 1993	Fluoride	0.18	mg/L	0.10	08/12/23 21:08	
EPA 300.0 Rev 2.1 1993	Sulfate	25.6	mg/L	1.0	08/12/23 21:08	
92681885005 HAM-HGWA-44D						
EPA 6010D	Iron	0.065	mg/L	0.040	08/12/23 06:13	
EPA 6010D	Potassium	2.6	mg/L	0.50	08/12/23 06:13	
EPA 6010D	Sodium	135	mg/L	1.0	08/12/23 06:13	
EPA 6010D	Calcium	8.1	mg/L	1.0	08/12/23 06:13	
EPA 6010D	Magnesium	3.9	mg/L	0.050	08/12/23 06:13	
EPA 6020B	Barium	0.12	mg/L	0.0050	08/18/23 18:52	
EPA 6020B	Boron	0.55	mg/L	0.20	08/22/23 13:32	
EPA 6020B	Lithium	0.092	mg/L	0.030	08/18/23 18:52	
EPA 6020B	Molybdenum	0.0013J	mg/L	0.010	08/18/23 18:52	
SM 2540C-2015	Total Dissolved Solids	361	mg/L	25.0	08/14/23 13:17	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	279	mg/L	5.0	08/15/23 15:02	
SM 2320B-2011	Alkalinity, Total as CaCO3	279	mg/L	5.0	08/15/23 15:02	
SM 4500-S2D-2011	Sulfide	0.14	mg/L	0.10	08/15/23 06:17	M1, R1
EPA 300.0 Rev 2.1 1993	Chloride	27.0	mg/L	1.0	08/12/23 21:23	M1
EPA 300.0 Rev 2.1 1993	Fluoride	1.3	mg/L	0.10	08/12/23 21:23	M1
EPA 300.0 Rev 2.1 1993	Sulfate	1.3	mg/L	1.0	08/12/23 21:23	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

Sample: HAM-HGWA-1		Lab ID: 92681885001		Collected: 08/08/23 10:47		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	0.35	mg/L	0.040	0.025	1	08/11/23 14:21	08/12/23 06:33	7439-89-6	
Manganese	0.29	mg/L	0.040	0.011	1	08/11/23 14:21	08/12/23 06:33	7439-96-5	
Potassium	0.79	mg/L	0.50	0.15	1	08/11/23 14:21	08/12/23 06:33	7440-09-7	
Sodium	37.0	mg/L	1.0	0.58	1	08/11/23 14:21	08/12/23 06:33	7440-23-5	
Calcium	118	mg/L	1.0	0.12	1	08/11/23 14:21	08/12/23 06:33	7440-70-2	
Magnesium	4.7	mg/L	0.050	0.012	1	08/11/23 14:21	08/12/23 06:33	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	08/16/23 10:27	08/18/23 18:29	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/16/23 10:27	08/18/23 18:29	7440-38-2	
Barium	0.039	mg/L	0.0050	0.00067	1	08/16/23 10:27	08/18/23 18:29	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/16/23 10:27	08/18/23 18:29	7440-41-7	
Boron	0.023J	mg/L	0.040	0.0086	1	08/16/23 10:27	08/18/23 18:29	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/16/23 10:27	08/18/23 18:29	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/16/23 10:27	08/18/23 18:29	7440-47-3	
Cobalt	0.00080J	mg/L	0.0050	0.00039	1	08/16/23 10:27	08/18/23 18:29	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/16/23 10:27	08/18/23 18:29	7439-92-1	
Lithium	ND	mg/L	0.030	0.00073	1	08/16/23 10:27	08/18/23 18:29	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/16/23 10:27	08/18/23 18:29	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/16/23 10:27	08/18/23 18:29	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/16/23 10:27	08/18/23 18:29	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 10:30	08/15/23 15:03	7439-97-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	457	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)	331	mg/L	5.0	5.0	1		08/16/23 11:12		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/16/23 11:12		
Alkalinity, Total as CaCO3	331	mg/L	5.0	5.0	1		08/16/23 11:12		
4500S2D Sulfide Water		Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville							
Sulfide	0.043J	mg/L	0.10	0.022	1		08/15/23 06:15	18496-25-8	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	26.0	mg/L	1.0	0.60	1		08/12/23 19:54	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

Sample: HAM-HGWA-1 Lab ID: 92681885001 Collected: 08/08/23 10:47 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	0.088J	mg/L	0.10	0.050	1		08/12/23 19:54	16984-48-8	
Sulfate	67.7	mg/L	1.0	0.50	1		08/12/23 19:54	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

Sample: HAM-HGWA-2		Lab ID: 92681885002		Collected: 08/08/23 16:08		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	0.29	mg/L	0.040	0.025	1	08/11/23 14:21	08/12/23 06:28	7439-89-6	
Manganese	0.90	mg/L	0.040	0.011	1	08/11/23 14:21	08/12/23 06:28	7439-96-5	
Potassium	1.1	mg/L	0.50	0.15	1	08/11/23 14:21	08/12/23 06:28	7440-09-7	
Sodium	10.9	mg/L	1.0	0.58	1	08/11/23 14:21	08/12/23 06:28	7440-23-5	
Calcium	30.7	mg/L	1.0	0.12	1	08/11/23 14:21	08/12/23 06:28	7440-70-2	
Magnesium	4.3	mg/L	0.050	0.012	1	08/11/23 14:21	08/12/23 06:28	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	08/16/23 10:27	08/18/23 18:33	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/16/23 10:27	08/18/23 18:33	7440-38-2	
Barium	0.068	mg/L	0.0050	0.00067	1	08/16/23 10:27	08/18/23 18:33	7440-39-3	
Beryllium	0.00022J	mg/L	0.00050	0.000054	1	08/16/23 10:27	08/18/23 18:33	7440-41-7	
Boron	0.060	mg/L	0.040	0.0086	1	08/16/23 10:27	08/18/23 18:33	7440-42-8	
Cadmium	0.00026J	mg/L	0.00050	0.00011	1	08/16/23 10:27	08/18/23 18:33	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/16/23 10:27	08/18/23 18:33	7440-47-3	
Cobalt	0.029	mg/L	0.0050	0.00039	1	08/16/23 10:27	08/18/23 18:33	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/16/23 10:27	08/18/23 18:33	7439-92-1	
Lithium	0.0017J	mg/L	0.030	0.00073	1	08/16/23 10:27	08/18/23 18:33	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/16/23 10:27	08/18/23 18:33	7439-98-7	
Selenium	0.0019J	mg/L	0.0050	0.0014	1	08/16/23 10:27	08/18/23 18:33	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/16/23 10:27	08/18/23 18:33	7440-28-0	
7470 Mercury		Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA							
Mercury	ND	mg/L	0.00020	0.00013	1	08/15/23 10:30	08/15/23 15:06	7439-97-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	189	mg/L	25.0	25.0	1		08/14/23 13:15		
2320B Alkalinity		Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	20.2	mg/L	5.0	5.0	1		08/15/23 21:59		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/15/23 21:59		
Alkalinity, Total as CaCO3	20.2	mg/L	5.0	5.0	1		08/15/23 21:59		
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 06:16	18496-25-8	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	6.6	mg/L	1.0	0.60	1		08/12/23 20:08	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

Sample: HAM-HGWA-2 Lab ID: 92681885002 Collected: 08/08/23 16:08 Received: 08/09/23 11:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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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		08/12/23 20:08	16984-48-8	
Sulfate	89.9	mg/L	1.0	0.50	1		08/12/23 20:08	14808-79-8	

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ANALYTICAL RESULTS

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

Sample: HAM-HGWA-3		Lab ID: 92681885003		Collected: 08/08/23 14:45		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	0.87	mg/L	0.040	0.025	1	08/11/23 14:21	08/12/23 06:38	7439-89-6	
Manganese	0.24	mg/L	0.040	0.011	1	08/11/23 14:21	08/12/23 06:38	7439-96-5	
Potassium	0.45J	mg/L	0.50	0.15	1	08/11/23 14:21	08/12/23 06:38	7440-09-7	
Sodium	5.6	mg/L	1.0	0.58	1	08/11/23 14:21	08/12/23 06:38	7440-23-5	
Calcium	78.3	mg/L	1.0	0.12	1	08/11/23 14:21	08/12/23 06:38	7440-70-2	
Magnesium	5.2	mg/L	0.050	0.012	1	08/11/23 14:21	08/12/23 06:38	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	08/16/23 10:27	08/18/23 18:37	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/16/23 10:27	08/18/23 18:37	7440-38-2	
Barium	0.12	mg/L	0.0050	0.00067	1	08/16/23 10:27	08/18/23 18:37	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/16/23 10:27	08/18/23 18:37	7440-41-7	
Boron	0.011J	mg/L	0.040	0.0086	1	08/16/23 10:27	08/18/23 18:37	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/16/23 10:27	08/18/23 18:37	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/16/23 10:27	08/18/23 18:37	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/16/23 10:27	08/18/23 18:37	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/16/23 10:27	08/18/23 18:37	7439-92-1	
Lithium	0.0031J	mg/L	0.030	0.00073	1	08/16/23 10:27	08/18/23 18:37	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/16/23 10:27	08/18/23 18:37	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/16/23 10:27	08/18/23 18:37	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/16/23 10:27	08/18/23 18:37	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.00013	1	08/15/23 10:30	08/15/23 15:08	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2015									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	285	mg/L	25.0	25.0	1		08/14/23 13:16		
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 22:06		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/15/23 22:06		
Alkalinity, Total as CaCO3	212	mg/L	5.0	5.0	1		08/15/23 22:06		M1
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 06:16	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	5.3	mg/L	1.0	0.60	1		08/12/23 20:23	16887-00-6	

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ANALYTICAL RESULTS

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

Sample: HAM-HGWA-3 Lab ID: 92681885003 Collected: 08/08/23 14:45 Received: 08/09/23 11:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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300.0 IC Anions 28 Days
 Analytical Method: EPA 300.0 Rev 2.1 1993
 Pace Analytical Services - Asheville

Fluoride	0.055J	mg/L	0.10	0.050	1		08/12/23 20:23	16984-48-8	
Sulfate	35.0	mg/L	1.0	0.50	1		08/12/23 20:23	14808-79-8	

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ANALYTICAL RESULTS

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

Sample: HAM-HGWA-43D		Lab ID: 92681885004		Collected: 08/08/23 11:05		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	0.29	mg/L	0.040	0.025	1	08/11/23 14:21	08/12/23 06:43	7439-89-6	
Manganese	0.017J	mg/L	0.040	0.011	1	08/11/23 14:21	08/12/23 06:43	7439-96-5	
Potassium	0.86	mg/L	0.50	0.15	1	08/11/23 14:21	08/12/23 06:43	7440-09-7	
Sodium	22.2	mg/L	1.0	0.58	1	08/11/23 14:21	08/12/23 06:43	7440-23-5	
Calcium	52.8	mg/L	1.0	0.12	1	08/11/23 14:21	08/12/23 06:43	7440-70-2	
Magnesium	17.7	mg/L	0.050	0.012	1	08/11/23 14:21	08/12/23 06:43	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	08/16/23 10:27	08/18/23 18:48	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/16/23 10:27	08/18/23 18:48	7440-38-2	
Barium	0.30	mg/L	0.0050	0.00067	1	08/16/23 10:27	08/18/23 18:48	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/16/23 10:27	08/18/23 18:48	7440-41-7	
Boron	0.038J	mg/L	0.040	0.0086	1	08/16/23 10:27	08/18/23 18:48	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/16/23 10:27	08/18/23 18:48	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/16/23 10:27	08/18/23 18:48	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/16/23 10:27	08/18/23 18:48	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/16/23 10:27	08/18/23 18:48	7439-92-1	
Lithium	0.0021J	mg/L	0.030	0.00073	1	08/16/23 10:27	08/18/23 18:48	7439-93-2	
Molybdenum	0.0019J	mg/L	0.010	0.00074	1	08/16/23 10:27	08/18/23 18:48	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/16/23 10:27	08/18/23 18:48	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/16/23 10:27	08/18/23 18:48	7440-28-0	
7470 Mercury		Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA							
Mercury	ND	mg/L	0.00020	0.00013	1	08/15/23 10:30	08/15/23 15:11	7439-97-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	274	mg/L	25.0	25.0	1		08/14/23 13:16		
2320B Alkalinity		Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	251	mg/L	5.0	5.0	1		08/16/23 11:21		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/16/23 11:21		
Alkalinity, Total as CaCO3	251	mg/L	5.0	5.0	1		08/16/23 11:21		
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 06:16	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		08/12/23 21:08	16887-00-6	

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ANALYTICAL RESULTS

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

Sample: HAM-HGWA-43D Lab ID: 92681885004 Collected: 08/08/23 11:05 Received: 08/09/23 11:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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300.0 IC Anions 28 Days

Analytical Method: EPA 300.0 Rev 2.1 1993
Pace Analytical Services - Asheville

Fluoride	0.18	mg/L	0.10	0.050	1		08/12/23 21:08	16984-48-8	
Sulfate	25.6	mg/L	1.0	0.50	1		08/12/23 21:08	14808-79-8	

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ANALYTICAL RESULTS

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

Sample: HAM-HGWA-44D		Lab ID: 92681885005		Collected: 08/08/23 10:59		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	0.065	mg/L	0.040	0.025	1	08/11/23 14:21	08/12/23 06:13	7439-89-6	
Manganese	ND	mg/L	0.040	0.011	1	08/11/23 14:21	08/12/23 06:13	7439-96-5	
Potassium	2.6	mg/L	0.50	0.15	1	08/11/23 14:21	08/12/23 06:13	7440-09-7	
Sodium	135	mg/L	1.0	0.58	1	08/11/23 14:21	08/12/23 06:13	7440-23-5	
Calcium	8.1	mg/L	1.0	0.12	1	08/11/23 14:21	08/12/23 06:13	7440-70-2	
Magnesium	3.9	mg/L	0.050	0.012	1	08/11/23 14:21	08/12/23 06:13	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	08/16/23 10:27	08/18/23 18:52	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/16/23 10:27	08/18/23 18:52	7440-38-2	
Barium	0.12	mg/L	0.0050	0.00067	1	08/16/23 10:27	08/18/23 18:52	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/16/23 10:27	08/18/23 18:52	7440-41-7	
Boron	0.55	mg/L	0.20	0.043	5	08/16/23 10:27	08/22/23 13:32	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/16/23 10:27	08/18/23 18:52	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/16/23 10:27	08/18/23 18:52	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/16/23 10:27	08/18/23 18:52	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/16/23 10:27	08/18/23 18:52	7439-92-1	
Lithium	0.092	mg/L	0.030	0.00073	1	08/16/23 10:27	08/18/23 18:52	7439-93-2	
Molybdenum	0.0013J	mg/L	0.010	0.00074	1	08/16/23 10:27	08/18/23 18:52	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/16/23 10:27	08/18/23 18:52	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/16/23 10:27	08/18/23 18:52	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.00013	1	08/15/23 10:30	08/15/23 15:14	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2015									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	361	mg/L	25.0	25.0	1		08/14/23 13:17		
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	279	mg/L	5.0	5.0	1		08/15/23 15:02		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/15/23 15:02		
Alkalinity, Total as CaCO3	279	mg/L	5.0	5.0	1		08/15/23 15:02		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011									
Pace Analytical Services - Asheville									
Sulfide	0.14	mg/L	0.10	0.022	1		08/15/23 06:17	18496-25-8	M1,R1
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	27.0	mg/L	1.0	0.60	1		08/12/23 21:23	16887-00-6	M1

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ANALYTICAL RESULTS

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

Sample: HAM-HGWA-44D Lab ID: 92681885005 Collected: 08/08/23 10:59 Received: 08/09/23 11:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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300.0 IC Anions 28 Days

Analytical Method: EPA 300.0 Rev 2.1 1993
Pace Analytical Services - Asheville

Fluoride	1.3	mg/L	0.10	0.050	1		08/12/23 21:23	16984-48-8	M1
Sulfate	1.3	mg/L	1.0	0.50	1		08/12/23 21:23	14808-79-8	

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QUALITY CONTROL DATA

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

QC Batch: 792418 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010D ATL
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92681885001, 92681885002, 92681885003, 92681885004, 92681885005

METHOD BLANK: 4106293 Matrix: Water
 Associated Lab Samples: 92681885001, 92681885002, 92681885003, 92681885004, 92681885005

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	MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		92680804001	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
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		

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QUALITY CONTROL DATA

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

QC Batch:	793883	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3005A	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92681885001, 92681885002, 92681885003, 92681885004, 92681885005

METHOD BLANK: 4113580 Matrix: Water

Associated Lab Samples: 92681885001, 92681885002, 92681885003, 92681885004, 92681885005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.0012	08/18/23 18:03	
Arsenic	mg/L	ND	0.010	0.0037	08/18/23 18:03	
Barium	mg/L	ND	0.0050	0.00067	08/18/23 18:03	
Beryllium	mg/L	ND	0.00050	0.000054	08/18/23 18:03	
Boron	mg/L	ND	0.040	0.0086	08/18/23 18:03	
Cadmium	mg/L	ND	0.00050	0.00011	08/18/23 18:03	
Chromium	mg/L	ND	0.0050	0.0011	08/18/23 18:03	
Cobalt	mg/L	ND	0.0050	0.00039	08/18/23 18:03	
Lead	mg/L	ND	0.0010	0.00012	08/18/23 18:03	
Lithium	mg/L	ND	0.030	0.00073	08/18/23 18:03	
Molybdenum	mg/L	ND	0.010	0.00074	08/18/23 18:03	
Selenium	mg/L	ND	0.0050	0.0014	08/18/23 18:03	
Thallium	mg/L	ND	0.0010	0.00018	08/18/23 18:03	

LABORATORY CONTROL SAMPLE: 4113581

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	103	80-120	
Arsenic	mg/L	0.1	0.10	103	80-120	
Barium	mg/L	0.1	0.094	94	80-120	
Beryllium	mg/L	0.1	0.11	108	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	0.10	100	80-120	
Cobalt	mg/L	0.1	0.10	101	80-120	
Lead	mg/L	0.1	0.11	107	80-120	
Lithium	mg/L	0.1	0.11	113	80-120	
Molybdenum	mg/L	0.1	0.10	103	80-120	
Selenium	mg/L	0.1	0.11	107	80-120	
Thallium	mg/L	0.1	0.10	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4113582 4113583

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92681883002	Result	Spike Conc.	Spike Conc.								
Antimony	mg/L	ND	0.1	0.1	0.1	0.10	105	100	75-125	5	20		
Arsenic	mg/L	ND	0.1	0.1	0.1	0.10	106	100	75-125	6	20		

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QUALITY CONTROL DATA

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

Parameter	Units	4113582		4113583		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92681883002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Barium	mg/L	0.032	0.1	0.1	0.14	0.13	109	103	75-125	4	20		
Beryllium	mg/L	ND	0.1	0.1	0.097	0.092	97	92	75-125	5	20		
Boron	mg/L	0.18	1	1	1.2	1.2	102	98	75-125	3	20		
Cadmium	mg/L	ND	0.1	0.1	0.10	0.098	101	98	75-125	3	20		
Chromium	mg/L	ND	0.1	0.1	0.10	0.096	100	95	75-125	4	20		
Cobalt	mg/L	ND	0.1	0.1	0.10	0.096	101	96	75-125	5	20		
Lead	mg/L	ND	0.1	0.1	0.11	0.10	109	104	75-125	5	20		
Lithium	mg/L	ND	0.1	0.1	0.10	0.10	102	100	75-125	2	20		
Molybdenum	mg/L	0.0039J	0.1	0.1	0.11	0.10	102	99	75-125	3	20		
Selenium	mg/L	ND	0.1	0.1	0.11	0.10	110	104	75-125	6	20		
Thallium	mg/L	ND	0.1	0.1	0.11	0.10	108	103	75-125	5	20		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

QC Batch:	793520	Analysis Method:	EPA 7470A
QC Batch Method:	EPA 7470A	Analysis Description:	7470 Mercury
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92681885001, 92681885002, 92681885003, 92681885004, 92681885005

METHOD BLANK: 4112011 Matrix: Water
 Associated Lab Samples: 92681885001, 92681885002, 92681885003, 92681885004, 92681885005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.00013	08/15/23 14:00	

LABORATORY CONTROL SAMPLE: 4112012

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0024	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4112013 4112014

Parameter	Units	4112013		4112014		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Mercury	mg/L	ND	0.0025	0.0022	0.0023	82	87	75-125	5	20	

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QUALITY CONTROL DATA

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

QC Batch: 793055

Analysis Method: SM 2540C-2015

QC Batch Method: SM 2540C-2015

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92681885001

METHOD BLANK: 4109645

Matrix: Water

Associated Lab Samples: 92681885001

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

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QUALITY CONTROL DATA

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

QC Batch:	793414	Analysis Method:	SM 2540C-2015
QC Batch Method:	SM 2540C-2015	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92681885002, 92681885003, 92681885004, 92681885005

METHOD BLANK: 4111318 Matrix: Water
 Associated Lab Samples: 92681885002, 92681885003, 92681885004, 92681885005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	08/14/23 13:14	

LABORATORY CONTROL SAMPLE: 4111319

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	436	109	80-120	

SAMPLE DUPLICATE: 4111320

Parameter	Units	92681885002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	189	193	2	10	

SAMPLE DUPLICATE: 4111321

Parameter	Units	92682120003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	61.0	62.0	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

QC Batch: 793564 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92681885001, 92681885002, 92681885003, 92681885004

METHOD BLANK: 4112177 Matrix: Water
 Associated Lab Samples: 92681885001, 92681885002, 92681885003, 92681885004

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		4112180		4112181		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec				
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		4112182		4112183		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec				
Alkalinity, Total as CaCO3	mg/L	251	50	50	308	301	114	100	80-120	2	25

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QUALITY CONTROL DATA

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

QC Batch: 793596

Analysis Method: SM 2320B-2011

QC Batch Method: SM 2320B-2011

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92681885005

METHOD BLANK: 4112305

Matrix: Water

Associated Lab Samples: 92681885005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	08/15/23 11:24	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	08/15/23 11:24	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	08/15/23 11:24	

LABORATORY CONTROL SAMPLE: 4112306

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	53.7	107	80-120	

LABORATORY CONTROL SAMPLE: 4112307

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	49.7	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4112308 4112309

Parameter	Units	4112308		4112309		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92681908004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Alkalinity, Total as CaCO3	mg/L	99.9	50	50	159	163	118	126	80-120	2	25 M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4112310 4112311

Parameter	Units	4112310		4112311		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92681908005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Alkalinity, Total as CaCO3	mg/L	5.3	50	50	58.0	58.8	105	107	80-120	1	25

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QUALITY CONTROL DATA

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

QC Batch: 793499 Analysis Method: SM 4500-S2D-2011
 QC Batch Method: SM 4500-S2D-2011 Analysis Description: 4500S2D Sulfide Water
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92681885001, 92681885002, 92681885003, 92681885004, 92681885005

METHOD BLANK: 4111952 Matrix: Water
 Associated Lab Samples: 92681885001, 92681885002, 92681885003, 92681885004, 92681885005

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		4111954		4111955		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Sulfide	mg/L	0.16	0.5	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		4111956		4111957		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Sulfide	mg/L	0.14	0.5	0.5	0.5	0.53	0.60	79	93	80-120	12	10	M1,R1

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QUALITY CONTROL DATA

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

QC Batch: 793207 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92681885001, 92681885002, 92681885003, 92681885004, 92681885005

METHOD BLANK: 4110503 Matrix: Water
 Associated Lab Samples: 92681885001, 92681885002, 92681885003, 92681885004, 92681885005

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		4110505		4110506		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Chloride	mg/L	3.6	3.6	50	50	51.2	52.5	95	98	90-110	3	10	
Fluoride	mg/L	0.19	0.19	2.5	2.5	2.4	2.5	90	92	90-110	2	10	
Sulfate	mg/L	2.2	2.2	50	50	49.7	51.1	95	98	90-110	3	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4110507 4110508

Parameter	Units	92681885005		4110507		4110508		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Chloride	mg/L	27.0	27.0	50	50	71.4	72.9	89	92	90-110	2	10 M1	
Fluoride	mg/L	1.3	1.3	2.5	2.5	3.3	3.4	83	86	90-110	2	10 M1	
Sulfate	mg/L	1.3	1.3	50	50	47.3	48.3	92	94	90-110	2	10	

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QUALIFIERS

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Pool Hammond Pooled Upgradient

Pace Project No.: 92681885

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92681885001	HAM-HGWA-1	EPA 3010A	792418	EPA 6010D	793158
92681885002	HAM-HGWA-2	EPA 3010A	792418	EPA 6010D	793158
92681885003	HAM-HGWA-3	EPA 3010A	792418	EPA 6010D	793158
92681885004	HAM-HGWA-43D	EPA 3010A	792418	EPA 6010D	793158
92681885005	HAM-HGWA-44D	EPA 3010A	792418	EPA 6010D	793158
92681885001	HAM-HGWA-1	EPA 3005A	793883	EPA 6020B	794015
92681885002	HAM-HGWA-2	EPA 3005A	793883	EPA 6020B	794015
92681885003	HAM-HGWA-3	EPA 3005A	793883	EPA 6020B	794015
92681885004	HAM-HGWA-43D	EPA 3005A	793883	EPA 6020B	794015
92681885005	HAM-HGWA-44D	EPA 3005A	793883	EPA 6020B	794015
92681885001	HAM-HGWA-1	EPA 7470A	793520	EPA 7470A	793623
92681885002	HAM-HGWA-2	EPA 7470A	793520	EPA 7470A	793623
92681885003	HAM-HGWA-3	EPA 7470A	793520	EPA 7470A	793623
92681885004	HAM-HGWA-43D	EPA 7470A	793520	EPA 7470A	793623
92681885005	HAM-HGWA-44D	EPA 7470A	793520	EPA 7470A	793623
92681885001	HAM-HGWA-1	SM 2540C-2015	793055		
92681885002	HAM-HGWA-2	SM 2540C-2015	793414		
92681885003	HAM-HGWA-3	SM 2540C-2015	793414		
92681885004	HAM-HGWA-43D	SM 2540C-2015	793414		
92681885005	HAM-HGWA-44D	SM 2540C-2015	793414		
92681885001	HAM-HGWA-1	SM 2320B-2011	793564		
92681885002	HAM-HGWA-2	SM 2320B-2011	793564		
92681885003	HAM-HGWA-3	SM 2320B-2011	793564		
92681885004	HAM-HGWA-43D	SM 2320B-2011	793564		
92681885005	HAM-HGWA-44D	SM 2320B-2011	793596		
92681885001	HAM-HGWA-1	SM 4500-S2D-2011	793499		
92681885002	HAM-HGWA-2	SM 4500-S2D-2011	793499		
92681885003	HAM-HGWA-3	SM 4500-S2D-2011	793499		
92681885004	HAM-HGWA-43D	SM 4500-S2D-2011	793499		
92681885005	HAM-HGWA-44D	SM 4500-S2D-2011	793499		
92681885001	HAM-HGWA-1	EPA 300.0 Rev 2.1 1993	793207		
92681885002	HAM-HGWA-2	EPA 300.0 Rev 2.1 1993	793207		
92681885003	HAM-HGWA-3	EPA 300.0 Rev 2.1 1993	793207		
92681885004	HAM-HGWA-43D	EPA 300.0 Rev 2.1 1993	793207		
92681885005	HAM-HGWA-44D	EPA 300.0 Rev 2.1 1993	793207		

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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:

G A Power

Project #:

WO# 92681885



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

Custody Seal Present? Yes No Seals Intact? Yes No

Date/Initials Person Examining Contents: *8/9/23*
COG

Packing Material: Bubble Wrap Bubble Bags None Other

Biological Tissue Frozen? Yes No N/A

Thermometer:

IR Gun ID:

2/4

Type of Ice:

Wet

Blue

None

Cooler Temp:

2.1

Correction Factor: Add/Subtract (°C)

0.0

Temp should be above freezing to 6°C

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

Cooler Temp Corrected (°C):

2.1

USDA Regulated Soil (N/A, water sample)

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

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

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



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

Effective Date: 11/14/2022

WO# : 92681885
 RM: BV Due Date: 08/23/23
 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.

Project #

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-)	WGJU-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 Na2SO3 (N/A)	VGSU-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																											
2	2	1																											
3	2	1																											
4	2	1																											
5	2	1																											
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.



September 12, 2023

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

RE: Project: Plant Hammond Pooled Up- RADs
Pace Project No.: 92681881

Dear Kristen Jurinko:

Enclosed are the analytical results for sample(s) received by the laboratory on August 09, 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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant Hammond Pooled Up- RADs

Pace Project No.: 92681881

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

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SAMPLE SUMMARY

Project: Plant Hammond Pooled Up- RADs
Pace Project No.: 92681881

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92681881001	HAM-HGWA-1	Water	08/08/23 10:47	08/09/23 11:40
92681881002	HAM-HGWA-2	Water	08/08/23 16:08	08/09/23 11:40
92681881003	HAM-HGWA-3	Water	08/08/23 14:45	08/09/23 11:40
92681881004	HAM-HGWA-43D	Water	08/08/23 11:05	08/09/23 11:40
92681881005	HAM-HGWA-44D	Water	08/08/23 10:59	08/09/23 11:40

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Plant Hammond Pooled Up- RADs

Pace Project No.: 92681881

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92681881001	HAM-HGWA-1	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
		Total Radium Calculation	LAL	1	PASI-PA
92681881002	HAM-HGWA-2	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
		Total Radium Calculation	LAL	1	PASI-PA
92681881003	HAM-HGWA-3	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
		Total Radium Calculation	LAL	1	PASI-PA
92681881004	HAM-HGWA-43D	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
		Total Radium Calculation	LAL	1	PASI-PA
92681881005	HAM-HGWA-44D	EPA 9315	SLC	1	PASI-PA
		EPA 9320	ZPC	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Plant Hammond Pooled Up- RADs

Pace Project No.: 92681881

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92681881001	HAM-HGWA-1					
EPA 9315	Radium-226	0.0885U ± 0.147 (0.331)	pCi/L		09/06/23 18:49	
EPA 9320	Radium-228	C:89% T:NA 0.106U ± 0.437 (0.985)	pCi/L		08/31/23 12:13	
Total Radium Calculation	Total Radium	C:85% T:73% 0.195U ± 0.584 (1.32)	pCi/L		09/11/23 09:31	
92681881002	HAM-HGWA-2					
EPA 9315	Radium-226	0.175U ± 0.160 (0.305)	pCi/L		09/06/23 18:56	
EPA 9320	Radium-228	C:89% T:NA -0.273U ± 0.419 (1.02)	pCi/L		08/31/23 12:14	
Total Radium Calculation	Total Radium	C:87% T:68% 0.175U ± 0.579 (1.33)	pCi/L		09/11/23 09:31	
92681881003	HAM-HGWA-3					
EPA 9315	Radium-226	0.140U ± 0.152 (0.308)	pCi/L		09/07/23 08:44	
EPA 9320	Radium-228	C:79% T:NA 0.271U ± 0.371 (0.795)	pCi/L		08/31/23 12:13	
Total Radium Calculation	Total Radium	C:86% T:80% 0.411U ± 0.523 (1.10)	pCi/L		09/11/23 09:31	
92681881004	HAM-HGWA-43D					
EPA 9315	Radium-226	0.377 ± 0.213 (0.334)	pCi/L		09/06/23 13:09	
EPA 9320	Radium-228	C:90% T:NA 0.126U ± 0.398 (0.893)	pCi/L		08/31/23 12:12	
Total Radium Calculation	Total Radium	C:82% T:79% 0.503U ± 0.611 (1.23)	pCi/L		09/11/23 09:31	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Plant Hammond Pooled Up- RADs

Pace Project No.: 92681881

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92681881005	HAM-HGWA-44D					
EPA 9315	Radium-226	0.163U ± 0.150 (0.285) C:89% T:NA	pCi/L		09/07/23 15:00	
EPA 9320	Radium-228	-0.116U ± 0.258 (0.640) C:86% T:83%	pCi/L		08/31/23 15:30	
Total Radium Calculation	Total Radium	0.163U ± 0.408 (0.925)	pCi/L		09/08/23 17:15	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond Pooled Up- RADs

Pace Project No.: 92681881

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: HAM-HGWA-1 Lab ID: 92681881001 Collected: 08/08/23 10:47 Received: 08/09/23 11:40 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.0885U ± 0.147 (0.331) C:89% T:NA	pCi/L	09/06/23 18:49	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.106U ± 0.437 (0.985) C:85% T:73%	pCi/L	08/31/23 12:13	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.195U ± 0.584 (1.32)	pCi/L	09/11/23 09:31	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond Pooled Up- RADs

Pace Project No.: 92681881

Sample: HAM-HGWA-2 **Lab ID: 92681881002** Collected: 08/08/23 16:08 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	0.175U ± 0.160 (0.305) C:89% T:NA	pCi/L	09/06/23 18:56	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	-0.273U ± 0.419 (1.02) C:87% T:68%	pCi/L	08/31/23 12:14	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.175U ± 0.579 (1.33)	pCi/L	09/11/23 09:31	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond Pooled Up- RADs

Pace Project No.: 92681881

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: HAM-HGWA-3 Lab ID: 92681881003 Collected: 08/08/23 14:45 Received: 08/09/23 11:40 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.140U ± 0.152 (0.308) C:79% T:NA	pCi/L	09/07/23 08:44	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.271U ± 0.371 (0.795) C:86% T:80%	pCi/L	08/31/23 12:13	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.411U ± 0.523 (1.10)	pCi/L	09/11/23 09:31	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond Pooled Up- RADs

Pace Project No.: 92681881

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: HAM-HGWA-43D Lab ID: 92681881004 Collected: 08/08/23 11:05 Received: 08/09/23 11:40 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.377 ± 0.213 (0.334) C:90% T:NA	pCi/L	09/06/23 13:09	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.126U ± 0.398 (0.893) C:82% T:79%	pCi/L	08/31/23 12:12	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.503U ± 0.611 (1.23)	pCi/L	09/11/23 09:31	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond Pooled Up- RADs

Pace Project No.: 92681881

Sample: HAM-HGWA-44D **Lab ID: 92681881005** Collected: 08/08/23 10:59 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	0.163U ± 0.150 (0.285) C:89% T:NA	pCi/L	09/07/23 15:00	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	-0.116U ± 0.258 (0.640) C:86% T:83%	pCi/L	08/31/23 15:30	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.163U ± 0.408 (0.925)	pCi/L	09/08/23 17:15	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond Pooled Up- RADs

Pace Project No.: 92681881

QC Batch: 610549

Analysis Method: EPA 9320

QC Batch Method: EPA 9320

Analysis Description: 9320 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92681881001, 92681881002, 92681881003, 92681881004

METHOD BLANK: 2971498

Matrix: Water

Associated Lab Samples: 92681881001, 92681881002, 92681881003, 92681881004

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.

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond Pooled Up- RADs

Pace Project No.: 92681881

QC Batch: 610551

Analysis Method: EPA 9320

QC Batch Method: EPA 9320

Analysis Description: 9320 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92681881005

METHOD BLANK: 2971504

Matrix: Water

Associated Lab Samples: 92681881005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0282 ± 0.177 (0.418) C:85% T:91%	pCi/L	08/31/23 15:33	

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

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond Pooled Up- RADs

Pace Project No.: 92681881

QC Batch: 611645

Analysis Method: EPA 9315

QC Batch Method: EPA 9315

Analysis Description: 9315 Total Radium

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92681881005

METHOD BLANK: 2977130

Matrix: Water

Associated Lab Samples: 92681881005

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.

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond Pooled Up- RADs

Pace Project No.: 92681881

QC Batch: 610646

Analysis Method: EPA 9315

QC Batch Method: EPA 9315

Analysis Description: 9315 Total Radium

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92681881001, 92681881002, 92681881003, 92681881004

METHOD BLANK: 2971911

Matrix: Water

Associated Lab Samples: 92681881001, 92681881002, 92681881003, 92681881004

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.

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QUALIFIERS

Project: Plant Hammond Pooled Up- RADs

Pace Project No.: 92681881

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond Pooled Up- RADs

Pace Project No.: 92681881

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92681881001	HAM-HGWA-1	EPA 9315	610646		
92681881002	HAM-HGWA-2	EPA 9315	610646		
92681881003	HAM-HGWA-3	EPA 9315	610646		
92681881004	HAM-HGWA-43D	EPA 9315	610646		
92681881005	HAM-HGWA-44D	EPA 9315	611645		
92681881001	HAM-HGWA-1	EPA 9320	610549		
92681881002	HAM-HGWA-2	EPA 9320	610549		
92681881003	HAM-HGWA-3	EPA 9320	610549		
92681881004	HAM-HGWA-43D	EPA 9320	610549		
92681881005	HAM-HGWA-44D	EPA 9320	610551		
92681881001	HAM-HGWA-1	Total Radium Calculation	614459		
92681881002	HAM-HGWA-2	Total Radium Calculation	614459		
92681881003	HAM-HGWA-3	Total Radium Calculation	614459		
92681881004	HAM-HGWA-43D	Total Radium Calculation	614459		
92681881005	HAM-HGWA-44D	Total Radium Calculation	614326		

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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:

G A Power

Project #:

WO#: 92681881



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

Custody Seal Present? Yes No Seals Intact? Yes No

Date/Initials Person Examining Contents: *8/9/23*
COG

Packing Material: Bubble Wrap Bubble Bags None Other

Biological Tissue Frozen? Yes No N/A

Thermometer:

IR Gun ID:

2/4

Type of Ice:

Wet Blue None

Cooler Temp:

2.1

Correction Factor: Add/Subtract (°C)

0.0

Temp should be above freezing to 6°C

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

Cooler Temp Corrected (°C):

2.1

USDA Regulated Soil (N/A, water sample)

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

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

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

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? Yes No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted:

Date/Time:

Project Manager SCURE Review:

Date:

Project Manager SRF Review:

Date:



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

Effective Date: 11/14/2022

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

Project #

WO#: 92681881

PM: BV

Due Date: 08/30/23

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

CLIENT: 92- GP-HAM

**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 2N 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																											
2	2	1																											
3	2	1																											
4	2	1																											
5	2	1																											
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.



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

Section A Required Client Information: **Section B** Required Project Information: **Section C** Invoice Information:

Company: GA Power
 Address: Atlanta, GA
 Report To: SCS Contacts
 Copy To: Geosyntec Contacts
 Attention: Southern Co.

Project Name: Plant Hammond Pooled Upgradient
 Purchase Order No.:
 Company Name: Pace Quota
 Reference: Bonnie Vang
 Project Manager: Pace Profile #: 10839-1502-376

Requested Due Date/TAT: 10 Day
 Project Number: 16485-9-20
 Requested Analysis Filtered (Y/N):
 REGULATORY AGENCY: NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER CCR
 Site Location: GA
 STATE:

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE	DATE	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)
				COMPOSITE	COMPOSITE						
1	HAM-HGWA-1	WT G	8/8/23	1047		19	7	3	3	X	N
2	HAM-HGWA-2	WT G	8/8/23	1608		19	7	3	3	X	N
3	HAM-HGWA-3	WT G	8/8/23	1445	TK BR/2023	19	7	3	3	X	N
4	HAM-HGWA-43D	WT G	8/8/23	1105		18	7	3	3	X	N
5	HAM-HGWA-44D	WT G	8/8/23	1059		19	7	3	3	X	N
6											
7											
8											
9											
10											
11											
12											

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Tank Code: HAM-CCR-ASSMNT202352		Thomas Lester / Geosyntec	8/9/23	0922	Elisabeth McDonald (Geo)	8/9/23	800	
		Elisabeth McDonald	8/9/23	1140	Ryan Williams / Pace	8/9/23	1140	
		Ryan Williams / Pace	8/9/23	1415	Elisabeth McDonald	8/9/23	1415	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: / Geosyntec Consultants, Inc

SIGNATURE of SAMPLER:

DATE Signed (MM/DD/YY):

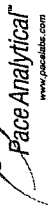
Temp in °C

Received on Ice (Y/N)

Custody Sealed Cooler (Y/N)

Samples Intact (Y/N)

Quality Control Sample Performance Assessment



Analyst **Must Manually Enter All Fields Highlighted in Yellow.**

Test: Ra-228
Analyst: JJS1
Date: 8/28/2023
Worklist: 74945
Matrix: WT

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		LCS/D (Y or N)?	Y
Count Date:	8/31/2023	LCS/D74945	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
Upper % Recovery Limits:	135%		135%
Lower % Recovery Limits:	60%		60%

Duplicate Sample Assessment	
Sample I.D.:	LCS74945
Duplicate Sample I.D.:	LCS74945
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%

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

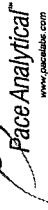
Comments:
*The method blank result is below the reporting limit for this analysis and is acceptable.

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
<p>Sample Collection Date:</p> <p>Sample I.D.:</p> <p>Sample MS I.D.:</p> <p>Sample MSD I.D.:</p> <p>Spike I.D.:</p> <p>MS/MSD Decay Corrected Spike Concentration (pCi/mL):</p> <p>Spike Volume Used in MS (mL):</p> <p>Spike Volume Used in MSD (mL):</p> <p>MS Aliquot (L, g, F):</p> <p>MS Target Conc. (pCi/L, g, F):</p> <p>MSD Aliquot (L, g, F):</p> <p>MSD Target Conc. (pCi/L, g, F):</p> <p>MS Spike Uncertainty (calculated):</p> <p>MSD Spike Uncertainty (calculated):</p> <p>MSD Numerical Performance Indicator:</p> <p>MS Percent Recovery:</p> <p>MS Status vs Numerical Indicator:</p> <p>MS Status vs Recovery:</p> <p>MS/MSD Upper % Recovery Limits:</p> <p>MS/MSD Lower % Recovery Limits:</p>		

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

7/15/23

Quality Control Sample Performance Assessment



Analyst **Must Manually Enter All Fields Highlighted in Yellow.**

Test: Ra-228
Analyst: ZPC
Date: 8/29/2023
Worklist: 74946
Matrix: WT

Method Blank Assessment	
MB Sample ID	2971504
MB concentration:	0.028
MB 2 Sigma CSU:	0.177
MB MDC:	0.418
MB Numerical Performance Indicator:	0.31
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	
	LCS74946	Y
Count Date:	8/31/2023	LCS74946
Spike I.D.:	23-043	8/31/2023
Decay Corrected Spike Concentration (pCi/mL):	40.010	23-043
Volume Used (mL):	0.10	40.010
Aliquot Volume (L, g, F):	0.816	0.10
Target Conc. (pCi/L, g, F):	4.905	0.815
Uncertainty (Calculated):	0.240	4.908
Result (pCi/L, g, F):	4.584	0.240
LCSD/LCSD 2 Sigma CSU (pCi/L, g, F):	1.002	4.915
Numerical Performance Indicator:	-0.59	1.070
Percent Recovery:	93.66%	0.01
Status vs Numerical Indicator:	N/A	100.15%
Upper % Recovery Limits:	135%	N/A
Lower % Recovery Limits:	60%	Pass

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

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

Comments:

Jasper

VAM 9/15/23



Quality Control Sample Performance Assessment

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-226
Analyst: SLC
Date: 9/2/2023
Worklist: 74954
Matrix: WT

Method Blank Assessment	
MB Sample ID	29711911
MB concentration:	0.078
MB 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		LCS# (Y or N)?	Y
Count Date:	9/6/2023	LCS74954	LCS#74954
Spike I.D.:	19-033		
Decay Corrected Spike Concentration (pCi/mL):	24.014		
Volume Used (mL):	0.10		
Alliquot Volume (L, g, F):	0.503		
Target Conc. (pCi/L, g, F):	4.775		
Uncertainty (Calculated):	0.057		
Result (pCi/L, g, F):	5.366		
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.001		
Numerical Performance Indicator:	1.15		
Percent Recovery:	112.37%		
Status vs Numerical Indicator:	Pass		
Status vs Recovery:	N/A		
Upper % Recovery Limits:	125%		
Lower % Recovery Limits:	75%		

Duplicate Sample Assessment		LCS#	Y
Sample I.D.:	LCS74954		
Duplicate Sample I.D.:	LCS#74954		
Sample Result (pCi/L, g, F):	5.366		
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.001		
Sample Duplicate Result (pCi/L, g, F):	5.002		
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	0.935		
Are sample and/or duplicate results below RL?	NO		
Duplicate Numerical Performance Indicator:	0.520		
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	6.56%		
Duplicate Status vs Numerical Indicator:	Pass		
Duplicate Status vs RPD:	N/A		
% RPD Limit:	25%		

Sample Matrix Spike Control Assessment		MS/MSD 1	MS/MSD 2
Sample Collection Date:			
Sample I.D.:			
Sample MS I.D.:			
Sample MSD I.D.:			
Spike I.D.:			
MS/MSD Decay Corrected Spike Concentration (pCi/mL):			
Spike Volume Used in MS (mL):			
Spike Volume Used in MSD (mL):			
MS Alliquot (L, g, F):			
MS Target Conc. (pCi/L, g, F):			
MSD Alliquot (L, g, F):			
MSD Target Conc. (pCi/L, g, F):			
MS Spike Uncertainty (calculated):			
MSD Spike Uncertainty (calculated):			
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		MS/MSD 1	MS/MSD 2
Sample I.D.:			
Sample MS I.D.:			
Sample MSD I.D.:			
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):			
Matrix Matrix Spike Result:			
Matrix Duplicate Result 2 Sigma CSU (pCi/L, g, F):			
Matrix 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:

MM 9/1/23



Quality Control Sample Performance Assessment

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-226
 Analyst: SLC
 Date: 9/21/2023
 Worklist: 75040
 Matrix: W1

Method Blank Assessment	
MB Sample ID	2977130
MB concentration:	0.086
MB 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		
	LCS0 (Y or N)?	Y
	Count Date:	9/8/2023
Spike ID:	LCSD75040	LCSD75040
Decay Corrected Spike Concentration (pCi/mL):	19.033	19.033
Volume Used (mL):	24.013	24.013
Alliquot Volume (L, g, F):	0.10	0.10
Target Conc. (pCi/L, g, F):	0.503	0.503
Uncertainty (Calculated):	4.779	4.771
Result (pCi/L, g, F):	0.057	0.057
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	5.033	5.858
Numerical Performance Indicator:	0.911	1.031
Percent Recovery:	0.55	2.06
Status vs Numerical Indicator:	105.33%	122.77%
Status vs Recovery:	Pass	Warning
Upper % Recovery Limits:	N/A	N/A
Lower % Recovery Limits:	125%	75%

Sample Matrix Spike Control Assessment		
Sample Collection Date:	MS/MSD 1	MS/MSD 2
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 Alliquot (L, g, F):		
MS Target Conc. (pCi/L, g, F):		
MSD Alliquot (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.:	LCSD75040	92681890014
Duplicate Sample I.D.:	LCSD75040	92681890014DUP
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.:	MS/MSD 1	MS/MSD 2
Sample I.D.:		
Sample MS I.D.:		
Sample MSD I.D.:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike 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:

M 9/8/23

W 9/18/23



August 25, 2023

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

RE: Project: Hammond AP-3
Pace Project No.: 92681883

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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Hammond AP-3

Pace Project No.: 92681883

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

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SAMPLE SUMMARY

Project: Hammond AP-3

Pace Project No.: 92681883

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92681883001	HAM-HGWA-45D	Water	08/08/23 12:55	08/09/23 11:40
92681883002	HAM-HGWA-122	Water	08/08/23 14:37	08/09/23 11:40
92682552001	HAM-HGWC-124	Water	08/11/23 10:47	08/14/23 11:15
92682552002	HAM-HGWC-126	Water	08/11/23 13:01	08/14/23 11:15
92682552003	HAM-AP3-FD-03	Water	08/11/23 00:00	08/14/23 11:15
92682393001	HAM-HGWC-120	Water	08/10/23 13:15	08/11/23 13:12
92682393002	HAM-HGWC-121A	Water	08/10/23 10:51	08/11/23 13:12
92682393003	HAM-HGWC-125	Water	08/10/23 15:08	08/11/23 13:12
92682393004	HAM-AP3-EB-03	Water	08/10/23 16:45	08/11/23 13:12
92682393005	HAM-AP3-FB-03	Water	08/10/23 16:40	08/11/23 13:12

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Hammond AP-3

Pace Project No.: 92681883

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92681883001	HAM-HGWA-45D	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
92681883002	HAM-HGWA-122	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
92682552001	HAM-HGWC-124	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	CDC	3
92682552002	HAM-HGWC-126	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	CDC	3
92682552003	HAM-AP3-FD-03	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	CDC	3
92682393001	HAM-HGWC-120	EPA 6010D	DRB	6
		EPA 6020B	CW1	13

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Hammond AP-3

Pace Project No.: 92681883

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92682393002	HAM-HGWC-121A	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
		EPA 6010D	DRB	6
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	DL1	1
		SM 2320B-2011	SMS	3
92682393003	HAM-HGWC-125	SM 4500-S2D-2011	JP1	1
		EPA 300.0 Rev 2.1 1993	JCM	3
		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
		EPA 6010D	DRB	1
92682393004	HAM-AP3-EB-03	EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	DL1	1
		EPA 300.0 Rev 2.1 1993	JCM	3
		EPA 6010D	DRB	1
92682393005	HAM-AP3-FB-03	EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	DL1	1
		EPA 300.0 Rev 2.1 1993	JCM	3
		EPA 6010D	DRB	1

PASI-A = Pace Analytical Services - Asheville

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

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Hammond AP-3

Pace Project No.: 92681883

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92681883001	HAM-HGWA-45D					
EPA 6010D	Iron	0.23	mg/L	0.040	08/12/23 05:44	
EPA 6010D	Manganese	0.013J	mg/L	0.040	08/12/23 05:44	
EPA 6010D	Potassium	1.8	mg/L	0.50	08/12/23 05:44	
EPA 6010D	Sodium	24.6	mg/L	1.0	08/12/23 05:44	
EPA 6010D	Calcium	48.1	mg/L	1.0	08/12/23 05:44	
EPA 6010D	Magnesium	19.3	mg/L	0.050	08/12/23 05:44	
EPA 6020B	Barium	0.59	mg/L	0.0050	08/18/23 18:11	
EPA 6020B	Boron	0.15	mg/L	0.040	08/18/23 18:11	
EPA 6020B	Lithium	0.0049J	mg/L	0.030	08/18/23 18:11	
SM 2540C-2015	Total Dissolved Solids	261	mg/L	25.0	08/10/23 11:55	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	286	mg/L	5.0	08/16/23 11:04	
SM 2320B-2011	Alkalinity, Total as CaCO3	286	mg/L	5.0	08/16/23 11:04	
SM 4500-S2D-2011	Sulfide	0.16	mg/L	0.10	08/15/23 06:11	R1
EPA 300.0 Rev 2.1 1993	Chloride	3.6	mg/L	1.0	08/12/23 17:25	
EPA 300.0 Rev 2.1 1993	Fluoride	0.19	mg/L	0.10	08/12/23 17:25	
EPA 300.0 Rev 2.1 1993	Sulfate	2.2	mg/L	1.0	08/12/23 17:25	
92681883002	HAM-HGWA-122					
EPA 6010D	Potassium	0.80	mg/L	0.50	08/12/23 05:49	
EPA 6010D	Sodium	5.8	mg/L	1.0	08/12/23 05:49	
EPA 6010D	Calcium	64.4	mg/L	1.0	08/12/23 05:49	
EPA 6010D	Magnesium	4.9	mg/L	0.050	08/12/23 05:49	
EPA 6020B	Barium	0.032	mg/L	0.0050	08/18/23 18:14	
EPA 6020B	Boron	0.18	mg/L	0.040	08/18/23 18:14	
EPA 6020B	Molybdenum	0.0039J	mg/L	0.010	08/18/23 18:14	
SM 2540C-2015	Total Dissolved Solids	248	mg/L	25.0	08/11/23 13:59	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	170	mg/L	5.0	08/15/23 20:50	
SM 2320B-2011	Alkalinity, Total as CaCO3	170	mg/L	5.0	08/15/23 20:50	
EPA 300.0 Rev 2.1 1993	Chloride	2.2	mg/L	1.0	08/12/23 18:40	
EPA 300.0 Rev 2.1 1993	Fluoride	0.091J	mg/L	0.10	08/12/23 18:40	
EPA 300.0 Rev 2.1 1993	Sulfate	34.9	mg/L	1.0	08/12/23 18:40	
92682552001	HAM-HGWC-124					
EPA 6010D	Iron	0.13	mg/L	0.040	08/18/23 21:47	
EPA 6010D	Manganese	0.19	mg/L	0.040	08/18/23 21:47	
EPA 6010D	Potassium	0.85	mg/L	0.50	08/18/23 21:47	
EPA 6010D	Sodium	5.7	mg/L	1.0	08/18/23 21:47	M1
EPA 6010D	Calcium	97.8	mg/L	1.0	08/18/23 21:47	M1
EPA 6010D	Magnesium	9.4	mg/L	0.050	08/18/23 21:47	M1
EPA 6020B	Barium	0.060	mg/L	0.0050	08/22/23 20:41	
EPA 6020B	Boron	0.30	mg/L	0.040	08/22/23 20:41	
EPA 6020B	Lithium	0.00097J	mg/L	0.030	08/22/23 20:41	
SM 2540C-2015	Total Dissolved Solids	361	mg/L	25.0	08/17/23 11:11	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	227	mg/L	5.0	08/17/23 17:00	
SM 2320B-2011	Alkalinity, Total as CaCO3	227	mg/L	5.0	08/17/23 17:00	
EPA 300.0 Rev 2.1 1993	Chloride	2.1	mg/L	1.0	08/16/23 04:17	
EPA 300.0 Rev 2.1 1993	Sulfate	67.6	mg/L	1.0	08/16/23 04:17	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Hammond AP-3

Pace Project No.: 92681883

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92682552002	HAM-HGWC-126					
EPA 6010D	Iron	1.3	mg/L	0.040	08/18/23 22:06	
EPA 6010D	Manganese	0.14	mg/L	0.040	08/18/23 22:06	
EPA 6010D	Potassium	0.76	mg/L	0.50	08/18/23 22:06	
EPA 6010D	Sodium	32.4	mg/L	1.0	08/18/23 22:06	
EPA 6010D	Calcium	131	mg/L	1.0	08/18/23 22:06	
EPA 6010D	Magnesium	26.1	mg/L	0.050	08/18/23 22:06	
EPA 6020B	Barium	0.22	mg/L	0.0050	08/22/23 20:47	
EPA 6020B	Boron	0.016J	mg/L	0.040	08/22/23 20:47	
EPA 6020B	Lithium	0.0041J	mg/L	0.030	08/22/23 20:47	
SM 2540C-2015	Total Dissolved Solids	535	mg/L	25.0	08/17/23 11:11	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	463	mg/L	5.0	08/18/23 00:20	
SM 2320B-2011	Alkalinity, Total as CaCO3	463	mg/L	5.0	08/18/23 00:20	
SM 4500-S2D-2011	Sulfide	0.024J	mg/L	0.10	08/15/23 06:49	
EPA 300.0 Rev 2.1 1993	Chloride	8.1	mg/L	1.0	08/16/23 04:31	
EPA 300.0 Rev 2.1 1993	Fluoride	0.49	mg/L	0.10	08/16/23 04:31	
EPA 300.0 Rev 2.1 1993	Sulfate	60.5	mg/L	1.0	08/16/23 04:31	
92682552003	HAM-AP3-FD-03					
EPA 6010D	Iron	0.080	mg/L	0.040	08/18/23 22:11	
EPA 6010D	Manganese	0.14	mg/L	0.040	08/18/23 22:11	
EPA 6010D	Potassium	0.83	mg/L	0.50	08/18/23 22:11	
EPA 6010D	Sodium	5.3	mg/L	1.0	08/18/23 22:11	
EPA 6010D	Calcium	92.3	mg/L	1.0	08/18/23 22:11	
EPA 6010D	Magnesium	8.9	mg/L	0.050	08/18/23 22:11	
EPA 6020B	Barium	0.058	mg/L	0.0050	08/22/23 21:05	
EPA 6020B	Boron	0.30	mg/L	0.040	08/22/23 21:05	
EPA 6020B	Lithium	0.00098J	mg/L	0.030	08/22/23 21:05	
SM 2540C-2015	Total Dissolved Solids	369	mg/L	25.0	08/17/23 11:12	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	225	mg/L	5.0	08/17/23 17:19	
SM 2320B-2011	Alkalinity, Total as CaCO3	225	mg/L	5.0	08/17/23 17:19	
EPA 300.0 Rev 2.1 1993	Chloride	2.1	mg/L	1.0	08/16/23 04:45	
EPA 300.0 Rev 2.1 1993	Sulfate	68.2	mg/L	1.0	08/16/23 04:45	
92682393001	HAM-HGWC-120					
EPA 6010D	Iron	0.59	mg/L	0.040	08/18/23 19:29	
EPA 6010D	Manganese	1.2	mg/L	0.040	08/18/23 19:29	
EPA 6010D	Potassium	7.7	mg/L	0.50	08/18/23 19:29	
EPA 6010D	Sodium	9.0	mg/L	1.0	08/18/23 19:29	
EPA 6010D	Calcium	171	mg/L	1.0	08/18/23 19:29	
EPA 6010D	Magnesium	22.0	mg/L	0.050	08/18/23 19:29	
EPA 6020B	Barium	0.045	mg/L	0.0050	08/18/23 18:55	
EPA 6020B	Boron	1.0	mg/L	0.40	08/21/23 15:33	
EPA 6020B	Cobalt	0.0048J	mg/L	0.0050	08/18/23 18:55	
EPA 6020B	Lithium	0.023J	mg/L	0.030	08/18/23 18:55	
EPA 6020B	Molybdenum	0.035	mg/L	0.010	08/18/23 18:55	
SM 2540C-2015	Total Dissolved Solids	661	mg/L	25.0	08/16/23 14:50	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	320	mg/L	5.0	08/17/23 11:23	
SM 2320B-2011	Alkalinity, Total as CaCO3	320	mg/L	5.0	08/17/23 11:23	

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SUMMARY OF DETECTION

Project: Hammond AP-3

Pace Project No.: 92681883

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92682393001	HAM-HGWC-120					
EPA 300.0 Rev 2.1 1993	Chloride	2.6	mg/L	1.0	08/12/23 17:46	
EPA 300.0 Rev 2.1 1993	Fluoride	0.36	mg/L	0.10	08/12/23 17:46	
EPA 300.0 Rev 2.1 1993	Sulfate	195	mg/L	4.0	08/13/23 05:49	
92682393002	HAM-HGWC-121A					
EPA 6010D	Iron	0.062	mg/L	0.040	08/18/23 19:34	
EPA 6010D	Manganese	0.65	mg/L	0.040	08/18/23 19:34	
EPA 6010D	Potassium	1.2	mg/L	0.50	08/18/23 19:34	
EPA 6010D	Sodium	33.1	mg/L	1.0	08/18/23 19:34	
EPA 6010D	Calcium	149	mg/L	1.0	08/18/23 19:34	
EPA 6010D	Magnesium	21.4	mg/L	0.050	08/18/23 19:34	
EPA 6020B	Barium	0.048	mg/L	0.0050	08/18/23 18:59	
EPA 6020B	Boron	1.7	mg/L	0.40	08/21/23 15:39	
EPA 6020B	Lithium	0.0069J	mg/L	0.030	08/18/23 18:59	
SM 2540C-2015	Total Dissolved Solids	642	mg/L	25.0	08/16/23 14:50	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	375	mg/L	5.0	08/17/23 11:33	
SM 2320B-2011	Alkalinity, Total as CaCO3	375	mg/L	5.0	08/17/23 11:33	
EPA 300.0 Rev 2.1 1993	Chloride	12.2	mg/L	1.0	08/12/23 18:00	
EPA 300.0 Rev 2.1 1993	Fluoride	0.18	mg/L	0.10	08/12/23 18:00	
EPA 300.0 Rev 2.1 1993	Sulfate	138	mg/L	3.0	08/13/23 06:04	
92682393003	HAM-HGWC-125					
EPA 6010D	Iron	0.072	mg/L	0.040	08/18/23 19:49	
EPA 6010D	Manganese	1.9	mg/L	0.040	08/18/23 19:49	
EPA 6010D	Potassium	3.7	mg/L	0.50	08/18/23 19:49	
EPA 6010D	Sodium	16.2	mg/L	1.0	08/18/23 19:49	
EPA 6010D	Calcium	173	mg/L	1.0	08/18/23 19:49	
EPA 6010D	Magnesium	26.4	mg/L	0.050	08/18/23 19:49	
EPA 6020B	Barium	0.038	mg/L	0.0050	08/18/23 19:03	
EPA 6020B	Boron	1.6	mg/L	0.40	08/21/23 15:45	
EPA 6020B	Cobalt	0.012	mg/L	0.0050	08/18/23 19:03	
EPA 6020B	Lithium	0.0042J	mg/L	0.030	08/18/23 19:03	
EPA 6020B	Molybdenum	0.0031J	mg/L	0.010	08/18/23 19:03	
SM 2540C-2015	Total Dissolved Solids	760	mg/L	25.0	08/16/23 14:50	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	219	mg/L	5.0	08/16/23 20:26	
SM 2320B-2011	Alkalinity, Total as CaCO3	219	mg/L	5.0	08/16/23 20:26	
EPA 300.0 Rev 2.1 1993	Chloride	9.0	mg/L	1.0	08/12/23 18:15	
EPA 300.0 Rev 2.1 1993	Fluoride	0.15	mg/L	0.10	08/12/23 18:15	
EPA 300.0 Rev 2.1 1993	Sulfate	290	mg/L	6.0	08/13/23 06:19	
92682393004	HAM-AP3-EB-03					
EPA 6020B	Boron	0.015J	mg/L	0.040	08/18/23 19:06	

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ANALYTICAL RESULTS

Project: Hammond AP-3

Pace Project No.: 92681883

Sample: HAM-HGWA-45D **Lab ID: 92681883001** Collected: 08/08/23 12:55 Received: 08/09/23 11:40 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Iron	0.23	mg/L	0.040	0.025	1	08/11/23 14:21	08/12/23 05:44	7439-89-6	
Manganese	0.013J	mg/L	0.040	0.011	1	08/11/23 14:21	08/12/23 05:44	7439-96-5	
Potassium	1.8	mg/L	0.50	0.15	1	08/11/23 14:21	08/12/23 05:44	7440-09-7	
Sodium	24.6	mg/L	1.0	0.58	1	08/11/23 14:21	08/12/23 05:44	7440-23-5	
Calcium	48.1	mg/L	1.0	0.12	1	08/11/23 14:21	08/12/23 05:44	7440-70-2	
Magnesium	19.3	mg/L	0.050	0.012	1	08/11/23 14:21	08/12/23 05:44	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	08/16/23 10:27	08/18/23 18:11	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/16/23 10:27	08/18/23 18:11	7440-38-2	
Barium	0.59	mg/L	0.0050	0.00067	1	08/16/23 10:27	08/18/23 18:11	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/16/23 10:27	08/18/23 18:11	7440-41-7	
Boron	0.15	mg/L	0.040	0.0086	1	08/16/23 10:27	08/18/23 18:11	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/16/23 10:27	08/18/23 18:11	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/16/23 10:27	08/18/23 18:11	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/16/23 10:27	08/18/23 18:11	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/16/23 10:27	08/18/23 18:11	7439-92-1	
Lithium	0.0049J	mg/L	0.030	0.00073	1	08/16/23 10:27	08/18/23 18:11	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/16/23 10:27	08/18/23 18:11	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/16/23 10:27	08/18/23 18:11	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/16/23 10:27	08/18/23 18:11	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 15:30	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2015									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	261	mg/L	25.0	25.0	1		08/10/23 11:55		
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	286	mg/L	5.0	5.0	1		08/16/23 11:04		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/16/23 11:04		
Alkalinity, Total as CaCO3	286	mg/L	5.0	5.0	1		08/16/23 11:04		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011									
Pace Analytical Services - Asheville									
Sulfide	0.16	mg/L	0.10	0.022	1		08/15/23 06:11	18496-25-8	R1
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	3.6	mg/L	1.0	0.60	1		08/12/23 17:25	16887-00-6	

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ANALYTICAL RESULTS

Project: Hammond AP-3

Pace Project No.: 92681883

Sample: HAM-HGWA-45D Lab ID: 92681883001 Collected: 08/08/23 12:55 Received: 08/09/23 11:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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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 17:25	16984-48-8	
Sulfate	2.2	mg/L	1.0	0.50	1		08/12/23 17:25	14808-79-8	

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ANALYTICAL RESULTS

Project: Hammond AP-3

Pace Project No.: 92681883

Sample: HAM-HGWA-122 **Lab ID: 92681883002** Collected: 08/08/23 14:37 Received: 08/09/23 11:40 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
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 05:49	7439-89-6	
Manganese	ND	mg/L	0.040	0.011	1	08/11/23 14:21	08/12/23 05:49	7439-96-5	
Potassium	0.80	mg/L	0.50	0.15	1	08/11/23 14:21	08/12/23 05:49	7440-09-7	
Sodium	5.8	mg/L	1.0	0.58	1	08/11/23 14:21	08/12/23 05:49	7440-23-5	
Calcium	64.4	mg/L	1.0	0.12	1	08/11/23 14:21	08/12/23 05:49	7440-70-2	
Magnesium	4.9	mg/L	0.050	0.012	1	08/11/23 14:21	08/12/23 05:49	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	08/16/23 10:27	08/18/23 18:14	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/16/23 10:27	08/18/23 18:14	7440-38-2	
Barium	0.032	mg/L	0.0050	0.00067	1	08/16/23 10:27	08/18/23 18:14	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/16/23 10:27	08/18/23 18:14	7440-41-7	
Boron	0.18	mg/L	0.040	0.0086	1	08/16/23 10:27	08/18/23 18:14	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/16/23 10:27	08/18/23 18:14	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/16/23 10:27	08/18/23 18:14	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/16/23 10:27	08/18/23 18:14	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/16/23 10:27	08/18/23 18:14	7439-92-1	
Lithium	ND	mg/L	0.030	0.00073	1	08/16/23 10:27	08/18/23 18:14	7439-93-2	
Molybdenum	0.0039J	mg/L	0.010	0.00074	1	08/16/23 10:27	08/18/23 18:14	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/16/23 10:27	08/18/23 18:14	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/16/23 10:27	08/18/23 18:14	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 15:46	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2015									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	248	mg/L	25.0	25.0	1		08/11/23 13:59		
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	170	mg/L	5.0	5.0	1		08/15/23 20:50		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/15/23 20:50		
Alkalinity, Total as CaCO3	170	mg/L	5.0	5.0	1		08/15/23 20:50		
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	2.2	mg/L	1.0	0.60	1		08/12/23 18:40	16887-00-6	

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ANALYTICAL RESULTS

Project: Hammond AP-3

Pace Project No.: 92681883

Sample: HAM-HGWA-122 Lab ID: 92681883002 Collected: 08/08/23 14:37 Received: 08/09/23 11:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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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 18:40	16984-48-8	
Sulfate	34.9	mg/L	1.0	0.50	1		08/12/23 18:40	14808-79-8	

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ANALYTICAL RESULTS

Project: Hammond AP-3

Pace Project No.: 92681883

Sample: HAM-HGWC-124 **Lab ID: 92682552001** Collected: 08/11/23 10:47 Received: 08/14/23 11:15 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Iron	0.13	mg/L	0.040	0.025	1	08/18/23 10:59	08/18/23 21:47	7439-89-6	
Manganese	0.19	mg/L	0.040	0.011	1	08/18/23 10:59	08/18/23 21:47	7439-96-5	
Potassium	0.85	mg/L	0.50	0.15	1	08/18/23 10:59	08/18/23 21:47	7440-09-7	
Sodium	5.7	mg/L	1.0	0.58	1	08/18/23 10:59	08/18/23 21:47	7440-23-5	M1
Calcium	97.8	mg/L	1.0	0.12	1	08/18/23 10:59	08/18/23 21:47	7440-70-2	M1
Magnesium	9.4	mg/L	0.050	0.012	1	08/18/23 10:59	08/18/23 21:47	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 20:41	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/17/23 10:25	08/22/23 20:41	7440-38-2	
Barium	0.060	mg/L	0.0050	0.00067	1	08/17/23 10:25	08/22/23 20:41	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/17/23 10:25	08/22/23 20:41	7440-41-7	
Boron	0.30	mg/L	0.040	0.0086	1	08/17/23 10:25	08/22/23 20:41	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/17/23 10:25	08/22/23 20:41	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/17/23 10:25	08/23/23 17:31	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/17/23 10:25	08/22/23 20:41	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/17/23 10:25	08/22/23 20:41	7439-92-1	
Lithium	0.00097J	mg/L	0.030	0.00073	1	08/17/23 10:25	08/22/23 20:41	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/17/23 10:25	08/22/23 20:41	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/17/23 10:25	08/22/23 20:41	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/17/23 10:25	08/22/23 20:41	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 11:10	08/21/23 15:43	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2015									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	361	mg/L	25.0	25.0	1		08/17/23 11:11		
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	227	mg/L	5.0	5.0	1		08/17/23 17:00		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/17/23 17:00		
Alkalinity, Total as CaCO3	227	mg/L	5.0	5.0	1		08/17/23 17:00		
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 06:49	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	2.1	mg/L	1.0	0.60	1		08/16/23 04:17	16887-00-6	

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ANALYTICAL RESULTS

Project: Hammond AP-3

Pace Project No.: 92681883

Sample: HAM-HGWC-124 Lab ID: 92682552001 Collected: 08/11/23 10:47 Received: 08/14/23 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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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		08/16/23 04:17	16984-48-8	
Sulfate	67.6	mg/L	1.0	0.50	1		08/16/23 04:17	14808-79-8	

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ANALYTICAL RESULTS

Project: Hammond AP-3

Pace Project No.: 92681883

Sample: HAM-HGWC-126 **Lab ID: 92682552002** Collected: 08/11/23 13:01 Received: 08/14/23 11:15 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Iron	1.3	mg/L	0.040	0.025	1	08/18/23 10:59	08/18/23 22:06	7439-89-6	
Manganese	0.14	mg/L	0.040	0.011	1	08/18/23 10:59	08/18/23 22:06	7439-96-5	
Potassium	0.76	mg/L	0.50	0.15	1	08/18/23 10:59	08/18/23 22:06	7440-09-7	
Sodium	32.4	mg/L	1.0	0.58	1	08/18/23 10:59	08/18/23 22:06	7440-23-5	
Calcium	131	mg/L	1.0	0.12	1	08/18/23 10:59	08/18/23 22:06	7440-70-2	
Magnesium	26.1	mg/L	0.050	0.012	1	08/18/23 10:59	08/18/23 22:06	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 10:25	08/22/23 20:47	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/17/23 10:25	08/22/23 20:47	7440-38-2	
Barium	0.22	mg/L	0.0050	0.00067	1	08/17/23 10:25	08/22/23 20:47	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/17/23 10:25	08/22/23 20:47	7440-41-7	
Boron	0.016J	mg/L	0.040	0.0086	1	08/17/23 10:25	08/22/23 20:47	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/17/23 10:25	08/22/23 20:47	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/17/23 10:25	08/23/23 17:35	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/17/23 10:25	08/22/23 20:47	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/17/23 10:25	08/22/23 20:47	7439-92-1	
Lithium	0.0041J	mg/L	0.030	0.00073	1	08/17/23 10:25	08/22/23 20:47	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/17/23 10:25	08/22/23 20:47	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/17/23 10:25	08/22/23 20:47	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/17/23 10:25	08/22/23 20:47	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 11:10	08/21/23 15:46	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2015									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	535	mg/L	25.0	25.0	1		08/17/23 11:11		
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	463	mg/L	5.0	5.0	1		08/18/23 00:20		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/18/23 00:20		
Alkalinity, Total as CaCO3	463	mg/L	5.0	5.0	1		08/18/23 00:20		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011									
Pace Analytical Services - Asheville									
Sulfide	0.024J	mg/L	0.10	0.022	1		08/15/23 06:49	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	8.1	mg/L	1.0	0.60	1		08/16/23 04:31	16887-00-6	

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ANALYTICAL RESULTS

Project: Hammond AP-3

Pace Project No.: 92681883

Sample: HAM-HGWC-126 Lab ID: 92682552002 Collected: 08/11/23 13:01 Received: 08/14/23 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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300.0 IC Anions 28 Days

Analytical Method: EPA 300.0 Rev 2.1 1993
Pace Analytical Services - Asheville

Fluoride	0.49	mg/L	0.10	0.050	1		08/16/23 04:31	16984-48-8	
Sulfate	60.5	mg/L	1.0	0.50	1		08/16/23 04:31	14808-79-8	

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ANALYTICAL RESULTS

Project: Hammond AP-3

Pace Project No.: 92681883

Sample: HAM-AP3-FD-03		Lab ID: 92682552003		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							
Iron	0.080	mg/L	0.040	0.025	1	08/18/23 10:59	08/18/23 22:11	7439-89-6	
Manganese	0.14	mg/L	0.040	0.011	1	08/18/23 10:59	08/18/23 22:11	7439-96-5	
Potassium	0.83	mg/L	0.50	0.15	1	08/18/23 10:59	08/18/23 22:11	7440-09-7	
Sodium	5.3	mg/L	1.0	0.58	1	08/18/23 10:59	08/18/23 22:11	7440-23-5	
Calcium	92.3	mg/L	1.0	0.12	1	08/18/23 10:59	08/18/23 22:11	7440-70-2	
Magnesium	8.9	mg/L	0.050	0.012	1	08/18/23 10:59	08/18/23 22:11	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 10:25	08/22/23 21:05	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/17/23 10:25	08/22/23 21:05	7440-38-2	
Barium	0.058	mg/L	0.0050	0.00067	1	08/17/23 10:25	08/22/23 21:05	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/17/23 10:25	08/23/23 17:39	7440-41-7	
Boron	0.30	mg/L	0.040	0.0086	1	08/17/23 10:25	08/22/23 21:05	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/17/23 10:25	08/22/23 21:05	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/17/23 10:25	08/23/23 17:39	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/17/23 10:25	08/23/23 17:39	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/17/23 10:25	08/22/23 21:05	7439-92-1	
Lithium	0.00098J	mg/L	0.030	0.00073	1	08/17/23 10:25	08/22/23 21:05	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/17/23 10:25	08/22/23 21:05	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/17/23 10:25	08/22/23 21:05	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/17/23 10:25	08/22/23 21:05	7440-28-0	
7470 Mercury		Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA							
Mercury	ND	mg/L	0.00020	0.00013	1	08/21/23 11:10	08/21/23 15:48	7439-97-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	369	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)	225	mg/L	5.0	5.0	1		08/17/23 17:19		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/17/23 17:19		
Alkalinity, Total as CaCO3	225	mg/L	5.0	5.0	1		08/17/23 17:19		
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	2.1	mg/L	1.0	0.60	1		08/16/23 04:45	16887-00-6	

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ANALYTICAL RESULTS

Project: Hammond AP-3

Pace Project No.: 92681883

Sample: HAM-AP3-FD-03 Lab ID: 92682552003 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		08/16/23 04:45	16984-48-8	
Sulfate	68.2	mg/L	1.0	0.50	1		08/16/23 04:45	14808-79-8	

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ANALYTICAL RESULTS

Project: Hammond AP-3

Pace Project No.: 92681883

Sample: HAM-HGWC-120		Lab ID: 92682393001		Collected: 08/10/23 13:15		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	0.59	mg/L	0.040	0.025	1	08/18/23 10:36	08/18/23 19:29	7439-89-6	
Manganese	1.2	mg/L	0.040	0.011	1	08/18/23 10:36	08/18/23 19:29	7439-96-5	
Potassium	7.7	mg/L	0.50	0.15	1	08/18/23 10:36	08/18/23 19:29	7440-09-7	
Sodium	9.0	mg/L	1.0	0.58	1	08/18/23 10:36	08/18/23 19:29	7440-23-5	
Calcium	171	mg/L	1.0	0.12	1	08/18/23 10:36	08/18/23 19:29	7440-70-2	
Magnesium	22.0	mg/L	0.050	0.012	1	08/18/23 10:36	08/18/23 19:29	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	08/16/23 10:27	08/18/23 18:55	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/16/23 10:27	08/18/23 18:55	7440-38-2	
Barium	0.045	mg/L	0.0050	0.00067	1	08/16/23 10:27	08/18/23 18:55	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/16/23 10:27	08/18/23 18:55	7440-41-7	
Boron	1.0	mg/L	0.40	0.086	10	08/16/23 10:27	08/21/23 15:33	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/16/23 10:27	08/18/23 18:55	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/16/23 10:27	08/18/23 18:55	7440-47-3	
Cobalt	0.0048J	mg/L	0.0050	0.00039	1	08/16/23 10:27	08/18/23 18:55	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/16/23 10:27	08/18/23 18:55	7439-92-1	
Lithium	0.023J	mg/L	0.030	0.00073	1	08/16/23 10:27	08/18/23 18:55	7439-93-2	
Molybdenum	0.035	mg/L	0.010	0.00074	1	08/16/23 10:27	08/18/23 18:55	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/16/23 10:27	08/18/23 18:55	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/16/23 10:27	08/18/23 18:55	7440-28-0	
7470 Mercury		Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA							
Mercury	ND	mg/L	0.00020	0.00013	1	08/15/23 11:30	08/15/23 16:07	7439-97-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	661	mg/L	25.0	25.0	1		08/16/23 14:50		
2320B Alkalinity		Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	320	mg/L	5.0	5.0	1		08/17/23 11:23		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/17/23 11:23		
Alkalinity, Total as CaCO3	320	mg/L	5.0	5.0	1		08/17/23 11:23		
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 06:37	18496-25-8	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	2.6	mg/L	1.0	0.60	1		08/12/23 17:46	16887-00-6	

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ANALYTICAL RESULTS

Project: Hammond AP-3

Pace Project No.: 92681883

Sample: HAM-HGWC-120 Lab ID: 92682393001 Collected: 08/10/23 13:15 Received: 08/11/23 13:12 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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300.0 IC Anions 28 Days

Analytical Method: EPA 300.0 Rev 2.1 1993
Pace Analytical Services - Asheville

Fluoride	0.36	mg/L	0.10	0.050	1		08/12/23 17:46	16984-48-8	
Sulfate	195	mg/L	4.0	2.0	4		08/13/23 05:49	14808-79-8	

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ANALYTICAL RESULTS

Project: Hammond AP-3

Pace Project No.: 92681883

Sample: HAM-HGWC-121A **Lab ID:** 92682393002 Collected: 08/10/23 10:51 Received: 08/11/23 13:12 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Iron	0.062	mg/L	0.040	0.025	1	08/18/23 10:36	08/18/23 19:34	7439-89-6	
Manganese	0.65	mg/L	0.040	0.011	1	08/18/23 10:36	08/18/23 19:34	7439-96-5	
Potassium	1.2	mg/L	0.50	0.15	1	08/18/23 10:36	08/18/23 19:34	7440-09-7	
Sodium	33.1	mg/L	1.0	0.58	1	08/18/23 10:36	08/18/23 19:34	7440-23-5	
Calcium	149	mg/L	1.0	0.12	1	08/18/23 10:36	08/18/23 19:34	7440-70-2	
Magnesium	21.4	mg/L	0.050	0.012	1	08/18/23 10:36	08/18/23 19:34	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	08/16/23 10:27	08/18/23 18:59	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/16/23 10:27	08/18/23 18:59	7440-38-2	
Barium	0.048	mg/L	0.0050	0.00067	1	08/16/23 10:27	08/18/23 18:59	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/16/23 10:27	08/18/23 18:59	7440-41-7	
Boron	1.7	mg/L	0.40	0.086	10	08/16/23 10:27	08/21/23 15:39	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/16/23 10:27	08/18/23 18:59	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/16/23 10:27	08/18/23 18:59	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/16/23 10:27	08/18/23 18:59	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/16/23 10:27	08/18/23 18:59	7439-92-1	
Lithium	0.0069J	mg/L	0.030	0.00073	1	08/16/23 10:27	08/18/23 18:59	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/16/23 10:27	08/18/23 18:59	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/16/23 10:27	08/18/23 18:59	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/16/23 10:27	08/18/23 18:59	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.00013	1	08/15/23 11:30	08/15/23 16:09	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2015									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	642	mg/L	25.0	25.0	1		08/16/23 14:50		
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	375	mg/L	5.0	5.0	1		08/17/23 11:33		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/17/23 11:33		
Alkalinity, Total as CaCO3	375	mg/L	5.0	5.0	1		08/17/23 11:33		
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 06:39	18496-25-8	M1
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	12.2	mg/L	1.0	0.60	1		08/12/23 18:00	16887-00-6	

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ANALYTICAL RESULTS

Project: Hammond AP-3

Pace Project No.: 92681883

Sample: HAM-HGWC-121A Lab ID: 92682393002 Collected: 08/10/23 10:51 Received: 08/11/23 13:12 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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300.0 IC Anions 28 Days

Analytical Method: EPA 300.0 Rev 2.1 1993
Pace Analytical Services - Asheville

Fluoride	0.18	mg/L	0.10	0.050	1		08/12/23 18:00	16984-48-8	
Sulfate	138	mg/L	3.0	1.5	3		08/13/23 06:04	14808-79-8	

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ANALYTICAL RESULTS

Project: Hammond AP-3

Pace Project No.: 92681883

Sample: HAM-HGWC-125 **Lab ID:** 92682393003 Collected: 08/10/23 15:08 Received: 08/11/23 13:12 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Iron	0.072	mg/L	0.040	0.025	1	08/18/23 10:36	08/18/23 19:49	7439-89-6	
Manganese	1.9	mg/L	0.040	0.011	1	08/18/23 10:36	08/18/23 19:49	7439-96-5	
Potassium	3.7	mg/L	0.50	0.15	1	08/18/23 10:36	08/18/23 19:49	7440-09-7	
Sodium	16.2	mg/L	1.0	0.58	1	08/18/23 10:36	08/18/23 19:49	7440-23-5	
Calcium	173	mg/L	1.0	0.12	1	08/18/23 10:36	08/18/23 19:49	7440-70-2	
Magnesium	26.4	mg/L	0.050	0.012	1	08/18/23 10:36	08/18/23 19:49	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	08/16/23 10:27	08/18/23 19:03	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/16/23 10:27	08/18/23 19:03	7440-38-2	
Barium	0.038	mg/L	0.0050	0.00067	1	08/16/23 10:27	08/18/23 19:03	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/16/23 10:27	08/18/23 19:03	7440-41-7	
Boron	1.6	mg/L	0.40	0.086	10	08/16/23 10:27	08/21/23 15:45	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/16/23 10:27	08/18/23 19:03	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/16/23 10:27	08/18/23 19:03	7440-47-3	
Cobalt	0.012	mg/L	0.0050	0.00039	1	08/16/23 10:27	08/18/23 19:03	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/16/23 10:27	08/18/23 19:03	7439-92-1	
Lithium	0.0042J	mg/L	0.030	0.00073	1	08/16/23 10:27	08/18/23 19:03	7439-93-2	
Molybdenum	0.0031J	mg/L	0.010	0.00074	1	08/16/23 10:27	08/18/23 19:03	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/16/23 10:27	08/18/23 19:03	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/16/23 10:27	08/18/23 19:03	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.00013	1	08/15/23 11:30	08/15/23 16:12	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2015									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	760	mg/L	25.0	25.0	1		08/16/23 14:50		
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	219	mg/L	5.0	5.0	1		08/16/23 20:26		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		08/16/23 20:26		
Alkalinity, Total as CaCO3	219	mg/L	5.0	5.0	1		08/16/23 20:26		
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 06:40	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	9.0	mg/L	1.0	0.60	1		08/12/23 18:15	16887-00-6	

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ANALYTICAL RESULTS

Project: Hammond AP-3

Pace Project No.: 92681883

Sample: HAM-HGWC-125 Lab ID: 92682393003 Collected: 08/10/23 15:08 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	0.15	mg/L	0.10	0.050	1		08/12/23 18:15	16984-48-8	
Sulfate	290	mg/L	6.0	3.0	6		08/13/23 06:19	14808-79-8	

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ANALYTICAL RESULTS

Project: Hammond AP-3

Pace Project No.: 92681883

Sample: HAM-AP3-EB-03		Lab ID: 92682393004		Collected: 08/10/23 16:45		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									
Calcium	ND	mg/L	1.0	0.12	1	08/18/23 10:36	08/18/23 19:54	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.0012	1	08/16/23 10:27	08/18/23 19:06	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/16/23 10:27	08/18/23 19:06	7440-38-2	
Barium	ND	mg/L	0.0050	0.00067	1	08/16/23 10:27	08/18/23 19:06	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/16/23 10:27	08/18/23 19:06	7440-41-7	
Boron	0.015J	mg/L	0.040	0.0086	1	08/16/23 10:27	08/18/23 19:06	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/16/23 10:27	08/18/23 19:06	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/16/23 10:27	08/18/23 19:06	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/16/23 10:27	08/18/23 19:06	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/16/23 10:27	08/18/23 19:06	7439-92-1	
Lithium	ND	mg/L	0.030	0.00073	1	08/16/23 10:27	08/18/23 19:06	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/16/23 10:27	08/18/23 19:06	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/16/23 10:27	08/18/23 19:06	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/16/23 10:27	08/18/23 19:06	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.00013	1	08/15/23 11:30	08/15/23 16:14	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		08/16/23 14:51		
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		08/12/23 18:29	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/12/23 18:29	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		08/12/23 18:29	14808-79-8	

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ANALYTICAL RESULTS

Project: Hammond AP-3

Pace Project No.: 92681883

Sample: HAM-AP3-FB-03		Lab ID: 92682393005		Collected: 08/10/23 16:40		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									
Calcium	ND	mg/L	1.0	0.12	1	08/18/23 10:36	08/18/23 19:59	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	08/16/23 10:27	08/18/23 19:10	7440-36-0	
Arsenic	ND	mg/L	0.010	0.0037	1	08/16/23 10:27	08/18/23 19:10	7440-38-2	
Barium	ND	mg/L	0.0050	0.00067	1	08/16/23 10:27	08/18/23 19:10	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/16/23 10:27	08/18/23 19:10	7440-41-7	
Boron	ND	mg/L	0.040	0.0086	1	08/16/23 10:27	08/18/23 19:10	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/16/23 10:27	08/18/23 19:10	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/16/23 10:27	08/18/23 19:10	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/16/23 10:27	08/18/23 19:10	7440-48-4	
Lead	ND	mg/L	0.0010	0.00012	1	08/16/23 10:27	08/18/23 19:10	7439-92-1	
Lithium	ND	mg/L	0.030	0.00073	1	08/16/23 10:27	08/18/23 19:10	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/16/23 10:27	08/18/23 19:10	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/16/23 10:27	08/18/23 19:10	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/16/23 10:27	08/18/23 19:10	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 16:17	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		08/16/23 14:51		
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		08/12/23 18:43	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/12/23 18:43	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		08/12/23 18:43	14808-79-8	

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QUALITY CONTROL DATA

Project: Hammond AP-3

Pace Project No.: 92681883

QC Batch: 792418

Analysis Method: EPA 6010D

QC Batch Method: EPA 3010A

Analysis Description: 6010D ATL

Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92681883001, 92681883002

METHOD BLANK: 4106293

Matrix: Water

Associated Lab Samples: 92681883001, 92681883002

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	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Result	Spike Conc.	Result						
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.

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QUALITY CONTROL DATA

Project: Hammond AP-3

Pace Project No.: 92681883

QC Batch: 793618 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010D ATL
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92682393001, 92682393002, 92682393003, 92682393004, 92682393005

METHOD BLANK: 4112489 Matrix: Water
 Associated Lab Samples: 92682393001, 92682393002, 92682393003, 92682393004, 92682393005

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		4112491		4112492		% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		MS Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec							
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		

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QUALITY CONTROL DATA

Project: Hammond AP-3

Pace Project No.: 92681883

QC Batch:	794188	Analysis Method:	EPA 6010D
QC Batch Method:	EPA 3010A	Analysis Description:	6010D ATL
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples:	92682552001, 92682552002, 92682552003		

METHOD BLANK: 4115153 Matrix: Water

Associated Lab Samples: 92682552001, 92682552002, 92682552003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.12	08/18/23 21:28	
Iron	mg/L	ND	0.040	0.025	08/18/23 21:28	
Magnesium	mg/L	ND	0.050	0.012	08/18/23 21:28	
Manganese	mg/L	ND	0.040	0.011	08/18/23 21:28	
Potassium	mg/L	ND	0.50	0.15	08/18/23 21:28	
Sodium	mg/L	ND	1.0	0.58	08/18/23 21:28	

LABORATORY CONTROL SAMPLE: 4115154

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	101	80-120	
Iron	mg/L	1	0.98	98	80-120	
Magnesium	mg/L	1	0.98	98	80-120	
Manganese	mg/L	1	0.97	97	80-120	
Potassium	mg/L	1	1.1	113	80-120	
Sodium	mg/L	1	1.1	109	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4115155 4115156

Parameter	Units	4115155		4115156		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Calcium	mg/L	97.8	1	96.7	95.3	-103	-245	75-125	1	20	M1
Iron	mg/L	0.13	1	1.2	1.1	102	98	75-125	4	20	
Magnesium	mg/L	9.4	1	10.2	10.1	81	69	75-125	1	20	M1
Manganese	mg/L	0.19	1	1.2	1.1	100	95	75-125	4	20	
Potassium	mg/L	0.85	1	2.0	1.9	115	104	75-125	6	20	
Sodium	mg/L	5.7	1	6.5	6.4	79	67	75-125	2	20	M1

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QUALITY CONTROL DATA

Project: Hammond AP-3

Pace Project No.: 92681883

QC Batch:	793883	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3005A	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92681883001, 92681883002, 92682393001, 92682393002, 92682393003, 92682393004, 92682393005

METHOD BLANK: 4113580 Matrix: Water

Associated Lab Samples: 92681883001, 92681883002, 92682393001, 92682393002, 92682393003, 92682393004, 92682393005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.0012	08/18/23 18:03	
Arsenic	mg/L	ND	0.010	0.0037	08/18/23 18:03	
Barium	mg/L	ND	0.0050	0.00067	08/18/23 18:03	
Beryllium	mg/L	ND	0.00050	0.000054	08/18/23 18:03	
Boron	mg/L	ND	0.040	0.0086	08/18/23 18:03	
Cadmium	mg/L	ND	0.00050	0.00011	08/18/23 18:03	
Chromium	mg/L	ND	0.0050	0.0011	08/18/23 18:03	
Cobalt	mg/L	ND	0.0050	0.00039	08/18/23 18:03	
Lead	mg/L	ND	0.0010	0.00012	08/18/23 18:03	
Lithium	mg/L	ND	0.030	0.00073	08/18/23 18:03	
Molybdenum	mg/L	ND	0.010	0.00074	08/18/23 18:03	
Selenium	mg/L	ND	0.0050	0.0014	08/18/23 18:03	
Thallium	mg/L	ND	0.0010	0.00018	08/18/23 18:03	

LABORATORY CONTROL SAMPLE: 4113581

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	103	80-120	
Arsenic	mg/L	0.1	0.10	103	80-120	
Barium	mg/L	0.1	0.094	94	80-120	
Beryllium	mg/L	0.1	0.11	108	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	0.10	100	80-120	
Cobalt	mg/L	0.1	0.10	101	80-120	
Lead	mg/L	0.1	0.11	107	80-120	
Lithium	mg/L	0.1	0.11	113	80-120	
Molybdenum	mg/L	0.1	0.10	103	80-120	
Selenium	mg/L	0.1	0.11	107	80-120	
Thallium	mg/L	0.1	0.10	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4113582 4113583

Parameter	Units	92681883002 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Spike Conc.	MSD Spike Conc.	MS Result						
Antimony	mg/L	ND	0.1	0.1	0.11	0.10	105	100	75-125	5	20	
Arsenic	mg/L	ND	0.1	0.1	0.11	0.10	106	100	75-125	6	20	

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QUALITY CONTROL DATA

Project: Hammond AP-3

Pace Project No.: 92681883

Parameter	Units	4113582		4113583		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92681883002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Barium	mg/L	0.032	0.1	0.1	0.14	0.13	109	103	75-125	4	20		
Beryllium	mg/L	ND	0.1	0.1	0.097	0.092	97	92	75-125	5	20		
Boron	mg/L	0.18	1	1	1.2	1.2	102	98	75-125	3	20		
Cadmium	mg/L	ND	0.1	0.1	0.10	0.098	101	98	75-125	3	20		
Chromium	mg/L	ND	0.1	0.1	0.10	0.096	100	95	75-125	4	20		
Cobalt	mg/L	ND	0.1	0.1	0.10	0.096	101	96	75-125	5	20		
Lead	mg/L	ND	0.1	0.1	0.11	0.10	109	104	75-125	5	20		
Lithium	mg/L	ND	0.1	0.1	0.10	0.10	102	100	75-125	2	20		
Molybdenum	mg/L	0.0039J	0.1	0.1	0.11	0.10	102	99	75-125	3	20		
Selenium	mg/L	ND	0.1	0.1	0.11	0.10	110	104	75-125	6	20		
Thallium	mg/L	ND	0.1	0.1	0.11	0.10	108	103	75-125	5	20		

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QUALITY CONTROL DATA

Project: Hammond AP-3

Pace Project No.: 92681883

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

Associated Lab Samples: 92682552001, 92682552002, 92682552003

METHOD BLANK: 4115107 Matrix: Water

Associated Lab Samples: 92682552001, 92682552002, 92682552003

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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.								
Antimony	mg/L	ND	0.1	0.1	0.1	0.10	0.10	104	103	75-125	1	20	
Arsenic	mg/L	ND	0.1	0.1	0.1	0.099	0.098	99	98	75-125	1	20	

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QUALITY CONTROL DATA

Project: Hammond AP-3

Pace Project No.: 92681883

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4115109 4115110												
Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	Max RPD	Qual
		92681886001 Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	% Rec	% Rec				
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	

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QUALITY CONTROL DATA

Project: Hammond AP-3

Pace Project No.: 92681883

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:	92681883001, 92681883002, 92682393001, 92682393002, 92682393003, 92682393004, 92682393005		

METHOD BLANK: 4112218 Matrix: Water
 Associated Lab Samples: 92681883001, 92681883002, 92682393001, 92682393002, 92682393003, 92682393004, 92682393005

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		4112221		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Mercury	mg/L	ND	0.0025	0.0023	0.0021	88	81	75-125	8	20	

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QUALITY CONTROL DATA

Project: Hammond AP-3

Pace Project No.: 92681883

QC Batch:	794869	Analysis Method:	EPA 7470A
QC Batch Method:	EPA 7470A	Analysis Description:	7470 Mercury
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92682552001, 92682552002, 92682552003

METHOD BLANK: 4118579 Matrix: Water

Associated Lab Samples: 92682552001, 92682552002, 92682552003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.00013	08/21/23 15:01	

LABORATORY CONTROL SAMPLE: 4118580

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0025	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4118581 4118582

Parameter	Units	4118581		4118582		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Mercury	mg/L	ND	0.0025	0.0025	0.0025	97	97	75-125	1	20	

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QUALITY CONTROL DATA

Project: Hammond AP-3

Pace Project No.: 92681883

QC Batch:	792695	Analysis Method:	SM 2540C-2015
QC Batch Method:	SM 2540C-2015	Analysis Description:	2540C Total Dissolved Solids
Associated Lab Samples:	92681883001	Laboratory:	Pace Analytical Services - Peachtree Corners, GA

METHOD BLANK: 4107685 Matrix: Water
 Associated Lab Samples: 92681883001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	08/10/23 11:47	

LABORATORY CONTROL SAMPLE: 4107686

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	434	108	80-120	

SAMPLE DUPLICATE: 4107687

Parameter	Units	92681784001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1850	1860	1	10	

SAMPLE DUPLICATE: 4107688

Parameter	Units	92681229006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	91.0	92.0	1	10	

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QUALITY CONTROL DATA

Project: Hammond AP-3

Pace Project No.: 92681883

QC Batch:	793055	Analysis Method:	SM 2540C-2015
QC Batch Method:	SM 2540C-2015	Analysis Description:	2540C Total Dissolved Solids
Associated Lab Samples:	92681883002	Laboratory:	Pace Analytical Services - Peachtree Corners, GA

METHOD BLANK: 4109645 Matrix: Water
 Associated Lab Samples: 92681883002

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	

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QUALITY CONTROL DATA

Project: Hammond AP-3

Pace Project No.: 92681883

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

Associated Lab Samples: 92682393001, 92682393002, 92682393003, 92682393004, 92682393005

METHOD BLANK: 4113746 Matrix: Water
 Associated Lab Samples: 92682393001, 92682393002, 92682393003, 92682393004, 92682393005

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	

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QUALITY CONTROL DATA

Project: Hammond AP-3

Pace Project No.: 92681883

QC Batch:	794085	Analysis Method:	SM 2540C-2015
QC Batch Method:	SM 2540C-2015	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92682552001, 92682552002, 92682552003

METHOD BLANK: 4114862 Matrix: Water

Associated Lab Samples: 92682552001, 92682552002, 92682552003

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	

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QUALITY CONTROL DATA

Project: Hammond AP-3

Pace Project No.: 92681883

QC Batch: 793564

Analysis Method: SM 2320B-2011

QC Batch Method: SM 2320B-2011

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92681883001, 92681883002

METHOD BLANK: 4112177

Matrix: Water

Associated Lab Samples: 92681883001, 92681883002

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		4112180		4112181		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec				
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		4112182		4112183		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec				
Alkalinity, Total as CaCO3	mg/L	251	50	50	308	301	114	100	80-120	2	25

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QUALITY CONTROL DATA

Project: Hammond AP-3

Pace Project No.: 92681883

QC Batch: 793988 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92682393001, 92682393002, 92682393003

METHOD BLANK: 4114120 Matrix: Water
 Associated Lab Samples: 92682393001, 92682393002, 92682393003

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		4114123		4114124		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec				
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		4114125		4114126		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec				
Alkalinity, Total as CaCO3	mg/L	298	50	50	339	344	82	92	80-120	1	25

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QUALITY CONTROL DATA

Project: Hammond AP-3

Pace Project No.: 92681883

QC Batch: 794234 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92682552001, 92682552002, 92682552003

METHOD BLANK: 4115455 Matrix: Water

Associated Lab Samples: 92682552001, 92682552002, 92682552003

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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92682576004	Spike Conc.	Spike Conc.	Result								
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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92682576005	Spike Conc.	Spike Conc.	Result								
Alkalinity, Total as CaCO3	mg/L	79.7	50	50	135	134	110	108	80-120	1	25		

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QUALITY CONTROL DATA

Project: Hammond AP-3

Pace Project No.: 92681883

QC Batch: 793499

Analysis Method: SM 4500-S2D-2011

QC Batch Method: SM 4500-S2D-2011

Analysis Description: 4500S2D Sulfide Water

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92681883001, 92681883002

METHOD BLANK: 4111952

Matrix: Water

Associated Lab Samples: 92681883001, 92681883002

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		4111954		4111955		% Rec Limits	RPD	Max RPD	Qual		
		MS Result	MSD Result	MS Result	MSD Result	MS Result	MSD Result						
Sulfide	mg/L	0.16	0.5	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		4111956		4111957		% Rec Limits	RPD	Max RPD	Qual		
		MS Result	MSD Result	MS Result	MSD Result	MS Result	MSD Result						
Sulfide	mg/L	0.14	0.5	0.5	0.5	0.53	0.60	79	93	80-120	12	10	M1,R1

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QUALITY CONTROL DATA

Project: Hammond AP-3

Pace Project No.: 92681883

QC Batch: 793500

Analysis Method: SM 4500-S2D-2011

QC Batch Method: SM 4500-S2D-2011

Analysis Description: 4500S2D Sulfide Water

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92682393001

METHOD BLANK: 4111958

Matrix: Water

Associated Lab Samples: 92682393001

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		4111961		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
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		4111963		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Sulfide	mg/L	ND	0.5	0.5	0.53	0.55	104	108	80-120	4	10

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QUALITY CONTROL DATA

Project: Hammond AP-3

Pace Project No.: 92681883

QC Batch: 793501 Analysis Method: SM 4500-S2D-2011
 QC Batch Method: SM 4500-S2D-2011 Analysis Description: 4500S2D Sulfide Water
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92682393002, 92682393003, 92682552001, 92682552002, 92682552003

METHOD BLANK: 4111964 Matrix: Water
 Associated Lab Samples: 92682393002, 92682393003, 92682552001, 92682552002, 92682552003

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		4111967		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Sulfide	mg/L	ND	0.5	0.39	0.42	77	83	80-120	7	10	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4111968 4111969

Parameter	Units	92682398007		4111969		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Sulfide	mg/L	ND	0.5	0.46	0.48	92	94	80-120	3	10	

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QUALITY CONTROL DATA

Project: Hammond AP-3

Pace Project No.: 92681883

QC Batch:	793207	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92681883001, 92681883002

METHOD BLANK: 4110503 Matrix: Water

Associated Lab Samples: 92681883001, 92681883002

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		4110505		4110506		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Chloride	mg/L	3.6	3.6	50	50	51.2	52.5	95	98	90-110	3	10	
Fluoride	mg/L	0.19	0.19	2.5	2.5	2.4	2.5	90	92	90-110	2	10	
Sulfate	mg/L	2.2	2.2	50	50	49.7	51.1	95	98	90-110	3	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4110507 4110508

Parameter	Units	92681885005		4110507		4110508		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Chloride	mg/L	27.0	27.0	50	50	71.4	72.9	89	92	90-110	2	10 M1	
Fluoride	mg/L	1.3	1.3	2.5	2.5	3.3	3.4	83	86	90-110	2	10 M1	
Sulfate	mg/L	1.3	1.3	50	50	47.3	48.3	92	94	90-110	2	10	

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QUALITY CONTROL DATA

Project: Hammond AP-3

Pace Project No.: 92681883

QC Batch: 793229 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92682393001, 92682393002, 92682393003, 92682393004, 92682393005

METHOD BLANK: 4110600 Matrix: Water
 Associated Lab Samples: 92682393001, 92682393002, 92682393003, 92682393004, 92682393005

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		4110603		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Chloride	mg/L	2.7	50	49.7	50.7	94	96	90-110	2	10	
Fluoride	mg/L	0.12	2.5	2.3	2.4	88	90	90-110	2	10	M1
Sulfate	mg/L	3.6	50	50.8	51.9	94	97	90-110	2	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4110604 4110605

Parameter	Units	92682393005		4110605		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Chloride	mg/L	ND	50	47.9	48.1	96	96	90-110	0	10	
Fluoride	mg/L	ND	2.5	2.4	2.3	95	93	90-110	1	10	
Sulfate	mg/L	ND	50	47.8	47.9	96	96	90-110	0	10	

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QUALITY CONTROL DATA

Project: Hammond AP-3

Pace Project No.: 92681883

QC Batch: 793553 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92682552001, 92682552002, 92682552003

METHOD BLANK: 4112135 Matrix: Water
 Associated Lab Samples: 92682552001, 92682552002, 92682552003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	08/15/23 22:01	
Fluoride	mg/L	ND	0.10	0.050	08/15/23 22:01	
Sulfate	mg/L	ND	1.0	0.50	08/15/23 22:01	

LABORATORY CONTROL SAMPLE: 4112136

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.5	99	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	50	48.3	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4112137 4112138

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92682397002	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	14.5	50	50	62.4	63.0	96	97	90-110	1	10		
Fluoride	mg/L	0.27	2.5	2.5	2.6	2.6	92	93	90-110	2	10		
Sulfate	mg/L	290	50	50	327	328	73	75	90-110	0	10	M1	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4112139 4112140

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92682398009	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	13.6	50	50	61.8	62.0	96	97	90-110	0	10		
Fluoride	mg/L	1.5	2.5	2.5	3.8	3.9	95	96	90-110	1	10		
Sulfate	mg/L	0.62J	50	50	47.3	47.5	93	94	90-110	1	10		

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QUALIFIERS

Project: Hammond AP-3

Pace Project No.: 92681883

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Hammond AP-3

Pace Project No.: 92681883

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92681883001	HAM-HGWA-45D	EPA 3010A	792418	EPA 6010D	793158
92681883002	HAM-HGWA-122	EPA 3010A	792418	EPA 6010D	793158
92682393001	HAM-HGWC-120	EPA 3010A	793618	EPA 6010D	794582
92682393002	HAM-HGWC-121A	EPA 3010A	793618	EPA 6010D	794582
92682393003	HAM-HGWC-125	EPA 3010A	793618	EPA 6010D	794582
92682393004	HAM-AP3-EB-03	EPA 3010A	793618	EPA 6010D	794582
92682393005	HAM-AP3-FB-03	EPA 3010A	793618	EPA 6010D	794582
92682552001	HAM-HGWC-124	EPA 3010A	794188	EPA 6010D	794575
92682552002	HAM-HGWC-126	EPA 3010A	794188	EPA 6010D	794575
92682552003	HAM-AP3-FD-03	EPA 3010A	794188	EPA 6010D	794575
92681883001	HAM-HGWA-45D	EPA 3005A	793883	EPA 6020B	794015
92681883002	HAM-HGWA-122	EPA 3005A	793883	EPA 6020B	794015
92682393001	HAM-HGWC-120	EPA 3005A	793883	EPA 6020B	794015
92682393002	HAM-HGWC-121A	EPA 3005A	793883	EPA 6020B	794015
92682393003	HAM-HGWC-125	EPA 3005A	793883	EPA 6020B	794015
92682393004	HAM-AP3-EB-03	EPA 3005A	793883	EPA 6020B	794015
92682393005	HAM-AP3-FB-03	EPA 3005A	793883	EPA 6020B	794015
92682552001	HAM-HGWC-124	EPA 3005A	794177	EPA 6020B	794304
92682552002	HAM-HGWC-126	EPA 3005A	794177	EPA 6020B	794304
92682552003	HAM-AP3-FD-03	EPA 3005A	794177	EPA 6020B	794304
92681883001	HAM-HGWA-45D	EPA 7470A	793573	EPA 7470A	793628
92681883002	HAM-HGWA-122	EPA 7470A	793573	EPA 7470A	793628
92682393001	HAM-HGWC-120	EPA 7470A	793573	EPA 7470A	793628
92682393002	HAM-HGWC-121A	EPA 7470A	793573	EPA 7470A	793628
92682393003	HAM-HGWC-125	EPA 7470A	793573	EPA 7470A	793628
92682393004	HAM-AP3-EB-03	EPA 7470A	793573	EPA 7470A	793628
92682393005	HAM-AP3-FB-03	EPA 7470A	793573	EPA 7470A	793628
92682552001	HAM-HGWC-124	EPA 7470A	794869	EPA 7470A	794934
92682552002	HAM-HGWC-126	EPA 7470A	794869	EPA 7470A	794934
92682552003	HAM-AP3-FD-03	EPA 7470A	794869	EPA 7470A	794934
92681883001	HAM-HGWA-45D	SM 2540C-2015	792695		
92681883002	HAM-HGWA-122	SM 2540C-2015	793055		
92682393001	HAM-HGWC-120	SM 2540C-2015	793918		
92682393002	HAM-HGWC-121A	SM 2540C-2015	793918		
92682393003	HAM-HGWC-125	SM 2540C-2015	793918		
92682393004	HAM-AP3-EB-03	SM 2540C-2015	793918		
92682393005	HAM-AP3-FB-03	SM 2540C-2015	793918		
92682552001	HAM-HGWC-124	SM 2540C-2015	794085		
92682552002	HAM-HGWC-126	SM 2540C-2015	794085		
92682552003	HAM-AP3-FD-03	SM 2540C-2015	794085		
92681883001	HAM-HGWA-45D	SM 2320B-2011	793564		
92681883002	HAM-HGWA-122	SM 2320B-2011	793564		
92682393001	HAM-HGWC-120	SM 2320B-2011	793988		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Hammond AP-3
 Pace Project No.: 92681883

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92682393002	HAM-HGWC-121A	SM 2320B-2011	793988		
92682393003	HAM-HGWC-125	SM 2320B-2011	793988		
92682552001	HAM-HGWC-124	SM 2320B-2011	794234		
92682552002	HAM-HGWC-126	SM 2320B-2011	794234		
92682552003	HAM-AP3-FD-03	SM 2320B-2011	794234		
92681883001	HAM-HGWA-45D	SM 4500-S2D-2011	793499		
92681883002	HAM-HGWA-122	SM 4500-S2D-2011	793499		
92682393001	HAM-HGWC-120	SM 4500-S2D-2011	793500		
92682393002	HAM-HGWC-121A	SM 4500-S2D-2011	793501		
92682393003	HAM-HGWC-125	SM 4500-S2D-2011	793501		
92682552001	HAM-HGWC-124	SM 4500-S2D-2011	793501		
92682552002	HAM-HGWC-126	SM 4500-S2D-2011	793501		
92682552003	HAM-AP3-FD-03	SM 4500-S2D-2011	793501		
92681883001	HAM-HGWA-45D	EPA 300.0 Rev 2.1 1993	793207		
92681883002	HAM-HGWA-122	EPA 300.0 Rev 2.1 1993	793207		
92682393001	HAM-HGWC-120	EPA 300.0 Rev 2.1 1993	793229		
92682393002	HAM-HGWC-121A	EPA 300.0 Rev 2.1 1993	793229		
92682393003	HAM-HGWC-125	EPA 300.0 Rev 2.1 1993	793229		
92682393004	HAM-AP3-EB-03	EPA 300.0 Rev 2.1 1993	793229		
92682393005	HAM-AP3-FB-03	EPA 300.0 Rev 2.1 1993	793229		
92682552001	HAM-HGWC-124	EPA 300.0 Rev 2.1 1993	793553		
92682552002	HAM-HGWC-126	EPA 300.0 Rev 2.1 1993	793553		
92682552003	HAM-AP3-FD-03	EPA 300.0 Rev 2.1 1993	793553		

REPORT OF LABORATORY ANALYSIS

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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:

G A Power

Project #:

WO#: 92681883
Barcode: 92681883

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

Custody Seal Present? Yes No Seals Intact? Yes No

Date/Initials Person Examining Contents: *8/9/23*
COB

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

Temp should be above freezing to 6°C

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

Cooler Temp Corrected (°C):

2.1

USDA Regulated Soil (N/A, water sample)

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

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

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



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

Effective Date: 11/14/2022

*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, LTHg

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

***Check all unpreserved Nitrates for chlorine

Project #

WO# : 92681883

PH: BV

Due Date: 08/20/23

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-)	BP3R-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic 2N 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 Na2SO3 (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																										
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pH Adjustment Log for Preserved Samples

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

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



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:

G-A Power

Project #:

WO#: 92681883

Courier: Fed Ex UPS USPS Client Commercial Pace Other:

PM: BV Due Date: 08/23/23 CLIENT: 92- GP-HAM

Custody Seal Present? Yes No Seals Intact? Yes No

Date/Initials Person Examining Contents: D-H-23A

Packing Material: Bubble Wrap Bubble Bags None Other

Biological Tissue Frozen?

Yes No N/A

Thermometer:

IR Gun ID:

083

Type of Ice: Wet Blue None

Cooler Temp:

5.5

Correction Factor:

Add/Subtract (°C)

0.0

Temp should be above freezing to 6°C

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

Cooler Temp Corrected (°C):

5.5

USDA Regulated Soil (N/A, water sample)

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

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

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



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

Effective Date: 11/14/2022

*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, LLMg

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

***Check all unpreserved Nitrates for chlorine

Project #

W0# : 92681883

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 2N 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)	BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	V5GU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)		
1		2	1	2																									
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pH Adjustment Log for Preserved Samples

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

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



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#: 92681883

Courier: Commercial Fed Ex Pace UPS USPS Other: Client

PM: BV Due Date: 08/23/23
CLIENT: 92- GP-HAM

Custody Seal Present? Yes No Seals Intact? Yes No

Date/Initials Person Examining Contents: *8/11/23*

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

Cooler Temp Corrected (°C): *3.1*

USDA Regulated Soil (N/A, water sample)

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

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

	Chain of Custody Present?	Samples Arrived within Hold Time?	Short Hold Time Analysis (<72 hr.)?	Rush Turn Around Time Requested?	Sufficient Volume?	Correct Containers Used?	-Pace Containers Used?	Containers Intact?	Dissoved analysis: Samples Field Filtered?	Sample Labels Match CDC?	-Includes Date/Time/ID/Analysis Matrix:	Headspace in VOA Vials (>5-6mm)?	Trip Blank Present?	Trip Blank Custody Seals Present?	Comments/Discrepancy:
1.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<i>W</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
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9.															
10.															
11.															

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? Yes No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: *[Signature]* Date: *8/14/23*

Project Manager SRF Review: *[Signature]* Date: *8/14/23*



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

Effective Date: 11/14/2022

*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#: 92681883

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-)	WGFW-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																											
2	2	1																											
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pH Adjustment Log for Preserved Samples

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

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



September 12, 2023

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

RE: Project: Hammond AP-3- RADs
Pace Project No.: 92681882

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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Hammond AP-3- RADs

Pace Project No.: 92681882

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

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Hammond AP-3- RADs

Pace Project No.: 92681882

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92681882001	HAM-HGWA-45D	Water	08/08/23 12:55	08/09/23 11:40
92681882002	HAM-HGWA-122	Water	08/08/23 14:37	08/09/23 11:40
92681882003	HAM-HGWC-124	Water	08/11/23 10:47	08/14/23 11:15
92681882004	HAM-HGWC-126	Water	08/11/23 13:01	08/14/23 11:15
92681882005	HAM-AP3-FD-03	Water	08/11/23 00:00	08/14/23 11:15
92682395001	HAM-HGWC-120	Water	08/10/23 13:15	08/11/23 15:35
92682395002	HAM-HGWC-121A	Water	08/10/23 10:51	08/11/23 15:35
92682395003	HAM-HGWC-125	Water	08/10/23 15:08	08/11/23 15:35
92682395004	HAM-AP3-EB-03	Water	08/10/23 16:45	08/11/23 15:35
92682395005	HAM-AP3-FB-03	Water	08/10/23 16:40	08/11/23 15:35

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Hammond AP-3- RADs

Pace Project No.: 92681882

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92681882001	HAM-HGWA-45D	EPA 9315	SLC	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92681882002	HAM-HGWA-122	EPA 9315	SLC	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92681882003	HAM-HGWC-124	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92681882004	HAM-HGWC-126	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92681882005	HAM-AP3-FD-03	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92682395001	HAM-HGWC-120	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92682395002	HAM-HGWC-121A	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92682395003	HAM-HGWC-125	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92682395004	HAM-AP3-EB-03	EPA 9315	SLC	1	PASI-PA
		EPA 9320	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92682395005	HAM-AP3-FB-03	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

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Hammond AP-3- RADs

Pace Project No.: 92681882

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92681882001	HAM-HGWA-45D					
EPA 9315	Radium-226	0.445 ± 0.205 (0.261) C:89% T:NA	pCi/L		09/07/23 15:00	
EPA 9320	Radium-228	1.09 ± 0.472 (0.780) C:84% T:86%	pCi/L		09/05/23 12:31	
Total Radium Calculation	Total Radium	1.54 ± 0.677 (1.04)	pCi/L		09/08/23 17:15	
92681882002	HAM-HGWA-122					
EPA 9315	Radium-226	0.294 ± 0.178 (0.287) C:86% T:NA	pCi/L		09/08/23 08:26	
EPA 9320	Radium-228	0.598U ± 0.434 (0.846) C:85% T:71%	pCi/L		09/05/23 12:31	
Total Radium Calculation	Total Radium	0.892U ± 0.612 (1.13)	pCi/L		09/08/23 17:15	
92681882003	HAM-HGWC-124					
EPA 9315	Radium-226	0.0221U ± 0.104 (0.266) C:91% T:NA	pCi/L		09/08/23 10:01	
EPA 9320	Radium-228	0.427U ± 0.340 (0.674) C:78% T:91%	pCi/L		09/06/23 12:40	
Total Radium Calculation	Total Radium	0.449U ± 0.444 (0.940)	pCi/L		09/08/23 17:23	
92681882004	HAM-HGWC-126					
EPA 9315	Radium-226	0.573 ± 0.223 (0.259) C:93% T:NA	pCi/L		09/08/23 10:02	
EPA 9320	Radium-228	0.768 ± 0.414 (0.748) C:77% T:90%	pCi/L		09/06/23 12:40	
Total Radium Calculation	Total Radium	1.34 ± 0.637 (1.01)	pCi/L		09/08/23 17:23	

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SUMMARY OF DETECTION

Project: Hammond AP-3- RADs

Pace Project No.: 92681882

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92681882005	HAM-AP3-FD-03					
EPA 9315	Radium-226	0.323 ± 0.177 (0.265) C:91% T:NA	pCi/L		09/08/23 11:39	
EPA 9320	Radium-228	0.972 ± 0.472 (0.816) C:75% T:83%	pCi/L		09/06/23 12:40	
Total Radium Calculation	Total Radium	1.30 ± 0.649 (1.08)	pCi/L		09/08/23 17:23	
92682395001	HAM-HGWC-120					
EPA 9315	Radium-226	0.281U ± 0.198 (0.351) C:87% T:NA	pCi/L		09/06/23 10:17	
EPA 9320	Radium-228	0.401U ± 0.368 (0.743) C:83% T:72%	pCi/L		08/31/23 12:10	
Total Radium Calculation	Total Radium	0.682U ± 0.566 (1.09)	pCi/L		09/06/23 15:35	
92682395002	HAM-HGWC-121A					
EPA 9315	Radium-226	0.288U ± 0.197 (0.337) C:85% T:NA	pCi/L		09/06/23 10:19	
EPA 9320	Radium-228	0.297U ± 0.277 (0.553) C:87% T:77%	pCi/L		08/31/23 12:10	
Total Radium Calculation	Total Radium	0.585U ± 0.474 (0.890)	pCi/L		09/06/23 15:35	
92682395003	HAM-HGWC-125					
EPA 9315	Radium-226	0.483 ± 0.245 (0.368) C:84% T:NA	pCi/L		09/06/23 10:19	
EPA 9320	Radium-228	0.470U ± 0.358 (0.694) C:85% T:70%	pCi/L		08/31/23 12:10	
Total Radium Calculation	Total Radium	0.953U ± 0.603 (1.06)	pCi/L		09/06/23 15:35	

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SUMMARY OF DETECTION

Project: Hammond AP-3- RADs

Pace Project No.: 92681882

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92682395004	HAM-AP3-EB-03					
EPA 9315	Radium-226	0.0660U ± 0.223 (0.554) C:44% T:NA	pCi/L		09/06/23 10:19	
EPA 9320	Radium-228	0.203U ± 0.253 (0.535) C:85% T:96%	pCi/L		08/31/23 12:14	
Total Radium Calculation	Total Radium	0.269U ± 0.476 (1.09)	pCi/L		09/06/23 15:35	
92682395005	HAM-AP3-FB-03					
EPA 9315	Radium-226	0.240U ± 0.169 (0.291) C:95% T:NA	pCi/L		09/06/23 10:19	
EPA 9320	Radium-228	0.445U ± 0.396 (0.809) C:79% T:93%	pCi/L		08/31/23 12:14	
Total Radium Calculation	Total Radium	0.685U ± 0.565 (1.10)	pCi/L		09/06/23 15:35	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-3- RADs

Pace Project No.: 92681882

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: HAM-HGWA-45D Lab ID: 92681882001 Collected: 08/08/23 12:55 Received: 08/09/23 11:40 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.445 ± 0.205 (0.261) C:89% T:NA	pCi/L	09/07/23 15:00	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	1.09 ± 0.472 (0.780) C:84% T:86%	pCi/L	09/05/23 12:31	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.54 ± 0.677 (1.04)	pCi/L	09/08/23 17:15	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-3- RADs

Pace Project No.: 92681882

Sample: HAM-HGWA-122 **Lab ID: 92681882002** Collected: 08/08/23 14:37 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	0.294 ± 0.178 (0.287) C:86% T:NA	pCi/L	09/08/23 08:26	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.598U ± 0.434 (0.846) C:85% T:71%	pCi/L	09/05/23 12:31	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.892U ± 0.612 (1.13)	pCi/L	09/08/23 17:15	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-3- RADs

Pace Project No.: 92681882

Sample: HAM-HGWC-124	Lab ID: 92681882003	Collected: 08/11/23 10:47	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	0.0221U ± 0.104 (0.266) C:91% T:NA	pCi/L	09/08/23 10:01	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.427U ± 0.340 (0.674) C:78% T:91%	pCi/L	09/06/23 12:40	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.449U ± 0.444 (0.940)	pCi/L	09/08/23 17:23	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-3- RADs

Pace Project No.: 92681882

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.573 ± 0.223 (0.259) C:93% T:NA	pCi/L	09/08/23 10:02	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.768 ± 0.414 (0.748) C:77% T:90%	pCi/L	09/06/23 12:40	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.34 ± 0.637 (1.01)	pCi/L	09/08/23 17:23	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-3- RADs

Pace Project No.: 92681882

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.323 ± 0.177 (0.265) C:91% T:NA	pCi/L	09/08/23 11:39	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.972 ± 0.472 (0.816) C:75% T:83%	pCi/L	09/06/23 12:40	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.30 ± 0.649 (1.08)	pCi/L	09/08/23 17:23	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-3- RADs

Pace Project No.: 92681882

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: HAM-HGWC-120 Lab ID: 92682395001 Collected: 08/10/23 13:15 Received: 08/11/23 15:35 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.281U ± 0.198 (0.351) C:87% T:NA	pCi/L	09/06/23 10:17	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.401U ± 0.368 (0.743) C:83% T:72%	pCi/L	08/31/23 12:10	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.682U ± 0.566 (1.09)	pCi/L	09/06/23 15:35	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-3- RADs

Pace Project No.: 92681882

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: HAM-HGWC-121A Lab ID: 92682395002 Collected: 08/10/23 10:51 Received: 08/11/23 15:35 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.288U ± 0.197 (0.337) C:85% T:NA	pCi/L	09/06/23 10:19	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.297U ± 0.277 (0.553) C:87% T:77%	pCi/L	08/31/23 12:10	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.585U ± 0.474 (0.890)	pCi/L	09/06/23 15:35	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-3- RADs

Pace Project No.: 92681882

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.483 ± 0.245 (0.368) C:84% T:NA	pCi/L	09/06/23 10:19	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.470U ± 0.358 (0.694) C:85% T:70%	pCi/L	08/31/23 12:10	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.953U ± 0.603 (1.06)	pCi/L	09/06/23 15:35	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-3- RADs

Pace Project No.: 92681882

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: HAM-AP3-EB-03 Lab ID: 92682395004 Collected: 08/10/23 16:45 Received: 08/11/23 15:35 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.0660U ± 0.223 (0.554) C:44% T:NA	pCi/L	09/06/23 10:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.203U ± 0.253 (0.535) C:85% T:96%	pCi/L	08/31/23 12:14	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.269U ± 0.476 (1.09)	pCi/L	09/06/23 15:35	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Hammond AP-3- RADs

Pace Project No.: 92681882

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: HAM-AP3-FB-03 Lab ID: 92682395005 Collected: 08/10/23 16:40 Received: 08/11/23 15:35 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.240U ± 0.169 (0.291) C:95% T:NA	pCi/L	09/06/23 10:19	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.445U ± 0.396 (0.809) C:79% T:93%	pCi/L	08/31/23 12:14	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.685U ± 0.565 (1.10)	pCi/L	09/06/23 15:35	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Hammond AP-3- RADs

Pace Project No.: 92681882

QC Batch: 610549

Analysis Method: EPA 9320

QC Batch Method: EPA 9320

Analysis Description: 9320 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92682395001, 92682395002, 92682395003, 92682395004, 92682395005

METHOD BLANK: 2971498

Matrix: Water

Associated Lab Samples: 92682395001, 92682395002, 92682395003, 92682395004, 92682395005

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	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Hammond AP-3- RADs

Pace Project No.: 92681882

QC Batch: 611582

Analysis Method: EPA 9320

QC Batch Method: EPA 9320

Analysis Description: 9320 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92681882001, 92681882002

METHOD BLANK: 2976831

Matrix: Water

Associated Lab Samples: 92681882001, 92681882002

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	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Hammond AP-3- RADs

Pace Project No.: 92681882

QC Batch: 611584

Analysis Method: EPA 9320

QC Batch Method: EPA 9320

Analysis Description: 9320 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92681882003, 92681882004, 92681882005

METHOD BLANK: 2976835

Matrix: Water

Associated Lab Samples: 92681882003, 92681882004, 92681882005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.100 ± 0.312 (0.703) C:75% T:95%	pCi/L	09/06/23 12:40	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Hammond AP-3- RADs

Pace Project No.: 92681882

QC Batch: 611645

Analysis Method: EPA 9315

QC Batch Method: EPA 9315

Analysis Description: 9315 Total Radium

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92681882001, 92681882002

METHOD BLANK: 2977130

Matrix: Water

Associated Lab Samples: 92681882001, 92681882002

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	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Hammond AP-3- RADs

Pace Project No.: 92681882

QC Batch: 611647

Analysis Method: EPA 9315

QC Batch Method: EPA 9315

Analysis Description: 9315 Total Radium

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92681882003, 92681882004, 92681882005

METHOD BLANK: 2977138

Matrix: Water

Associated Lab Samples: 92681882003, 92681882004, 92681882005

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.

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Hammond AP-3- RADs

Pace Project No.: 92681882

QC Batch: 610646

Analysis Method: EPA 9315

QC Batch Method: EPA 9315

Analysis Description: 9315 Total Radium

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92682395001, 92682395002, 92682395003, 92682395004, 92682395005

METHOD BLANK: 2971911

Matrix: Water

Associated Lab Samples: 92682395001, 92682395002, 92682395003, 92682395004, 92682395005

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	

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QUALIFIERS

Project: Hammond AP-3- RADs

Pace Project No.: 92681882

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.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Hammond AP-3- RADs

Pace Project No.: 92681882

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92681882001	HAM-HGWA-45D	EPA 9315	611645		
92681882002	HAM-HGWA-122	EPA 9315	611645		
92682395001	HAM-HGWC-120	EPA 9315	610646		
92682395002	HAM-HGWC-121A	EPA 9315	610646		
92682395003	HAM-HGWC-125	EPA 9315	610646		
92682395004	HAM-AP3-EB-03	EPA 9315	610646		
92682395005	HAM-AP3-FB-03	EPA 9315	610646		
92681882003	HAM-HGWC-124	EPA 9315	611647		
92681882004	HAM-HGWC-126	EPA 9315	611647		
92681882005	HAM-AP3-FD-03	EPA 9315	611647		
92681882001	HAM-HGWA-45D	EPA 9320	611582		
92681882002	HAM-HGWA-122	EPA 9320	611582		
92682395001	HAM-HGWC-120	EPA 9320	610549		
92682395002	HAM-HGWC-121A	EPA 9320	610549		
92682395003	HAM-HGWC-125	EPA 9320	610549		
92682395004	HAM-AP3-EB-03	EPA 9320	610549		
92682395005	HAM-AP3-FB-03	EPA 9320	610549		
92681882003	HAM-HGWC-124	EPA 9320	611584		
92681882004	HAM-HGWC-126	EPA 9320	611584		
92681882005	HAM-AP3-FD-03	EPA 9320	611584		
92681882001	HAM-HGWA-45D	Total Radium Calculation	614326		
92681882002	HAM-HGWA-122	Total Radium Calculation	614326		
92682395001	HAM-HGWC-120	Total Radium Calculation	613658		
92682395002	HAM-HGWC-121A	Total Radium Calculation	613658		
92682395003	HAM-HGWC-125	Total Radium Calculation	613658		
92682395004	HAM-AP3-EB-03	Total Radium Calculation	613658		
92682395005	HAM-AP3-FB-03	Total Radium Calculation	613658		
92681882003	HAM-HGWC-124	Total Radium Calculation	614331		
92681882004	HAM-HGWC-126	Total Radium Calculation	614331		
92681882005	HAM-AP3-FD-03	Total Radium Calculation	614331		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, LLC.



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#: 92681882



Courier: Fed Ex UPS USPS Client Commercial Pace Other:

Custody Seal Present? Yes No Seals Intact? Yes No

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

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

Temp should be above freezing to 6°C

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

Cooler Temp Corrected (°C):

2.1

USDA Regulated Soil (N/A, water sample)

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

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

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



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

Effective Date: 11/14/2022

*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#: 92681882

PH: BV

Due Date: 03/30/23

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 2N Acetate & NaOH (>9)	BP4B-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFLU-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)	BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	V5GU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)		
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pH Adjustment Log for Preserved Samples

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

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



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information: Company: GA Power Address: Atlanta, GA		Section B Required Project Information: Report To: SCS Contacts Copy To: Geosyntec Contacts		Section C Invoice Information: Attention: Southern Co. Company Name: Address: Price Quote Reference: Price Project Manager: Bonnie Yang Price Profile #: 49839-16503-20	
Email To: SCS Contacts Phone: Fax Requested Due Date/TAT: 10 Day		Purchase Order No.: Project Name: Hammond AP-3 Project Number:		Address: Price Quote Reference: Price Project Manager: Bonnie Yang Price Profile #: 49839-16503-20	
REGULATORY AGENCY <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input checked="" type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER CCR			Site Location STATE: GA		

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		ANALYSIS TEST		Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)										
				DATE	TIME	Y/N	Y/N												
1	HAM-HGWA-4SD	WG G	GR/23	1255	20	7	3	3	1	X	X	X	X	X	X	X	X	X	X
2	HAM-HGWA-122	WG G	GR/23	1437	TK	20	7	3	3	X	X	X	X	X	X	X	X	X	X
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

ADDITIONAL COMMENTS Task Code: HAM-CCR-ASSUMT-2023ST		RELINQUISHED BY / AFFILIATION Thomas Foster / Geosyntec 8/1/23 Ryan Williams / Pace 9/14/23		DATE 8/1/23 9/14/23		TIME 0800 1415		ACCEPTED BY / AFFILIATION William Thompson / Pace Ryan Williams / Pace 9/23/23 1415		DATE 9/23/23 9/23/23		TIME 800 1145	
SAMPLER NAME AND SIGNATURE PRINT NAME OF SAMPLER: SIGNATURE OF SAMPLER:													
SAMPLE CONDITIONS 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 C-020rev.07.16-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: G-A Power

Project #: **WO# : 92681882**

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

PM: BV Due Date: 08/30/23
CLIENT: 92- GP-HAM

Custody Seal Present? Yes No Seals Intact? Yes No

Date/Initials Person Examining Contents: S-14-23AK

Packing Material: Bubble Wrap Bubble Bags None Other

Biological Tissue Frozen?

Thermometer:

Yes No N/A

IR Gun ID: 083

Type of Ice: Wet Blue None

Cooler Temp: 5.5 Correction Factor: Add/Subtract (°C) 0.0

Temp should be above freezing to 6°C

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

Cooler Temp Corrected (°C): 5.5

USDA Regulated Soil (N/A, water sample)

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

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

	Comments/Discrepancy:
Chain of Custody Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Short Hold Time Analysis (<72 hr.)? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Rush Turn Around Time Requested? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.
Dissolved analysis: Samples Field Filtered? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	8.
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Includes Date/Time/ID/Analysis Matrix: <u>WG</u>	
Headspace in VOA Vials (>5.6mm)? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	10.
Trip Blank Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Trip Blank Custody Seals Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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: _____



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

Effective Date: 11/14/2022

*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#: 92681882

PM: BV

Due Date: 08/30/23

CLIENT: 92- GP-HAM

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP9U-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 2N Acetate & NaOH (>9)	BP4B-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFLU-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	2																									
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pH Adjustment Log for Preserved Samples

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

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



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#: 92681882**
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: 8/11/23
178

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

Cooler Temp Corrected (°C): 3.1

USDA Regulated Soil (N/A, water sample)

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

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

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

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? Yes No

CLIENT NOTIFICATION/RESOLUTION

Lot ID of split containers:

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: [Signature] Date: 8/14/23

Project Manager SRF Review: [Signature] Date: 8/14/23



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

Effective Date: 11/14/2022

*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#: 92681882

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-)	WGJU-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)	
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BP1U
BP2U
BP3U
BP4U
BP4S
BP4Z
BP4B
WGJU
AG1U
AG1H
AG3U
AG1S
AG3S
DG94
DG9H
VG9T
VG9U
DG9V
KP7U
V/GK
SP5T
SP2T
BP3R
AG0U
VSGU
DG9U

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

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

Section A Requested Client Information: Company: GA Power Address: Atlanta, GA

Section B Required Project Information: Report To: SCS Contacts Copy To: Geosyntec Contacts

Section C Invoice Information: Attention: Southern Co. Company Name: Address: Project Name: Hammonds AP-3

Requested Date Descr/TAT: 10 Day

Project Name: Hammonds AP-3

Project Number: 10839

Address: Paces Quarter Paces Project Manager: Bonnie Vang Paces Profile #: 10839

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

Site Location STATE: GA

ITEM #	Section B Required Client Information	Valid Matrix Codes MATRIX CODE	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Requested Analytes Filtered (Y/N)						Residual Chlorine (Y/N)		
			DATE	TIME				Chloride, Fluoride, Sulfate	Full App. III and IV metals	RAD 226/228	TDS	Major Ions (Profile 10839-2)				
1	HAM-HGWC-120	WG G	8/10/2023	1315	20	7	3	3	3	1	X	X	X	X	X	001
2	HAM-HGWC-121A	WG G	8/10/2023	1051	20	7	3	3	1	X	X	X	X	X	X	002
3	HAM-HGWC-125	WG G	8/10/2023	1508	20	7	3	3	1	X	X	X	X	X	X	003
4	HAM-AP3-EB-03	WG G	8/10/2023	1646	20	7	3	3	1	X	X	X	X	X	X	004
5	HAM-AP3-FB-03	WG G	8/10/2023	1640	20	7	3	3	1	X	X	X	X	X	X	005
6																
7																
8																
9																
10																
11																
12																

ADDITIONAL COMMENTS: Relinquished by Affiliation

RELINQUISHED BY / AFFILIATION: *Anthony Sants/Gosnick* DATE: 8/10/2023 TIME: 1312

ACCEPTED BY / AFFILIATION: *Nylon Williams* DATE: 8/10/2023 TIME: 1535

DATE Signed (MM/DD/YYYY): 08/10/2023

Signature of Sampler: *Conner Cash*

Signature of Sampler: *Conner Cash*

Company: Geosyntec Consultants, Inc.

Temp in °C

Received on Ice (Y/N)

Custody Sealed Cooler (Y/N)

Samples (Incl) (Y/N)



Quality Control Sample Performance Assessment

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-228
Analyst: VAL
Date: 8/31/2023
Worklist: 75027
Matrix: WT

Method Blank Assessment	
MB Sample ID	2976831
MB Concentration:	0.560
MB 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)?
		LCSD75027
Count Date:	9/5/2023	Y
Spike I.D.:	23-043	
Decay Corrected Spike Concentration (pCi/mL):	39,944	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.817	
Target Conc. (pCi/L, g, F):	4,886	
Uncertainty (Calculated):	0.239	
Result (pCi/L, g, F):	5,058	
LCSD 2 Sigma CSU (pCi/L, g, F):	1,099	
Numerical Performance Indicator:	0.30	
Percent Recovery:	103.51%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	135%	
Lower % Recovery Limits:	60%	

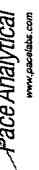
Duplicate Sample Assessment		LCSD (Y or N)?
		LCSD75027
Sample I.D.:	LCSD75027	
Duplicate Sample I.D.:	LCSD75027	
Sample Result (pCi/L, g, F):	5,058	
Sample Result 2 Sigma CSU (pCi/L, g, F):	1,099	
Sample Duplicate Result (pCi/L, g, F):	4,517	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1,018	
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%	

Sample Matrix Spike Control Assessment		MSMSD 1	MSMSD 2
Sample Collection Date:			
Sample I.D.:			
Sample MS I.D.:			
Sample MSD I.D.:			
Spike I.D.:			
MSMSD 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 MS/MSD I.D.:	
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.
 VAP 2/9/23
 9/8/23
 MS activity < MDC Pass

Quality Control Sample Performance Assessment



Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-228
Analyst: JJS1
Date: 8/31/2023
Worklist: 75028
Matrix: WT

Method Blank Assessment	
MB Sample ID	2976835
MB concentration:	0.100
MB 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	LCS (Y or N)?	
	LCSD75028	Y
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	LCSD (Y or N)?	Y
Sample I.D.:	LCSD75028	LCSD75028
Duplicate Sample I.D.:	LCSD75028	LCSD75028
Sample Result (pCi/L, g, F):	4.767	4.767
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.036	1.036
Sample Duplicate Result (pCi/L, g, F):	3.683	3.683
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	0.867	0.867
Are sample and/or duplicate results below RL?	NO	NO
Duplicate Numerical Performance Indicator:	1.573	1.573
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	25.93%	25.93%
Duplicate Status vs Numerical Indicator:	Pass	Pass
Duplicate Status vs RPD:	Pass	Pass
% RPD Limit:	36%	36%

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

Comments:

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VAL
9/18/23

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:		
Sample Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
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:
Sample Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):
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:



Quality Control Sample Performance Assessment

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-226
 Analyst: SLC
 Date: 9/21/2023
 Worklist: 75040
 Matrix: W1

Method Blank Assessment	
MB Sample ID	2977130
MB concentration:	0.086
MB 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		LCS0 (Y or N)?	Y
Count Date:	9/8/2023	LCS075040	LCS075040
Spike ID:	19-033		
Decay Corrected Spike Concentration (pCi/mL):	24.013		
Volume Used (mL):	0.10		
Alliquot Volume (L, g, F):	0.503		
Target Conc. (pCi/L, g, F):	4.779		
Uncertainty (Calculated):	0.057		
Result (pCi/L, g, F):	5.033		
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	0.911		
Numerical Performance Indicator:	105.33%		
Percent Recovery:	0.55		
Status vs Numerical Indicator:	Pass		
Status vs Recovery:	N/A		
Upper % Recovery Limits:	125%		
Lower % Recovery Limits:	75%		

Sample Matrix Spike Control Assessment		MS/MSD 1	MS/MSD 2
Sample Collection Date:			
Sample I.D.:			
Sample MS I.D.:			
Sample MSD I.D.:			
Spike I.D.:			
MS/MSD Decay Corrected Spike Concentration (pCi/mL):			
Spike Volume Used in MS (mL):			
Spike Volume Used in MSD (mL):			
MS Alliquot (L, g, F):			
MS Target Conc. (pCi/L, g, F):			
MSD Alliquot (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		MS/MSD 1	MS/MSD 2
Sample I.D.:	LCS75040		
Duplicate Sample I.D.:	LCS075040		
Sample Result (pCi/L, g, F):	5.033		
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.911		
Sample Duplicate Result (pCi/L, g, F):	5.858		
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.031		
Are sample and/or duplicate results below RL?	NO		
Duplicate Numerical Performance Indicator:	-1.175		
Duplicate Percent Recoveries) Duplicate RPD:	15.30%		
Duplicate Status vs Numerical Indicator:	Pass		
Duplicate Status vs RPD:	N/A		
% RPD Limit:	25%		

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

M 9/8/23

W 9/18/23



Quality Control Sample Performance Assessment

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-226
 Analyst: SLC
 Date: 9/2/2023
 Worklist: 75041
 Matrix: W/T

Method Blank Assessment	
MB Sample ID	2977138
MB concentration:	0.093
MB 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		
Count Date:	LCSD (Y or N)?	Y
9/8/2023	LCSD75041	LCSD75041
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.013	24.013
Volume Used (mL):	0.10	0.509
Aliquot Volume (L, g, F):	4.723	4.719
Target Conc. (pCi/L, g, F):	0.057	0.057
Uncertainty (Calculated):	6.089	5.435
Result (pCi/L, g, F):	1.073	0.974
LCSD/CSU 2 Sigma CSU (pCi/L, g, F):	2.49	1.44
Numerical Performance Indicator:	128.92%	115.19%
Percent Recovery:	Warning	Pass
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	125%	125%
Upper % Recovery Limits:	75%	75%
Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	Duplicate Sample I.D.:	Sample I.D.:
LCSD75041	LCSD75041	92683138001
6.089	6.089	92683138001DUP
1.073	1.073	0.119
5.435	5.435	0.138
0.974	0.974	0.263
NO	NO	0.147
0.884	0.884	See Below ##
11.25%	11.25%	-1.390
Pass	Pass	74.93%
N/A	N/A	Pass
25%	25%	N/A
		25%

Sample Matrix Spike Control Assessment		
Sample Collection Date:	MS/MSD 1	MS/MSD 2
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):		
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.:
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:

MPA 9/18/23

Ume 9/18/23

VALIDATION REPORTS

Memorandum

Date: 10 January 2024
To: Thomas Kessler
From: Derek Yeadon
CC: Kristoffer Henderson
Subject: **Hammond AP-3 - Stages 2A Validation - Level II Data Deliverable –
Pace Analytical Services, Project Numbers: 92681883 and 92681885**

SITE: Plant Hammond AP-3

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of twelve aqueous samples, one field duplicate, one field blank, and one equipment blank, collected 8 August 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
92681885001	HAM-HGWA-1
92681885002	HAM-HGWA-2
92681885003	HAM-HGWA-3
92681885004	HAM-HGWA-43D
92681885005	HAM-HGWA-44D
92681883001	HAM-HGWA-45D
92681883002	HAM-HGWA-122
92682552001	HAM-HGWC-124

Laboratory ID	Client ID
92682552002	HAM-HGWC-126
92682552003	HAM-AP3-FD-03
92682393001	HAM-HGWC-120
92682393002	HAM-HGWC-121A
92682393003	HAM-HGWC-125
92682393004	HAM-AP3-EB-03
92682393005	HAM-AP3-FB-03

The samples were received within 0-6 degrees Celsius (°C). No sample preservation issues were noted by the laboratory.

Sample HAM-AP1-FD-01 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 reports revised on 22 August and 25 August 2023 were 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.

impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Time
- ✓ Method Blank Matrix
- ✓ Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ⊗ Equipment Blank
- ✓ Field Blank
- ⊗ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

1.1 Overall Assessment

The metals data reported in 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 limits (MDLs).

1.4 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two sample set specific MS/MSD pairs were reported, using samples HAM-HGWC-124 and HAM-HGWA-122. The recovery and relative percent difference (RPD) results were within the laboratory specified acceptance criteria, with the following exceptions.

The recoveries of calcium, magnesium, and sodium in the MS/MSD pair using sample HAM-HGWC-124 were low and outside the laboratory specified acceptance criteria. Since the calcium, magnesium, and sodium concentrations in sample HAM-HGWC-124 were greater than four times the spiked amount, no qualifications were applied to the data.

Two batch MS/MSD pairs were also. Since these were batch QC, the results do not affect the

samples in this data set and qualifications were not applied to the data.

1.5 Laboratory Control Sample (LCS)

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). The recovery results were within the laboratory specified acceptance criteria.

1.6 Equipment Blank

One equipment blank was collected with the sample set, HAM-AP3-EB-03. Metals were not detected in the equipment blank at or above the MDLs, with the following exceptions.

Boron (0.015 mg/L) was detected in the equipment blank at an estimated concentration greater than the MDL and less than the reporting limit (RL). Therefore, the estimated boron concentration in the associated sample was U qualified as not detected at the RL.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier*	Reason Code**
HAM-HGWC-126	Boron	0.016	J	0.040	U	3

mg/L-milligrams per liter

J-estimated concentration greater than the MDL and less than the RL

* Validation qualifiers are defined in Attachment 1 at the end of this report

**Reason codes are defined in Attachment 2 at the end of this report

1.7 Field Blank

One field blank was collected with the sample set, HAM-AP3-FB-03. 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-AP3-FD-03. Acceptable precision ($RPD \leq 30\%$) was demonstrated between the field duplicate and the original sample, HAM-MW-124, with the following exceptions.

The RPD between the iron concentration in the field duplicate pair was greater than 30%; therefore, the iron concentrations in the field duplicate pair were J qualified as estimated.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	RPD	Validation Result (mg/L)	Validation Qualifier	Reason Code
HAM-MW-124	Iron	0.13	NA	38	0.13	J	7
HAM-HLF-FD-05	Iron	0.08	NA		0.08	J	7

mg/L-milligrams per liter

NA-not applicable

1.9 Sensitivity

The samples were reported to the MDLs. Elevated non-detect results were reported due to dilutions analyzed.

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-HGWA-45D. The recovery and RPD results were within the laboratory specified acceptance criteria.

Two batch MS/MSD pairs were also reported. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

2.5 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-AP3-EB-03. 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-AP3-FB-03. 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-AP3-FD-03. Acceptable precision ($RPD \leq 30\%$) was demonstrated between the field duplicate and the original sample, HAM-HGWC-124.

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-HGWA-3 and HAM-HGWA-43D. Two sample set specific MS/MSD pairs were reported for sulfide, using samples HAM-HGWC-121A, HAM-HGWA-44D and HAM-HGWA-45D. Three sample set specific MS/MSD pairs were reported for anions, using samples HAM-HGWA-44D, HAM-HGWA-45D, and HAM-AP3-FB-03. The recovery and RPD results were within the laboratory specified acceptance criteria with the following exceptions:

The RPD for the MS/MSD pair using sample HAM-HGWA-45D was outside of the laboratory specified acceptance criteria. Therefore, the result for sulfide in sample HAM-HGWA-45D was J qualified as estimated.

The recovery of sulfide in the MS was low and the RPD was outside the laboratory specified acceptance criteria for the MS/MSD pair using sample HAM-HGWA-44D. Therefore, the result for sulfide in sample HAM-HGWA-44D was J qualified as estimated.

The recovery of sulfide in the MSD using sample HAM-HGWC-121A was low and outside of the laboratory specified acceptance criteria. Therefore, the non-detect sulfide result for sample HAM-HGWC-121A was UJ qualified as estimated less than the MDL.

The recovery of alkalinity in the MSD using sample HAM-HGWA-3 was high and outside of the laboratory specified acceptance criteria. Therefore, the result for alkalinity in sample HAM-HGWA-3 was J+ qualified as estimated with high bias.

One or both the recoveries of chloride and fluoride in the MS/MSD using sample HAM-HGWA-44D were low and outside of the laboratory specified acceptance criteria. Therefore, the results for chloride and fluoride in sample HAM-HGWA-44D were 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-121A	Sulfide	0.022	U M1	0.022	U	4
HAM-HGWA-44D	Sulfide	0.14	R1 M1	0.14	J	4
HAM-HGWA-3	Alkalinity	212	M1	212	J+	4
HAM-HGWA-45D	Sulfide	0.16	R1	0.16	J	4
HAM-HGWA-44D	Chloride	27.0	M1	27.0	J	4

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier	Reason Code
HAM-HGWA-44D	Fluoride	1.3	M1	1.3	J	4

mg/L-milligrams per liter

J- Estimated concentration greater than or equal to the MDL and less than the RL.

Four batch MS/MSD pairs were reported for alkalinity, two additional batch MS/MSD pairs were reported for sulfide, and three additional batch MS/MSD were reported for anions. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

3.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). 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-HGW-2 and HAM-HGWC-124, were within the laboratory specified acceptance criteria.

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-AP3-EB-03. 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-AP3-FB-03. 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-AP3-FD-03. Acceptable precision ($RPD \leq 30\%$) was demonstrated between the field duplicate and the original sample, HAM-HGWC-124.

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

Memorandum

Date: 10 January 2024
To: Whitney Law
From: Matthew Richardson
CC: Kristoffer Henderson
Subject: **Stage 2A Data Validation - Level II Data Deliverables – Pace Analytical Services, LLC Project Numbers 92681881 and 92681882**

SITE: Plant Hammond AP-3

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of twelve 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 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
92681881001	HAM-HGWA-1
92681881002	HAM-HGWA-2
92681881003	HAM-HGWA-3
92681881004	HAM-HGWA-43D
92681881005	HAM-HGWA-44D
92681882001	HAM-HGWA-45D
92681882002	HAM-HGWA-122
92681882003	HAM-HGWC-124

Laboratory ID	Client ID
92681882004	HAM-HGWC-126
92681882005	HAM-AP3-FD-03
92682395001	HAM-HGWC-120
92682395002	HAM-HGWC-121A
92682395003	HAM-HGWC-125
92682395004	HAM-AP3-EB-03
92682395005	HAM-AP3-FB-03

The samples were received within 0-6 degrees Celsius (°C). 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). Four method blanks were reported for the radium-228 data (batches 610549, 611582, 611584 and 610551). Three method blanks were reported for the radium-226 data (batches 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.

92681881 and 92681882: 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 at concentrations greater than the MDCs, 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 (LCS)

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Three LCS/LCS duplicate (LCSD) pairs were reported for radium-226. Four 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.

92681882: The LCS recovery of radium-226 in the LCS/LCSD pair in batch 611647 was high and outside of the laboratory specified acceptance criteria. Therefore, the concentrations of radium-

226 and combined radium-226 and radium-228 in the associated samples were J qualified as estimated.

Sample	Analyte	Laboratory Result (pCi/L)	Laboratory Flag	Validation Result (pCi/L)	Validation Qualifier*	Reason Code**
HAM-AP3-FD-03	Combined Radium 226 + 228	1.3	NA	1.3	J	5
HAM-AP3-FD-03	Radium-226	0.323	NA	0.323	J	5
HAM-HGWC-126	Combined Radium 226 + 228	1.34	NA	1.34	J	5
HAM-HGWC-126	Radium-226	0.573	NA	0.573	J	5

pCi/L-picocuries per liter

NA-not applicable

* Validation qualifiers are defined in Attachment 1 at the end of this report

**Reason codes are defined in Attachment 2 at the end of this report

1.6 Laboratory Duplicate

One sample set specific laboratory duplicate was reported for radium-226 using sample HAM-HGWA-43D. The replicate percent difference (RPD) was outside of the laboratory specified acceptance criteria. Since the RER was within the laboratory specified acceptance criteria and based on professional and technical judgment, no qualifications were applied to the data.

One batch laboratory duplicate was 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-AP3-EB-03, 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-AP3-FB-03, 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-AP-3-FD-03. Acceptable precision ($RER (1\sigma) < 3$) was demonstrated between the field duplicate and the original sample, HAM-HGWC-124.

However, radium-226, radium-228 and combined radium-226 and radium-228 were detected in field duplicate sample HAM-AP3-FD-03 at a concentration greater than the MDA and not detected in the parent sample HAM-HGWC-124, 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 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 10:12:18 AM

Project: GP-Plant Hammond

Operator Name: Connor Cain

Location Name: HGWA-1 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 22.49 ft Total Depth: 32.49 ft Initial Depth to Water: 22 ft	Pump Type: Bladder Tubing Type: Poly Pump Intake From TOC: 27.49 m Estimated Total Volume Pumped: 7 liter Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min Final Draw Down: 0.56 ft	Instrument Used: Aqua TROLL 400 Serial Number: 883553
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Test Notes:

Seven bottles: Full app. III and IV and Major Ions.

Weather Conditions:

Sunny, 72 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 10:12 AM	00:00	7.03 pH	20.35 °C	726.31 µS/cm	3.03 mg/L	4.07 NTU	-48.3 mV	22.17 ft	200.00 ml/min
8/8/2023 10:17 AM	05:00	7.04 pH	18.79 °C	756.63 µS/cm	0.48 mg/L	2.64 NTU	-60.6 mV	22.48 ft	200.00 ml/min
8/8/2023 10:22 AM	10:00	7.04 pH	18.52 °C	769.61 µS/cm	0.34 mg/L	0.78 NTU	-94.5 mV	22.52 ft	200.00 ml/min
8/8/2023 10:27 AM	15:00	7.05 pH	18.43 °C	768.89 µS/cm	0.34 mg/L	0.52 NTU	-52.6 mV	22.53 ft	200.00 ml/min
8/8/2023 10:32 AM	20:00	7.05 pH	18.34 °C	760.67 µS/cm	0.36 mg/L	0.09 NTU	-81.3 mV	22.56 ft	200.00 ml/min
8/8/2023 10:37 AM	25:00	7.05 pH	18.39 °C	755.28 µS/cm	0.33 mg/L	0.14 NTU	-75.5 mV	22.56 ft	200.00 ml/min
8/8/2023 10:42 AM	30:00	7.05 pH	18.51 °C	749.51 µS/cm	0.29 mg/L	0.10 NTU	-40.2 mV	22.56 ft	200.00 ml/min

Samples

Sample ID:	Description:
HAM-HGWA-1	Grab

Low-Flow Test Report:

Test Date / Time: 8/8/2023 3:33:05 PM

Project: GP-Plant Hammond

Operator Name: Connor Cain

Location Name: HGWA-2 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 27.95 ft Total Depth: 28.45 ft Initial Depth to Water: 14.84 ft	Pump Type: Bladder Tubing Type: Poly Pump Intake From TOC: 22.95 ft Estimated Total Volume Pumped: 7 liter Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min Final Draw Down: 0.06 ft	Instrument Used: Aqua TROLL 400 Serial Number: 883553
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Test Notes:

Seven bottles: Full app. III and IV and Major Ions.

Weather Conditions:

Cloudy, 72 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 3:33 PM	00:00	5.07 pH	19.68 °C	270.46 µS/cm	1.45 mg/L	98.70 NTU	150.9 mV	14.90 ft	200.00 ml/min
8/8/2023 3:38 PM	05:00	5.04 pH	19.46 °C	277.38 µS/cm	0.35 mg/L	33.10 NTU	189.6 mV	14.90 ft	200.00 ml/min
8/8/2023 3:43 PM	10:00	5.03 pH	19.43 °C	279.40 µS/cm	0.21 mg/L	9.07 NTU	256.0 mV	14.90 ft	200.00 ml/min
8/8/2023 3:48 PM	15:00	5.02 pH	19.42 °C	281.09 µS/cm	0.18 mg/L	4.88 NTU	253.8 mV	14.90 ft	200.00 ml/min
8/8/2023 3:53 PM	20:00	5.01 pH	19.31 °C	281.23 µS/cm	0.15 mg/L	4.82 NTU	252.8 mV	14.90 ft	200.00 ml/min
8/8/2023 3:58 PM	25:00	5.02 pH	19.32 °C	281.85 µS/cm	0.17 mg/L	2.96 NTU	250.1 mV	14.90 ft	200.00 ml/min
8/8/2023 4:03 PM	30:00	5.01 pH	19.30 °C	282.33 µS/cm	0.16 mg/L	1.97 NTU	248.5 mV	14.90 ft	200.00 ml/min

Samples

Sample ID:	Description:
HAM-HGWA-2	Grab

Low-Flow Test Report:

Test Date / Time: 8/8/2023 2:10:57 PM

Project: GP-Plant Hammond

Operator Name: Connor Cain

Location Name: HGWA-3 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 34.51 ft Total Depth: 45.20 ft Initial Depth to Water: 14.55 ft	Pump Type: Bladder Tubing Type: Poly Pump Intake From TOC: 39.51 ft Estimated Total Volume Pumped: 7 liter Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min Final Draw Down: 0.01 ft	Instrument Used: Aqua TROLL 400 Serial Number: 883553
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Test Notes:

Seven bottles: Full app. III and IV and Major Ions.

Weather Conditions:

Sunny, 72 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 2:10 PM	00:00	7.36 pH	19.82 °C	464.66 µS/cm	0.47 mg/L	17.90 NTU	-54.2 mV	14.56 ft	200.00 ml/min
8/8/2023 2:15 PM	05:00	7.39 pH	19.66 °C	466.57 µS/cm	0.36 mg/L	10.73 NTU	-58.7 mV	14.56 ft	200.00 ml/min
8/8/2023 2:20 PM	10:00	7.41 pH	19.59 °C	465.96 µS/cm	0.19 mg/L	6.84 NTU	-90.3 mV	14.56 ft	200.00 ml/min
8/8/2023 2:25 PM	15:00	7.41 pH	19.64 °C	465.94 µS/cm	0.20 mg/L	5.85 NTU	-90.5 mV	14.56 ft	200.00 ml/min
8/8/2023 2:30 PM	20:00	7.41 pH	19.60 °C	463.55 µS/cm	0.17 mg/L	4.56 NTU	-90.3 mV	14.56 ft	200.00 ml/min
8/8/2023 2:35 PM	25:00	7.41 pH	19.55 °C	465.16 µS/cm	0.17 mg/L	3.43 NTU	-89.9 mV	14.56 ft	200.00 ml/min
8/8/2023 2:40 PM	30:00	7.42 pH	19.41 °C	464.71 µS/cm	0.19 mg/L	1.58 NTU	-89.7 mV	14.56 ft	200.00 ml/min

Samples

Sample ID:	Description:
HAM-HGWA-3	Grab

Low-Flow Test Report:

Test Date / Time: 8/8/2023 10:14:50 AM

Project: GP-Plant Hammond

Operator Name: Elisabeth McDonnell

Location Name: HGWA-43D Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 51.25 ft Total Depth: 61.85 ft Initial Depth to Water: 21.84 ft	Pump Type: Bladder pump Tubing Type: Poly Pump Intake From TOC: 56.25 ft Estimated Total Volume Pumped: 10.4 liter Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min Final Draw Down: 3.66 ft	Instrument Used: Aqua TROLL 400 Serial Number: 989630
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Test Notes:

Seven bottles: Full app. III and IV and Major Ions.

Weather Conditions:

Sunny, 72 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 10:14 AM	00:00	7.41 pH	19.92 °C	504.12 µS/cm	1.58 mg/L	3.56 NTU	-59.6 mV	22.73 ft	200.00 ml/min
8/8/2023 10:19 AM	05:00	7.42 pH	18.66 °C	502.40 µS/cm	1.23 mg/L	3.47 NTU	-56.2 mV	23.49 ft	200.00 ml/min
8/8/2023 10:24 AM	10:00	7.40 pH	18.47 °C	497.35 µS/cm	1.34 mg/L	1.98 NTU	-86.4 mV	21.33 ft	200.00 ml/min
8/8/2023 10:29 AM	15:00	7.40 pH	18.39 °C	492.20 µS/cm	1.16 mg/L	1.46 NTU	-52.2 mV	24.72 ft	200.00 ml/min
8/8/2023 10:34 AM	20:00	7.40 pH	18.38 °C	489.04 µS/cm	1.00 mg/L	1.31 NTU	-92.8 mV	24.90 ft	200.00 ml/min
8/8/2023 10:39 AM	25:00	7.40 pH	18.48 °C	479.19 µS/cm	0.88 mg/L	1.58 NTU	-95.5 mV	25.15 ft	200.00 ml/min
8/8/2023 10:41 AM	26:51	7.39 pH	18.50 °C	476.93 µS/cm	0.83 mg/L	1.54 NTU	-61.1 mV	25.25 ft	200.00 ml/min
8/8/2023 10:46 AM	31:51	7.39 pH	18.49 °C	469.23 µS/cm	0.72 mg/L	0.96 NTU	-95.0 mV	25.35 ft	200.00 ml/min
8/8/2023 10:51 AM	36:51	7.39 pH	18.43 °C	463.73 µS/cm	0.71 mg/L	0.38 NTU	-55.9 mV	25.40 ft	200.00 ml/min
8/8/2023 10:56 AM	41:51	7.39 pH	18.40 °C	457.64 µS/cm	0.70 mg/L	0.86 NTU	-56.2 mV	25.50 ft	200.00 ml/min

Samples

Sample ID:	Description:
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HAM-HGWA-43D	Grab
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Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 8/8/2023 10:09:47 AM

Project: GP-Plant Hammond

Operator Name: Thomas Kessler

Location Name: HGWA-44D Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 103.5 ft Total Depth: 111.16 ft Initial Depth to Water: 21.5 ft	Pump Type: Bladder Tubing Type: Poly Pump Intake From TOC: 108.5 ft Estimated Total Volume Pumped: 6 liter Flow Cell Volume: 90 ml Final Flow Rate: 100 ml/min Final Draw Down: 2.6 ft	Instrument Used: Aqua TROLL 400 Serial Number: 850724
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Test Notes:

Seven bottles: Full app. III and IV and Major Ions.

Weather Conditions:

Sunny, 72 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 10:09 AM	00:00	8.16 pH	19.50 °C	610.12 µS/cm	0.63 mg/L		-101.2 mV		100.00 ml/min
8/8/2023 10:14 AM	05:00	8.16 pH	19.26 °C	605.42 µS/cm	0.50 mg/L		-104.5 mV		100.00 ml/min
8/8/2023 10:19 AM	10:00	8.15 pH	19.09 °C	603.18 µS/cm	0.43 mg/L	4.73 NTU	-149.9 mV	23.10 ft	100.00 ml/min
8/8/2023 10:24 AM	15:00	8.14 pH	19.06 °C	597.87 µS/cm	0.36 mg/L	14.80 NTU	-148.4 mV	23.30 ft	100.00 ml/min
8/8/2023 10:29 AM	20:00	8.14 pH	19.06 °C	592.68 µS/cm	0.33 mg/L	8.24 NTU	-125.7 mV	23.43 ft	100.00 ml/min
8/8/2023 10:34 AM	25:00	8.14 pH	19.22 °C	585.55 µS/cm	0.29 mg/L	6.13 NTU	-83.5 mV	23.59 ft	100.00 ml/min
8/8/2023 10:39 AM	30:00	8.17 pH	19.23 °C	582.95 µS/cm	0.26 mg/L	6.56 NTU	-123.6 mV	23.75 ft	100.00 ml/min
8/8/2023 10:44 AM	35:00	8.17 pH	19.23 °C	577.53 µS/cm	0.24 mg/L	8.07 NTU	-93.1 mV	23.90 ft	100.00 ml/min
8/8/2023 10:49 AM	40:00	8.19 pH	19.46 °C	572.46 µS/cm	0.22 mg/L	5.71 NTU	-133.2 mV	24.05 ft	100.00 ml/min
8/8/2023 10:54 AM	45:00	8.20 pH	19.47 °C	566.71 µS/cm	0.21 mg/L	4.90 NTU	-101.1 mV	24.10 ft	100.00 ml/min

Samples

Sample ID:	Description:
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HGWA-44D	Grab
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Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 8/8/2023 12:21:23 PM

Project: GP-Plant Hammond Operator

Name: Elisabeth McDonnell

Location Name: HGWA-45D Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 52.87 ft Total Depth: 62.70 ft Initial Depth to Water: 14.70 ft	Pump Type: Bladder pump Tubing Type: Poly Pump Intake From TOC: 57.87 ft Estimated Total Volume Pumped: 8 liter Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min Final Draw Down: 0.91 ft	Instrument Used: Aqua TROLL 400 Serial Number: 989630
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Test Notes:

Seven bottles: Full app. III and IV and Major Ions.

Weather Conditions:

Sunny, 72 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 12:21 PM	00:00	7.47 pH	20.43 °C	515.00 µS/cm	0.11 mg/L	2.00 NTU	-95.3 mV	15.53 ft	200.00 ml/min
8/8/2023 12:26 PM	05:00	7.46 pH	21.15 °C	520.59 µS/cm	0.34 mg/L	0.73 NTU	-91.0 mV	15.20 ft	200.00 ml/min
8/8/2023 12:31 PM	10:00	7.43 pH	20.17 °C	493.13 µS/cm	0.08 mg/L	0.12 NTU	-128.9 mV	15.35 ft	200.00 ml/min
8/8/2023 12:36 PM	15:00	7.41 pH	19.86 °C	485.69 µS/cm	0.08 mg/L	0.42 NTU	-78.0 mV	15.51 ft	200.00 ml/min
8/8/2023 12:41 PM	20:00	7.39 pH	19.81 °C	476.89 µS/cm	0.09 mg/L	0.25 NTU	-75.5 mV	15.60 ft	200.00 ml/min
8/8/2023 12:46 PM	25:00	7.39 pH	19.72 °C	468.92 µS/cm	0.10 mg/L	0.22 NTU	-72.6 mV	15.57 ft	200.00 ml/min
8/8/2023 12:51 PM	30:00	7.39 pH	19.72 °C	463.35 µS/cm	0.11 mg/L	0.50 NTU	-72.0 mV	15.61 ft	200.00 ml/min

Samples

Sample ID:	Description:
HAM-HGWA-45D	Grab

Low-Flow Test Report:

Test Date / Time: 8/8/2023 2:01:43 PM

Project: GP-Plant Hammond

Operator Name: Elisabeth McDonnell

Location Name: HGWA-122 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 17.76 ft Total Depth: 27.80 ft Initial Depth to Water: 15.75 ft	Pump Type: Bladder pump Tubing Type: Polly Pump Intake From TOC: 22.76 ft Estimated Total Volume Pumped: 7 Liter Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min Final Draw Down: 0.01 ft	Instrument Used: Aqua TROLL 400 Serial Number: 989630
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Test Notes:

Seven bottles: Full app. III and IV and Major Ions.

Weather Conditions:

Sunny, 72 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 2:01 PM	00:00	6.57 pH	20.29 °C	330.22 µS/cm	2.35 mg/L	28.50 NTU	56.5 mV	15.80 ft	200.00 ml/min
8/8/2023 2:06 PM	05:00	6.61 pH	20.03 °C	340.35 µS/cm	1.81 mg/L	15.10 NTU	50.1 mV	15.79 ft	200.00 ml/min
8/8/2023 2:11 PM	10:00	6.63 pH	20.00 °C	344.17 µS/cm	1.66 mg/L	7.34 NTU	48.5 mV	15.80 ft	200.00 ml/min
8/8/2023 2:16 PM	15:00	6.65 pH	20.03 °C	348.90 µS/cm	1.52 mg/L	5.55 NTU	61.0 mV	15.80 ft	200.00 ml/min
8/8/2023 2:21 PM	20:00	6.66 pH	20.04 °C	350.69 µS/cm	1.46 mg/L	3.67 NTU	48.8 mV	15.79 ft	200.00 ml/min
8/8/2023 2:26 PM	25:00	6.67 pH	20.16 °C	346.55 µS/cm	1.46 mg/L	2.18 NTU	47.7 mV	15.75 ft	200.00 ml/min
8/8/2023 2:31 PM	30:00	6.67 pH	19.97 °C	346.07 µS/cm	1.45 mg/L	2.21 NTU	47.8 mV	15.76 ft	200.00 ml/min

Samples

Sample ID:	Description:
HAM-HGWA-122	Grab

Low-Flow Test Report:

Test Date / Time: 8/10/2023 12:25:08 PM

Project: GP-Plant Hammond

Operator Name: Connor Cain

Location Name: HGWC-120 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 57.00 ft Total Depth: 61.61 ft Initial Depth to Water: 41.00ft	Pump Type: Bladder Tubing Type: Poly Pump Intake From TOC: 52.00 ft Estimated Total Volume Pumped: 10 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
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Test Notes:

Seven bottles: Full app. III and IV and Major Ions.

Weather Conditions:

Cloudy, 72 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	
8/10/2023 12:25 PM	00:00	7.00 pH	19.46 °C	695.85 µS/cm	1.32 mg/L	8.88 NTU	-32.6 mV	40.98 ft	200.00 ml/min
8/10/2023 12:30 PM	05:00	6.99 pH	19.26 °C	797.69 µS/cm	1.17 mg/L	3.66 NTU	-20.0 mV	40.98 ft	200.00 ml/min
8/10/2023 12:35 PM	10:00	6.99 pH	19.25 °C	890.99 µS/cm	1.20 mg/L	3.47 NTU	-18.6 mV	40.98 ft	200.00 ml/min
8/10/2023 12:40 PM	15:00	6.98 pH	19.32 °C	888.87 µS/cm	1.21 mg/L	1.77 NTU	-37.4 mV	40.98 ft	200.00 ml/min
8/10/2023 12:45 PM	20:00	6.97 pH	19.37 °C	890.24 µS/cm	1.15 mg/L	1.58 NTU	-15.8 mV	40.98 ft	200.00 ml/min
8/10/2023 12:50 PM	25:00	6.97 pH	19.41 °C	812.79 µS/cm	1.28 mg/L	1.61 NTU	-14.8 mV	40.98 ft	200.00 ml/min
8/10/2023 12:55 PM	30:00	6.97 pH	19.39 °C	597.24 µS/cm	1.31 mg/L	1.53 NTU	-13.7 mV	40.98 ft	200.00 ml/min
8/10/2023 1:00 PM	35:00	6.97 pH	19.49 °C	891.27 µS/cm	1.23 mg/L	1.47 NTU	-12.5 mV	40.98 ft	200.00 ml/min
8/10/2023 1:05 PM	40:00	6.96 pH	19.64 °C	888.24 µS/cm	1.31 mg/L	1.28 NTU	-30.2 mV	40.98 ft	200.00 ml/min
8/10/2023 1:10 PM	45:00	6.96 pH	19.65 °C	888.34 µS/cm	1.32 mg/L	1.32 NTU	-7.0 mV	40.98 ft	200.00 ml/min

Samples

Sample ID:	Description:
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HAM-HGWC-120

Grab

Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 8/10/2023 10:10:57 AM

Project: GP-Plant Hammond

Operator Name: Connor Cain

Location Name: HGWC-121A Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 27.98 ft Total Depth: 41.40 ft Initial Depth to Water: 18.45 ft	Pump Type: Bladder Tubing Type: Poly Pump Intake From TOC: 22.98 ft Estimated Total Volume Pumped: 8.5 liter Flow Cell Volume: 90 ml Final Flow Rate: 100 ml/min Final Draw Down: 0.03 ft	Instrument Used: Aqua TROLL 400 Serial Number: 883553
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Test Notes:

Seven bottles: Full app. III and IV and Major Ions.

Weather Conditions:

Rain, 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	+/- 5	+/- 10	+/- 0.3	
8/10/2023 10:10 AM	00:00	6.90 pH	20.06 °C	868.75 µS/cm	2.00 mg/L	7.38 NTU	71.3 mV	18.45 ft	100.00 ml/min
8/10/2023 10:15 AM	05:00	6.90 pH	19.50 °C	878.18 µS/cm	1.12 mg/L	6.03 NTU	38.3 mV	18.48 ft	100.00 ml/min
8/10/2023 10:20 AM	10:00	6.90 pH	19.33 °C	867.89 µS/cm	0.72 mg/L	4.39 NTU	37.3 mV	18.48 ft	100.00 ml/min
8/10/2023 10:25 AM	15:00	6.90 pH	19.34 °C	894.88 µS/cm	0.51 mg/L	3.26 NTU	36.7 mV	18.48 ft	100.00 ml/min
8/10/2023 10:30 AM	20:00	6.89 pH	19.35 °C	900.91 µS/cm	0.44 mg/L	2.41 NTU	35.4 mV	18.48 ft	100.00 ml/min
8/10/2023 10:33 AM	23:00	6.90 pH	19.45 °C	901.68 µS/cm	0.41 mg/L	2.32 NTU	34.8 mV	18.48 ft	100.00 ml/min
8/10/2023 10:38 AM	28:00	6.89 pH	19.51 °C	903.69 µS/cm	0.38 mg/L	2.37 NTU	36.0 mV	18.48 ft	100.00 ml/min
8/10/2023 10:39 AM	28:35	6.89 pH	19.52 °C	903.68 µS/cm	0.37 mg/L	2.37 NTU	34.4 mV	18.48 ft	100.00 ml/min
8/10/2023 10:44 AM	33:35	6.89 pH	19.59 °C	905.59 µS/cm	0.34 mg/L	2.24 NTU	33.0 mV	18.48 ft	100.00 ml/min
8/10/2023 10:46 AM	35:03	6.89 pH	19.64 °C	907.26 µS/cm	0.35 mg/L	2.10 NTU	35.3 mV	18.48 ft	100.00 ml/min

Samples

Sample ID:	Description:
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HAM-HGWC-121A

Grab

Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 8/11/2023 10:12:27 AM

Project: GP-Plant Hammond

Operator Name: Thomas Kessler

Location Name: HGWC-124 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 25.12ft Total Depth: 35.3ft Initial Depth to Water: 16.45 ft	Pump Type: bladder Tubing Type: Poly Pump Intake From TOC: 30.12 ft Estimated Total Volume Pumped: 8 liter Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min Final Draw Down: 0.1 ft	Instrument Used: Aqua TROLL 400 Serial Number: 850724
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Test Notes:

Seven bottles: Full App. III and IV and Major Ions.

Weather Conditions:

Cloudy, 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	+/- 5	+/- 10	+/- 0.3	
8/11/2023 10:12 AM	00:00	7.20 pH	20.31 °C	517.10 µS/cm	0.78 mg/L	18.00 NTU	6.5 mV	16.55 ft	200.00 ml/min
8/11/2023 10:17 AM	05:00	7.20 pH	19.50 °C	523.53 µS/cm	0.32 mg/L	11.90 NTU	19.4 mV	16.55 ft	200.00 ml/min
8/11/2023 10:22 AM	10:00	7.20 pH	19.56 °C	524.52 µS/cm	0.25 mg/L	7.91 NTU	14.9 mV	16.55 ft	200.00 ml/min
8/11/2023 10:27 AM	15:00	7.21 pH	19.47 °C	526.04 µS/cm	0.32 mg/L	6.30 NTU	21.8 mV	16.55 ft	200.00 ml/min
8/11/2023 10:32 AM	20:00	7.21 pH	19.41 °C	523.95 µS/cm	0.31 mg/L	3.66 NTU	27.9 mV	16.55 ft	200.00 ml/min
8/11/2023 10:37 AM	25:00	7.20 pH	19.72 °C	524.33 µS/cm	0.32 mg/L	2.32 NTU	25.3 mV	16.55 ft	200.00 ml/min
8/11/2023 10:42 AM	30:00	7.20 pH	19.81 °C	523.25 µS/cm	0.29 mg/L	3.80 NTU	24.5 mV	16.55 ft	200.00 ml/min

Samples

Sample ID:	Description:
HAM-HGWC-124	Grab
HAM-AP3-FD-03	Grab

Low-Flow Test Report:

Test Date / Time: 8/10/2023 2:33:23 PM

Project: GP-Plant Hammond

Operator Name: Connor Cain

Location Name: HGWC-125 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 53.19 ft Total Depth: 63.88 ft Initial Depth to Water: 44.24 ft	Pump Type: Bladder Tubing Type: Poly Pump Intake From TOC: 58.19 ft Estimated Total Volume Pumped: 7 liter Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min Final Draw Down: 0.01 ft	Instrument Used: Aqua TROLL 400 Serial Number: 883553
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Test Notes:

Seven bottles: Full App. III and IV and Major Ions.

Weather Conditions:

Sunny, 72 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	
8/10/2023 2:33 PM	00:00	6.29 pH	20.66 °C	937.51 µS/cm	1.57 mg/L	4.26 NTU	93.7 mV	44.25 ft	200.00 ml/min
8/10/2023 2:38 PM	05:00	6.28 pH	20.50 °C	945.20 µS/cm	1.00 mg/L	2.57 NTU	98.6 mV	44.25 ft	200.00 ml/min
8/10/2023 2:43 PM	10:00	6.28 pH	20.42 °C	953.18 µS/cm	0.76 mg/L	1.90 NTU	63.9 mV	44.25 ft	200.00 ml/min
8/10/2023 2:48 PM	15:00	6.29 pH	20.57 °C	955.13 µS/cm	0.64 mg/L	1.97 NTU	77.0 mV	44.25 ft	200.00 ml/min
8/10/2023 2:53 PM	20:00	6.29 pH	20.66 °C	960.79 µS/cm	0.65 mg/L	1.84 NTU	72.9 mV	44.25 ft	200.00 ml/min
8/10/2023 2:58 PM	25:00	6.29 pH	20.66 °C	962.80 µS/cm	0.60 mg/L	0.78 NTU	68.5 mV	44.25 ft	200.00 ml/min
8/10/2023 3:03 PM	30:00	6.29 pH	20.66 °C	959.52 µS/cm	0.59 mg/L	0.61 NTU	64.2 mV	44.25 ft	200.00 ml/min

Samples

Sample ID:	Description:
HAM-HGWC-125	Grab

Low-Flow Test Report:

Test Date / Time: 8/11/2023 12:22:11 PM

Project: GP-Plant Hammond

Operator Name: Thomas Kessler

Location Name: HGWC-126 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 58.52 ft Total Depth: 68.50 ft Initial Depth to Water: 40.75 ft	Pump Type: bladder Tubing Type: Poly Pump Intake From TOC: 63.52 ft Estimated Total Volume Pumped: 9 liter Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min Final Draw Down: 2.6 ft	Instrument Used: Aqua TROLL 400 Serial Number: 850724
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Test Notes:

Seven bottles: Full app. III and IV and Major Ions.

Weather Conditions:

Sunny, 85 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 12:22 PM	00:00	6.99 pH	22.88 °C	816.30 µS/cm	1.35 mg/L	7.87 NTU	-51.2 mV	42.38 ft	200.00 ml/min
8/11/2023 12:24 PM	02:21	6.97 pH	21.77 °C	828.98 µS/cm	1.03 mg/L		-49.5 mV	42.38 ft	200.00 ml/min
8/11/2023 12:25 PM	03:30	6.97 pH	21.64 °C	831.10 µS/cm	0.95 mg/L		-45.8 mV	42.38 ft	200.00 ml/min
8/11/2023 12:30 PM	08:30	6.97 pH	21.41 °C	829.22 µS/cm	0.80 mg/L	6.50 NTU	-42.3 mV	42.80 ft	200.00 ml/min
8/11/2023 12:35 PM	13:30	6.96 pH	21.31 °C	829.40 µS/cm	0.56 mg/L	6.25 NTU	-40.3 mV	43.00 ft	200.00 ml/min
8/11/2023 12:40 PM	18:30	6.96 pH	21.25 °C	828.44 µS/cm	0.48 mg/L	4.75 NTU	-54.8 mV	43.15 ft	200.00 ml/min
8/11/2023 12:45 PM	23:30	6.95 pH	21.19 °C	824.68 µS/cm	0.52 mg/L	4.17 NTU	-54.3 mV	43.20 ft	200.00 ml/min
8/11/2023 12:50 PM	28:30	6.95 pH	21.22 °C	823.24 µS/cm	0.52 mg/L	3.99 NTU	-53.5 mV	43.25 ft	200.00 ml/min
8/11/2023 12:55 PM	33:30	6.95 pH	21.01 °C	822.88 µS/cm	0.53 mg/L	3.46 NTU	-52.9 mV	43.35 ft	200.00 ml/min

Samples

Sample ID:	Description:
HAM-HGWC-126	Grab

CALIBRATION REPORTS

EQUIPMENT CALIBRATION LOG

Field Technician: C. CHAIN

Date: 8/8/23

Time (start): 0844

Time (finish): 0904

smarTroll SN: 883553

Turbidity Meter Type: LeMott 20207

SN: 4121-2623

Weather Conditions: Sunny 72

Facility and Unit: Plant Hammond

Project No.: GH/6591

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 8/23	24.00	4490 4.0 cc	4445.9 4.25 cc	4490 4.0 cc	+/- 5 %	<input checked="" type="checkbox"/> Yes No	
pH (4)			4.0	4.25	4.0	+/- 0.1 SU	<input checked="" type="checkbox"/> Yes No	
Mid-Day pH (4) check			4.0	3.99		+/- 0.1 SU	Yes No	
pH (7)	2216893 8/23	25.16	7.0	7.18	7.0	+/- 0.1 SU	<input checked="" type="checkbox"/> Yes No	
Mid-Day pH (7) check			7.0	7.02		+/- 0.1 SU	Yes No	
pH (10)	2210130 8/23	25.28	10.0	10.48	10.0	+/- 0.1 SU	<input checked="" type="checkbox"/> Yes No	
Mid-Day pH (10) check			10.0	10.0		+/- 0.1 SU	Yes No	
ORP (mV)	21390144 8/23	25.33	228	219.9	228	+/- 20mV	<input checked="" type="checkbox"/> Yes No	
DO (%) (1pt, 100% water saturated air cal)			100	97.99	100	+/- 6 % saturation	<input checked="" type="checkbox"/> Yes No	
Turbidity 0 NTU			0	0.05	0.04	+/- 0.5 NTU	<input checked="" type="checkbox"/> Yes No	
Turbidity 1 NTU			1	0.99	0.99	+/- 0.5 NTU	<input checked="" type="checkbox"/> Yes No	
Turbidity 10 NTU			10	10.54	10.0	+/- 0.5 NTU	<input checked="" type="checkbox"/> Yes No	

EQUIPMENT CALIBRATION LOG

Field Technician: Thomas Hester Date: 8/8/23 Time (start): 0843 Time (finish): 0857
 smarTroll SN: 8507241 Turbidity Meter Type: Lanette 2020 SN: 1475-4011
 Weather Conditions: Clear, 75° Facility and Unit: Hammond Project No.: GWC5861

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 %	<input checked="" type="radio"/> Yes No	
pH (4)	↓		4	4.07	4.0	+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
Mid-Day pH (4) check			4.03	—————	—————	+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
pH (7)	2216558 11/23	24.74	7.0	7.02	7.0	+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
Mid-Day pH (7) check	↓		6.99	—————	—————	+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
pH (10)	21370282 12/23	24.82	10	10.23	10.0	+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
Mid-Day pH (10) check	↓		10.07	—————	—————	+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
ORP (mV)	22700085 8/23	24.65	278	275.4	278	+/- 20mV	<input checked="" type="radio"/> Yes No	
DO (%) (1pt, 100% water saturated air cal)			100	100.40	100	+/- 6 % saturation	<input checked="" type="radio"/> Yes No	
Turbidity 0 NTU			0	1.25	0	+/- 0.5 NTU	<input checked="" type="radio"/> Yes No	
Turbidity 1 NTU			1	3.23	0.97	+/- 0.5 NTU	<input checked="" type="radio"/> Yes No	
Turbidity 10 NTU			10	9.73	9.47	+/- 0.5 NTU	Yes No	

EQUIPMENT CALIBRATION LOG

Field Technician: Elisabeth McDonnell

Date: 08/08/23

Time (start): 840

Time (finish): 910

smarTroll SN: 989630

Turbidity Meter Type: LamoHe 2020t

SN: 4109-2623

Weather Conditions: sunny 85

Facility and Unit: Plant hammont

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)	22250153 11/23	25.50	4,990	4,550	4510	+/- 5 %	<input checked="" type="radio"/> Yes No	
pH (4)			9.00	4.13	4.00	+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
Mid-Day pH (4) check	↓					+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
pH (7)	2216893 4/23	26.65	7.0	7.81	7.0	+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
Mid-Day pH (7) check	↓					+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
pH (10)	22320202 12/23		10.0	9.82	10.0	+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
Mid-Day pH (10) check	↓					+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
ORP (mV)	21390147 11/23	25.56	228	228.2	228.1	+/- 20mV	<input checked="" type="radio"/> Yes No	
DO (%) (1pt, 100% water saturated air cal)			100%	102.95%	100%	+/- 6 % saturation	<input checked="" type="radio"/> Yes No	
Turbidity 0 NTU			0.0	0.51	0.00	+/- 0.5 NTU	<input checked="" type="radio"/> Yes No	
Turbidity 1 NTU			1.0	1.45	1.06	+/- 0.5 NTU	<input checked="" type="radio"/> Yes No	
Turbidity 10 NTU			10.0	13.3	10.4	+/- 0.5 NTU	<input checked="" type="radio"/> Yes No	

EQUIPMENT CALIBRATION LOG

Field Technician: Thomas Kessler

Date: 8/10/23

Time (start): 0815

Time (finish): 0830

smarTroll SN: 850724

Turbidity Meter Type: LaMotte 2020w

SN: 7475-4011

Weather Conditions: Rainy, 69°

Facility and Unit: Hammock

Project No.: GWCS81

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	22.22	4490	4482	4490	+/- 5 %	<input checked="" type="radio"/> Yes <input type="radio"/> No	
pH (4)			4	4.03	4.0	+/- 0.1 SU	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Mid-Day pH (4) check				4.01		+/- 0.1 SU	<input checked="" type="radio"/> Yes <input type="radio"/> No	
pH (7)	2226593 11/23	22.84	7	6.99	7.0	+/- 0.1 SU	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Mid-Day pH (7) check				7.06		+/- 0.1 SU	<input checked="" type="radio"/> Yes <input type="radio"/> No	
pH (10)	2228082 11/23	22.84	10	9.92	10.0	+/- 0.1 SU	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Mid-Day pH (10) check				10.03		+/- 0.1 SU	<input checked="" type="radio"/> Yes <input type="radio"/> No	
ORP (mV)	2220085 8/23	22.90	228	225.9	228	+/- 20mV	<input checked="" type="radio"/> Yes <input type="radio"/> No	
DO (%) (1pt, 100% water saturated air cal)			100	97.59	100	+/- 6 % saturation	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Turbidity 0 NTU			0	0.82	0	+/- 0.5 NTU	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Turbidity 1 NTU			1	0.72	0.89	+/- 0.5 NTU	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Turbidity 10 NTU			10	10.39	10.1	+/- 0.5 NTU	<input checked="" type="radio"/> Yes <input type="radio"/> No	

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 2020b

SN: 9109-2623

Weather Conditions: Rainy 75

Facility and Unit: Plant Hammond

Project No.: GW 6581

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)	2226093 11/23	23	4490	4548	4490	+/- 5 %	<input checked="" type="radio"/> Yes No	
pH (4)			4.0	4.06	4.0	+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
Mid-Day pH (4) check	↓	24.68	4.0	4.04	4.0	+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
pH (7)	2214893 11/23	24.33	7.0	7.02	7.0	+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
Mid-Day pH (7) check			↓	24.53	7.0	6.97	7.0	+/- 0.1 SU
pH (10)	21320202 12/23	24.37	10.0	9.99	10.0	+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
Mid-Day pH (10) check			↓	24.50	10.0	9.96	10.0	+/- 0.1 SU
ORP (mV)	21390144 11/23	24.57	228	227.2	228	+/- 20mV	<input checked="" type="radio"/> Yes No	
DO (%) (1pt, 100% water saturated air cal)			100%	96.97	100%	+/- 6 % saturation	<input checked="" type="radio"/> Yes No	
Turbidity 0 NTU			0.0	0.0	0.0	+/- 0.5 NTU	<input checked="" type="radio"/> Yes No	
Turbidity 1 NTU			1.0	.75	.89	+/- 0.5 NTU	<input checked="" type="radio"/> Yes No	
Turbidity 10 NTU			10.0	11.1	10.4	+/- 0.5 NTU	<input checked="" type="radio"/> Yes No	

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.: 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	23.43	4490	4564.8	4490	+/- 5 %	<input checked="" type="checkbox"/> Yes No	
pH (4)			4.0	4.01	4.0	+/- 0.1 SU	<input checked="" type="checkbox"/> Yes No	
Mid-Day pH (4) check			4.0	3.99		+/- 0.1 SU	<input checked="" type="checkbox"/> Yes No	
pH (7)	2216893 11/23	24.36	7.0	6.96	7.0	+/- 0.1 SU	<input checked="" type="checkbox"/> Yes No	
Mid-Day pH (7) check				7.0	7.0		+/- 0.1 SU	<input checked="" type="checkbox"/> Yes No
pH (10)	22110130	24.26	10.0	10.0	10.0	+/- 0.1 SU	<input checked="" type="checkbox"/> Yes No	
Mid-Day pH (10) check				10.0	10.0		+/- 0.1 SU	<input checked="" type="checkbox"/> Yes No
ORP (mV)	21390144 11/23	24.15	228	225.5	228	+/- 20mV	<input checked="" type="checkbox"/> Yes No	
DO (%) (1pt, 100% water saturated air cal)				100	103.24	100	+/- 6 % saturation	<input checked="" type="checkbox"/> Yes No
Turbidity 0 NTU			0	0	0	+/- 0.5 NTU	<input checked="" type="checkbox"/> Yes No	
Turbidity 1 NTU			1	0.91	1	+/- 0.5 NTU	<input checked="" type="checkbox"/> Yes No	
Turbidity 10 NTU			10	9.6	10	+/- 0.5 NTU	<input checked="" type="checkbox"/> Yes No	

EQUIPMENT CALIBRATION LOG

Field Technician: A. Szwaft

Date: 8-11-2023

Time (start): 815

Time (finish): 830

smarTroll SN: 889530

Turbidity Meter Type: LaMotte 2020t

SN: 4139-2623

Weather Conditions: Cloudy, 75° 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	29.24	4490.0	4495.8	4490.0	+/- 5 %	<input checked="" type="radio"/> Yes No	
pH (4)	11/2023	25.61	4.00	4.12	4.00	+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
Mid-Day pH (4) check	22250153 11/2023	29.65	4.00	4.20	4.00	+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
pH (7)	2216893 11/2023	25.92	7.00	6.96	7.00	+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
Mid-Day pH (7) check	2216893 11/2023	28.09	7.00	6.50	7.00	+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
pH (10)	21320202 12/2023	26.03	10.00	9.86	10.00	+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
Mid-Day pH (10) check	21320202 12/2023	27.53	10.00	9.49	10.00	+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
ORP (mV)	21396144 11/2023	26.01	228.0	226.3	228.0	+/- 20mV	<input checked="" type="radio"/> Yes No	
DO (%) (1pt, 100% water saturated air cal)			100.0	99.15	100.0	+/- 6 % saturation	<input checked="" type="radio"/> Yes No	
Turbidity 0 NTU			0.00	0.00	—	+/- 0.5 NTU	<input checked="" type="radio"/> Yes No	
Turbidity 1 NTU			1.00	1.53	1.08	+/- 0.5 NTU	<input checked="" type="radio"/> Yes No	
Turbidity 10 NTU			10.0	9.41	10.32	+/- 0.5 NTU	<input checked="" type="radio"/> Yes No	

EQUIPMENT CALIBRATION LOG

Field Technician: Elizabeth 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 %	<input checked="" type="radio"/> Yes No	/
pH (4)	↓		4.0	4.0	4.0	+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
Mid-Day pH (4) check		30.88	4.0	4.04	4.0	+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
pH (7)	2216893 11/23	26.90	7.0	6.98	7.0	+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
Mid-Day pH (7) check	↓	31.63	7.0	6.97	7.0	+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
pH (10)	21320202 12/23	27.13	10.0	9.98	10.0	+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
Mid-Day pH (10) check	↓	32.09	10.0	10.10	10.0	+/- 0.1 SU	<input checked="" type="radio"/> Yes No	
ORP (mV)	21390149 11/23	26.7	228	225	228	+/- 20mV	<input checked="" type="radio"/> Yes No	
DO (%) (1pt, 100% water saturated air cal)			100%	99.39	100	+/- 6 % saturation	<input checked="" type="radio"/> Yes No	
Turbidity 0 NTU			0.0	0.0	0.0	+/- 0.5 NTU	<input checked="" type="radio"/> Yes No	
Turbidity 1 NTU			1.0	.89	.48	+/- 0.5 NTU	<input checked="" type="radio"/> Yes No	
Turbidity 10 NTU			10.0	10.6	10.4	+/- 0.5 NTU	<input checked="" type="radio"/> Yes No	

EQUIPMENT CALIBRATION LOG

Field Technician: Thomas Hessler

Date: 8/11/2012

Time (start): 0800

Time (finish): 0833

smarTroll SN: 550124

Turbidity Meter Type: Lanette 2020 w/c SN: 1475 41011

Weather Conditions: Rainy, 75°

Facility and Unit: Plant Hammond

Project No.: 640581

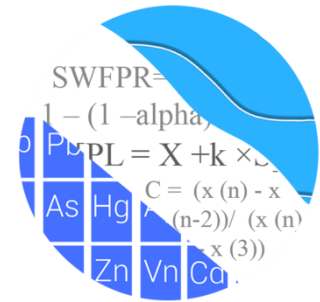
Calibration log

	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%	<input checked="" type="radio"/> Yes <input type="radio"/> No	
pH (4)			4.00	4.04	4.0	+/- 0.1 SU	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Mid-Day pH (4) check				4.01		+/- 0.1 SU	<input checked="" type="radio"/> Yes <input type="radio"/> No	
pH (7)	2216843 11/23	21.69	7.00	7.02	7.00	+/- 0.1 SU	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Mid-Day pH (7) check					6.97		+/- 0.1 SU	<input checked="" type="radio"/> Yes <input type="radio"/> No
pH (10)	2230202 12/23	24.38	10.00	9.93	10.0	+/- 0.1 SU	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Mid-Day pH (10) check					10.08		+/- 0.1 SU	<input checked="" type="radio"/> Yes <input type="radio"/> No
ORP (mV)	22700085 8/23	24.60	228	223.5	228	+/- 20mV	<input checked="" type="radio"/> Yes <input type="radio"/> No	
DO (%) (1pt, 100% water saturated air cal)			100	98.2	100	+/- 6% saturation	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Turbidity 0 NTU			0	1.07	0.0	+/- 0.5 NTU	<input type="radio"/> Yes <input type="radio"/> No	
Turbidity 1 NTU			1	1.10	1.05	+/- 0.5 NTU	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Turbidity 10 NTU			10	9.76	9.85	+/- 0.5 NTU	<input checked="" type="radio"/> Yes <input type="radio"/> No	

APPENDIX C

Statistical Analysis 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 3 (AP-3)
August 2023 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 analysis of groundwater data for Georgia Power Company's Plant Hammond AP-3. 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 the Coal Combustion Residuals (CCR) program in 2016, and at least 8 background samples have been collected at each of the groundwater monitoring wells, except for those discussed below. The monitoring well network, as provided by Southern Company Services, consists of the following:

- **Upgradient wells:** HGWA-1, HGWA-2, HGWA-3, HGWA-43D, HGWA-44D, HGWA-45D, and HGWA-122
- **Downgradient wells:** HGWC-120, HGWC-121A, HGWC-124, HGWC-125, and HGWC-126

New upgradient wells HGWA-43D, HGWA-44D, and HGWA-45D were first sampled in September 2020 and all available data are included in construction of interwell prediction limits. As requested by Southern Company Services, upgradient wells with 2 or more

samples will be incorporated into the statistical analyses. Sampling began at new downgradient wells HGWC-125 and HGWC-126 in May 2020 and also have at least 8 rounds of background sampling; therefore, they are statistically analyzed in this report with prediction limits and confidence intervals.

Data were sent electronically to Groundwater Stats Consulting, and the statistical analysis was reviewed by Andrew Collins, Project Manager of Groundwater Stats Consulting.

The 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

When no detections are present in downgradient wells for a given constituent, statistical analyses are not required. A summary of downgradient Appendix IV well/constituent pairs containing 100% non-detects follows this letter. These well/constituent pairs were included in the time series and box plots, but no formal statistics were required.

For all constituents, a substitution of the most recent reporting limit is used for non-detect data. In the case of lithium, historical reporting limits vary among the wells. Therefore, the reporting limit of 0.030 mg/L was 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 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 the following 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 (for data sets containing <15% non-detects as described above) are 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 March 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. Those findings were submitted with the screening report.

While this was not the case during the background screening, when the most recent value is identified as an outlier, values are not flagged in the database 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 existed in the data sets and appeared on the graphs as possible low outliers relative to the laboratory's Practical Quantitation Limit. However, these values were observed trace values (i.e., measurements reported between the Method Detection Limit and the Practical Quantitation Limit) by the laboratory and, therefore, were not flagged as outliers.

Of the outliers identified by Tukey's method, only one outlier was flagged for TDS in upgradient well HGWA-112. All other values are similar to remaining measurements within a given well or neighboring wells or were reported non-detects. The outlier summary follows this report (Figure C).

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.

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 Test Evaluation

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 showed one statistically significant decreasing trend for the Appendix III parameters. However, the trend noted was relatively low in magnitude when compared to average concentrations, and the background time 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 for each Appendix III parameter using all historical upgradient well data through August 2023 (Figure D). Interwell prediction limits use all available 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 the resample confirms the initial exceedance, a statistically significant increase (SSI) 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 further action is necessary. If no resample is collected, the initial exceedance is automatically confirmed. For Appendix III parameters, several prediction limit exceedances were identified. A summary table of the interwell prediction limits follows this letter. Exceedances were identified for the following well/constituent pairs:

- Boron: HGWC-120, HGWC-121A, and HGWC-125
- Calcium: HGWC-120, HGWC-121A, and HGWC-125
- Sulfate: HGWC-120, HGWC-121A, and HGWC-125
- TDS: HGWC-120, HGWC-121A, and HGWC-125

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 (Figure E). Upgradient well data 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 wells it is an indication of variability in groundwater quality unrelated to practices at the site. A summary of the trend test results follows this letter. Statistically significant trends were noted for the following well/constituent pairs:

Increasing trends:

- Boron: HGWA-2 (upgradient)
- Calcium: HGWA-3 (upgradient)
- Sulfate: HGWA-2 (upgradient)

Decreasing trends:

- Boron: HGWA-122 (upgradient), HGWC-43D (upgradient), HGWC-120, and HGWC-121A
- Calcium: HGWA-44D (upgradient) and HGWA-121A
- Sulfate: HGWA-122 (upgradient), HGWC-43D (upgradient), HGWC-120, and HGWC-121A
- TDS: HGWC-121A

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 (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 containing 100% non-detects do not require analyses.

Data from all wells for Appendix IV parameters are reassessed for outliers during each analysis. The highest value for lithium at upgradient well HGWA-44D was flagged in order to maintain conservative limits from a regulatory perspective. A summary of 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 of downgradient well data to GWPS, confidence intervals were constructed for the Appendix IV constituents in each downgradient well with detections (Figure H). Note that a GWPS is established for each Appendix IV constituent. However, since there are 100% non-detects for beryllium, cadmium, and thallium in downgradient wells, no confidence intervals were required for these constituents.

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 and 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-3. If you have any questions or comments, please feel free to contact us.

For Groundwater Stats Consulting,



Tristan Clark
Groundwater Analyst



Andrew Collins
Project Manager

100% Non-Detects: Appendix IV Downgradient

Analysis Run 10/19/2023 1:53 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-3

Beryllium (mg/L)

HGWC-120, HGWC-121A, HGWC-124, HGWC-125, HGWC-126

Cadmium (mg/L)

HGWC-120, HGWC-121A, HGWC-124, HGWC-125, HGWC-126

Cobalt (mg/L)

HGWC-124, HGWC-126

Mercury (mg/L)

HGWC-121A, HGWC-125, HGWC-126

Molybdenum (mg/L)

HGWC-121A, HGWC-126

Selenium (mg/L)

HGWC-125, HGWC-126

Thallium (mg/L)

HGWC-120, HGWC-121A, HGWC-124, HGWC-125, HGWC-126

Appendix III Interwell Prediction Limit - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-3 Printed 10/19/2023, 1:41 PM

Constituent	Well	Upper Lim	Lower Lim	Date	Obsrv.	Sig.	Bg	NBg	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	HGWC-120	0.55	n/a	8/10/2023	1	Yes	114	n/a	n/a	4.386	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-121A	0.55	n/a	8/10/2023	1.7	Yes	114	n/a	n/a	4.386	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-125	0.55	n/a	8/10/2023	1.6	Yes	114	n/a	n/a	4.386	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-120	138	n/a	8/10/2023	171	Yes	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-121A	138	n/a	8/10/2023	149	Yes	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-125	138	n/a	8/10/2023	173	Yes	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-120	89.9	n/a	8/10/2023	195	Yes	114	n/a	n/a	0.8772	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-121A	89.9	n/a	8/10/2023	138	Yes	114	n/a	n/a	0.8772	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-125	89.9	n/a	8/10/2023	290	Yes	114	n/a	n/a	0.8772	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-120	632	n/a	8/10/2023	661	Yes	113	n/a	n/a	0	n/a	n/a	n/a	0.0001555	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-121A	632	n/a	8/10/2023	642	Yes	113	n/a	n/a	0	n/a	n/a	n/a	0.0001555	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-125	632	n/a	8/10/2023	760	Yes	113	n/a	n/a	0	n/a	n/a	n/a	0.0001555	NP Inter (normality) 1 of 2

Appendix III Interwell Prediction Limit - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-3 Printed 10/19/2023, 1:41 PM

Constituent	Well	Upper Lim	Lower Lim	Date	Observ.	Sig.	Bg	NBg	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	HGWC-120	0.55	n/a	8/10/2023	1	Yes	114	n/a	n/a	4.386	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-121A	0.55	n/a	8/10/2023	1.7	Yes	114	n/a	n/a	4.386	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-124	0.55	n/a	8/11/2023	0.3	No	114	n/a	n/a	4.386	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-125	0.55	n/a	8/10/2023	1.6	Yes	114	n/a	n/a	4.386	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-126	0.55	n/a	8/11/2023	0.016J	No	114	n/a	n/a	4.386	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-120	138	n/a	8/10/2023	171	Yes	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-121A	138	n/a	8/10/2023	149	Yes	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-124	138	n/a	8/11/2023	97.8	No	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-125	138	n/a	8/10/2023	173	Yes	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-126	138	n/a	8/11/2023	131	No	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-120	44.8	n/a	8/10/2023	2.6	No	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-121A	44.8	n/a	8/10/2023	12.2	No	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-124	44.8	n/a	8/11/2023	2.1	No	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-125	44.8	n/a	8/10/2023	9	No	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-126	44.8	n/a	8/11/2023	8.1	No	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-120	1.3	n/a	8/10/2023	0.36	No	128	n/a	n/a	21.88	n/a	n/a	n/a	0.0001209	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-121A	1.3	n/a	8/10/2023	0.18	No	128	n/a	n/a	21.88	n/a	n/a	n/a	0.0001209	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-124	1.3	n/a	8/11/2023	0.1ND	No	128	n/a	n/a	21.88	n/a	n/a	n/a	0.0001209	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-125	1.3	n/a	8/10/2023	0.15	No	128	n/a	n/a	21.88	n/a	n/a	n/a	0.0001209	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-126	1.3	n/a	8/11/2023	0.49	No	128	n/a	n/a	21.88	n/a	n/a	n/a	0.0001209	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-120	8.25	4.57	8/10/2023	6.96	No	127	n/a	n/a	0	n/a	n/a	n/a	0.0002454	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-121A	8.25	4.57	8/10/2023	6.89	No	127	n/a	n/a	0	n/a	n/a	n/a	0.0002454	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-124	8.25	4.57	8/11/2023	7.2	No	127	n/a	n/a	0	n/a	n/a	n/a	0.0002454	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-125	8.25	4.57	8/10/2023	6.29	No	127	n/a	n/a	0	n/a	n/a	n/a	0.0002454	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-126	8.25	4.57	8/11/2023	6.95	No	127	n/a	n/a	0	n/a	n/a	n/a	0.0002454	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-120	89.9	n/a	8/10/2023	195	Yes	114	n/a	n/a	0.8772	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-121A	89.9	n/a	8/10/2023	138	Yes	114	n/a	n/a	0.8772	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-124	89.9	n/a	8/11/2023	67.6	No	114	n/a	n/a	0.8772	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-125	89.9	n/a	8/10/2023	290	Yes	114	n/a	n/a	0.8772	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-126	89.9	n/a	8/11/2023	60.5	No	114	n/a	n/a	0.8772	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-120	632	n/a	8/10/2023	661	Yes	113	n/a	n/a	0	n/a	n/a	n/a	0.0001555	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-121A	632	n/a	8/10/2023	642	Yes	113	n/a	n/a	0	n/a	n/a	n/a	0.0001555	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-124	632	n/a	8/11/2023	361	No	113	n/a	n/a	0	n/a	n/a	n/a	0.0001555	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-125	632	n/a	8/10/2023	760	Yes	113	n/a	n/a	0	n/a	n/a	n/a	0.0001555	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-126	632	n/a	8/11/2023	535	No	113	n/a	n/a	0	n/a	n/a	n/a	0.0001555	NP Inter (normality) 1 of 2

Appendix III Trend Tests - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-3 Printed 10/19/2023, 1:43 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	HGWA-122 (bg)	-0.0212	-108	-74	Yes	19	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWA-2 (bg)	0.002577	142	87	Yes	21	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWA-43D (bg)	-0.007982	-31	-30	Yes	10	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWC-120	-0.04139	-96	-81	Yes	20	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWC-121A	-0.2349	-123	-74	Yes	19	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-3 (bg)	1.995	116	92	Yes	22	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-44D (bg)	-7.57	-31	-30	Yes	10	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWC-121A	-5.757	-95	-74	Yes	19	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-122 (bg)	-1.842	-107	-74	Yes	19	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-2 (bg)	2.095	138	87	Yes	21	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-43D (bg)	-3.197	-35	-30	Yes	10	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-120	-15.29	-122	-81	Yes	20	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-121A	-24.32	-125	-74	Yes	19	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWC-121A	-45.43	-111	-74	Yes	19	5.263	n/a	n/a	0.01	NP

Appendix III Trend Tests - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-3 Printed 10/19/2023, 1:43 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	HGWA-1 (bg)	-0.0002605	-21	-92	No	22	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWA-122 (bg)	-0.0212	-108	-74	Yes	19	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWA-2 (bg)	0.002577	142	87	Yes	21	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWA-3 (bg)	0.0003424	32	92	No	22	18.18	n/a	n/a	0.01	NP
Boron (mg/L)	HGWA-43D (bg)	-0.007982	-31	-30	Yes	10	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWA-44D (bg)	0.09068	29	30	No	10	10	n/a	n/a	0.01	NP
Boron (mg/L)	HGWA-45D (bg)	-0.01031	-19	-30	No	10	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWC-120	-0.04139	-96	-81	Yes	20	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWC-121A	-0.2349	-123	-74	Yes	19	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWC-125	0	12	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-1 (bg)	2.19	78	92	No	22	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-122 (bg)	-2.333	-57	-74	No	19	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-2 (bg)	1.082	82	87	No	21	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-3 (bg)	1.995	116	92	Yes	22	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-43D (bg)	-3.038	-25	-30	No	10	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-44D (bg)	-7.57	-31	-30	Yes	10	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-45D (bg)	-2.901	-29	-30	No	10	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWC-120	0.8032	33	81	No	20	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWC-121A	-5.757	-95	-74	Yes	19	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWC-125	2.959	7	43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-1 (bg)	1.304	38	92	No	22	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-122 (bg)	-1.842	-107	-74	Yes	19	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-2 (bg)	2.095	138	87	Yes	21	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-3 (bg)	0.1933	13	92	No	22	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-43D (bg)	-3.197	-35	-30	Yes	10	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-44D (bg)	0.3314	1	30	No	10	10	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-45D (bg)	-2.97	-23	-30	No	10	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-120	-15.29	-122	-81	Yes	20	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-121A	-24.32	-125	-74	Yes	19	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-125	-16.05	-33	-43	No	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-1 (bg)	4.498	33	92	No	22	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-122 (bg)	-8.295	-55	-68	No	18	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-2 (bg)	3.534	35	87	No	21	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-3 (bg)	1.304	29	92	No	22	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-43D (bg)	-4.269	-13	-30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-44D (bg)	32.23	25	30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-45D (bg)	-4.62	-9	-30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWC-120	-12.98	-74	-74	No	19	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWC-121A	-45.43	-111	-74	Yes	19	5.263	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWC-125	-4.08	-5	-43	No	13	0	n/a	n/a	0.01	NP

Upper Tolerance Limit Summary Table

Plant Hammond Client: Southern Company Data: Hammond AP-3 Printed 10/25/2023, 6:25 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	113	86.73	n/a	n/a	0.003039	NP Inter(NDs)
Arsenic (mg/L)	0.005	n/a	n/a	n/a	111	72.97	n/a	n/a	0.003368	NP Inter(NDs)
Barium (mg/L)	0.64	n/a	n/a	n/a	121	0.8264	n/a	n/a	0.002016	NP Inter(normality)
Beryllium (mg/L)	0.0005	n/a	n/a	n/a	113	83.19	n/a	n/a	0.003039	NP Inter(NDs)
Cadmium (mg/L)	0.0005	n/a	n/a	n/a	111	88.29	n/a	n/a	0.003368	NP Inter(NDs)
Chromium (mg/L)	0.0079	n/a	n/a	n/a	115	80.87	n/a	n/a	0.002743	NP Inter(NDs)
Cobalt (mg/L)	0.038	n/a	n/a	n/a	121	77.69	n/a	n/a	0.002016	NP Inter(NDs)
Combined Radium 226 + 228 (pCi/L)	1.615	n/a	n/a	n/a	114	0	None	sqrt(x)	0.05	Inter
Fluoride (mg/L)	1.3	n/a	n/a	n/a	128	21.88	n/a	n/a	0.001408	NP Inter(normality)
Lead (mg/L)	0.001	n/a	n/a	n/a	115	71.3	n/a	n/a	0.002743	NP Inter(NDs)
Lithium (mg/L)	0.064	n/a	n/a	n/a	120	31.67	n/a	n/a	0.002122	NP Inter(normality)
Mercury (mg/L)	0.0002	n/a	n/a	n/a	93	94.62	n/a	n/a	0.008478	NP Inter(NDs)
Molybdenum (mg/L)	0.01	n/a	n/a	n/a	123	65.85	n/a	n/a	0.00182	NP Inter(NDs)
Selenium (mg/L)	0.005	n/a	n/a	n/a	111	97.3	n/a	n/a	0.003368	NP Inter(NDs)
Thallium (mg/L)	0.001	n/a	n/a	n/a	111	99.1	n/a	n/a	0.003368	NP Inter(NDs)

PLANT HAMMOND AP-3 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		0.64	2
Beryllium, Total (mg/L)	0.004		0.0005	0.004
Cadmium, Total (mg/L)	0.005		0.0005	0.005
Chromium, Total (mg/L)	0.1		0.0079	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.038	0.038
Combined Radium, Total (pCi/L)	5		1.62	5
Fluoride, Total (mg/L)	4		1.3	4
Lead, Total (mg/L)	n/a	0.015	0.001	0.015
Lithium, Total (mg/L)	n/a	0.040	0.064	0.064
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

**Grey cell indicates background is higher than MCL or CCR-Rule*

**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-3 Printed 10/26/2023, 11:14 AM

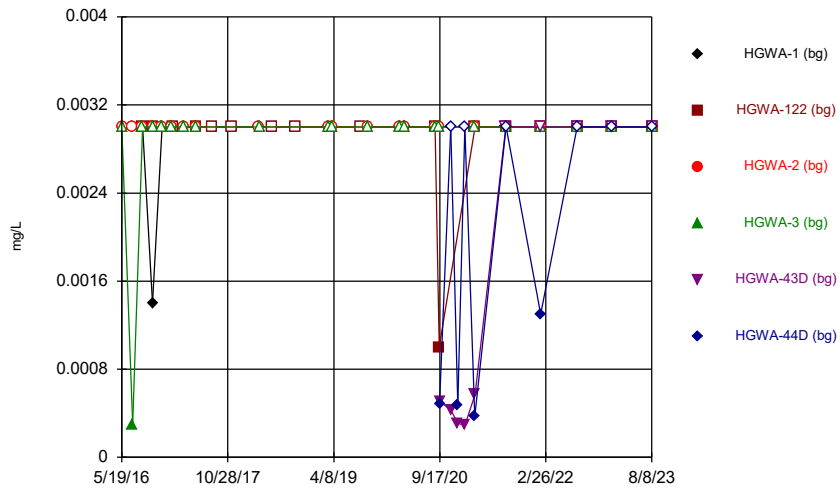
Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	HGWC-120	0.003	0.0018	0.006	No	17	94.12	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-121A	0.003	0.0016	0.006	No	17	94.12	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-124	0.003	0.0018	0.006	No	17	94.12	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-125	0.003	0.00061	0.006	No	13	84.62	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-126	0.003	0.00043	0.006	No	13	84.62	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-120	0.005	0.0014	0.01	No	15	66.67	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-121A	0.005	0.0014	0.01	No	15	80	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-124	0.005	0.0006	0.01	No	15	93.33	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-125	0.005	0.0014	0.01	No	12	75	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-126	0.005	0.00091	0.01	No	12	75	None	No	0.01	NP (NDs)
Barium (mg/L)	HGWC-120	0.05137	0.04663	2	No	19	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-121A	0.07825	0.06265	2	No	19	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-124	0.07221	0.06677	2	No	19	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-125	0.04552	0.04048	2	No	13	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-126	0.2525	0.2275	2	No	13	0	None	No	0.01	Param.
Chromium (mg/L)	HGWC-120	0.005	0.0015	0.1	No	19	84.21	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-121A	0.005	0.0005	0.1	No	19	94.74	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-124	0.005	0.00051	0.1	No	19	89.47	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-125	0.005	0.00058	0.1	No	13	76.92	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-126	0.005	0.0014	0.1	No	13	84.62	None	No	0.01	NP (NDs)
Cobalt (mg/L)	HGWC-120	0.004651	0.003159	0.038	No	19	0	None	No	0.01	Param.
Cobalt (mg/L)	HGWC-121A	0.005	0.0005	0.038	No	19	84.21	None	No	0.01	NP (NDs)
Cobalt (mg/L)	HGWC-125	0.01233	0.008206	0.038	No	13	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-120	1.058	0.6576	5	No	18	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-121A	1.11	0.515	5	No	18	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-124	0.8578	0.5463	5	No	18	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-125	1.344	0.7048	5	No	12	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-126	1.692	1.073	5	No	12	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-120	0.65	0.37	4	No	22	0	None	No	0.01	NP (normality)
Fluoride (mg/L)	HGWC-121A	0.19	0.15	4	No	20	0	None	No	0.01	NP (normality)
Fluoride (mg/L)	HGWC-124	0.11	0.078	4	No	20	40	None	No	0.01	NP (normality)
Fluoride (mg/L)	HGWC-125	0.1673	0.122	4	No	13	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-126	0.5072	0.4451	4	No	13	0	None	No	0.01	Param.
Lead (mg/L)	HGWC-120	0.001	0.0002	0.015	No	19	84.21	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-121A	0.001	0.00036	0.015	No	19	84.21	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-124	0.001	0.00008	0.015	No	19	73.68	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-125	0.001	0.000047	0.015	No	13	61.54	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-126	0.001	0.000045	0.015	No	13	76.92	None	No	0.01	NP (NDs)
Lithium (mg/L)	HGWC-120	0.0337	0.023	0.064	No	19	0	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-121A	0.008798	0.007518	0.064	No	19	0	None	No	0.01	Param.
Lithium (mg/L)	HGWC-124	0.03	0.001	0.064	No	19	26.32	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-125	0.005518	0.003882	0.064	No	13	0	None	No	0.01	Param.
Lithium (mg/L)	HGWC-126	0.004187	0.003367	0.064	No	13	0	None	No	0.01	Param.
Mercury (mg/L)	HGWC-120	0.0002	0.00007	0.002	No	15	86.67	None	No	0.01	NP (NDs)
Mercury (mg/L)	HGWC-124	0.0002	0.000051	0.002	No	15	93.33	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	HGWC-120	0.03689	0.02719	0.1	No	19	0	None	No	0.01	Param.
Molybdenum (mg/L)	HGWC-124	0.01	0.00092	0.1	No	19	42.11	None	No	0.01	NP (normality)
Molybdenum (mg/L)	HGWC-125	0.007728	0.001411	0.1	No	13	23.08	Kaplan-Meier	sqrt(x)	0.01	Param.
Selenium (mg/L)	HGWC-120	0.005	0.002	0.05	No	15	93.33	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-121A	0.005	0.0011	0.05	No	15	93.33	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-124	0.005	0.0014	0.05	No	15	93.33	None	No	0.01	NP (NDs)

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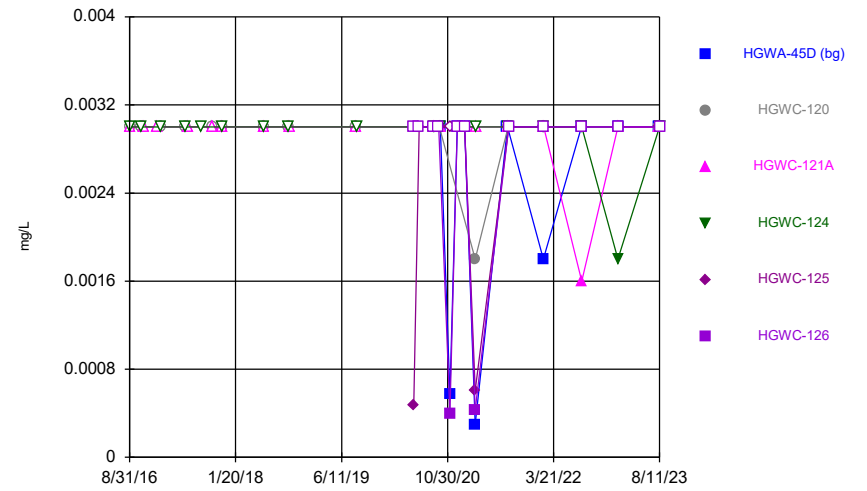
FIGURE A.

Time Series



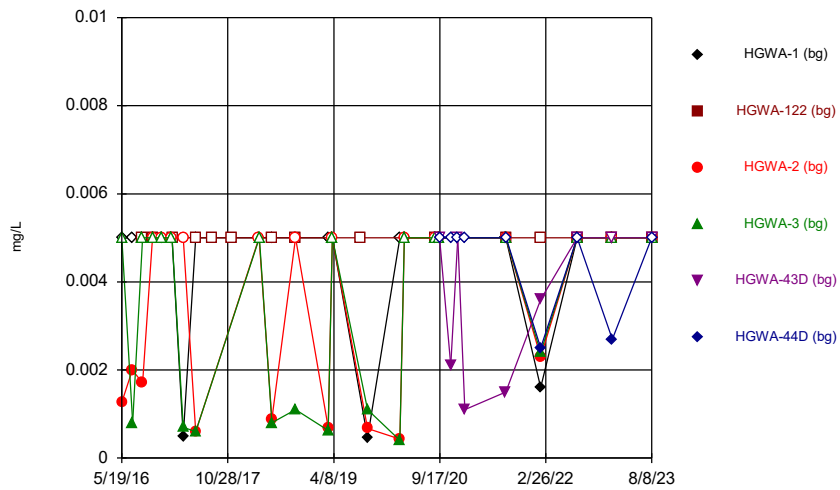
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Time Series



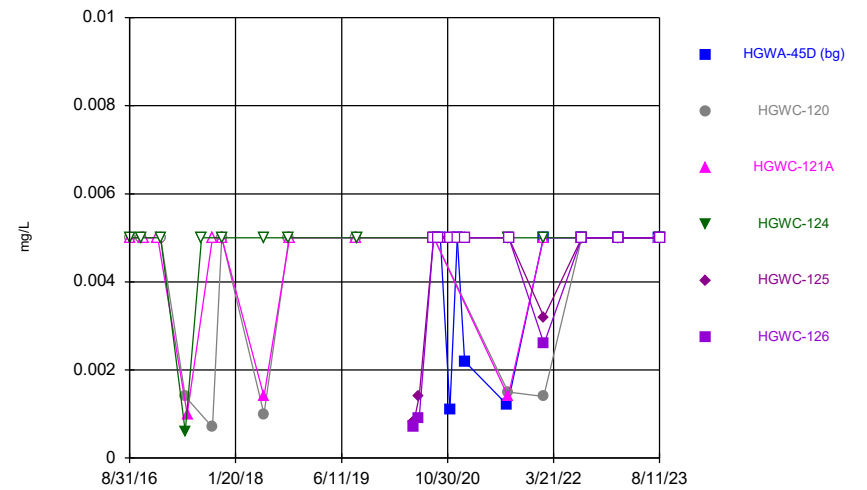
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Time Series



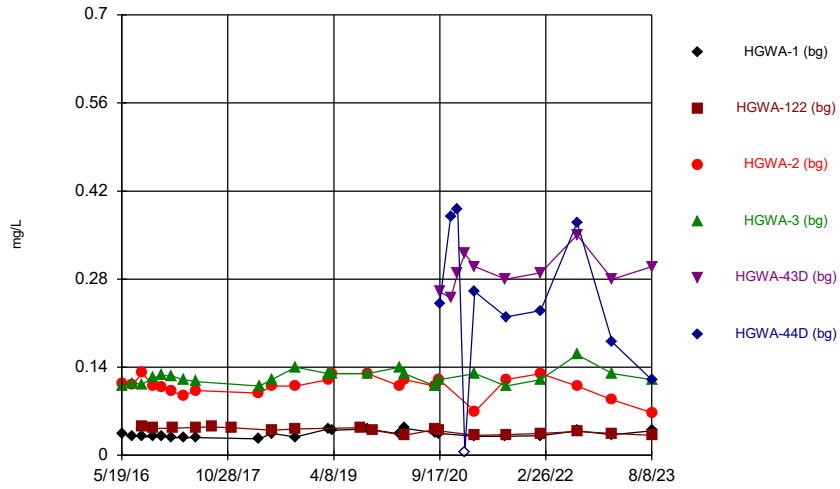
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Time Series



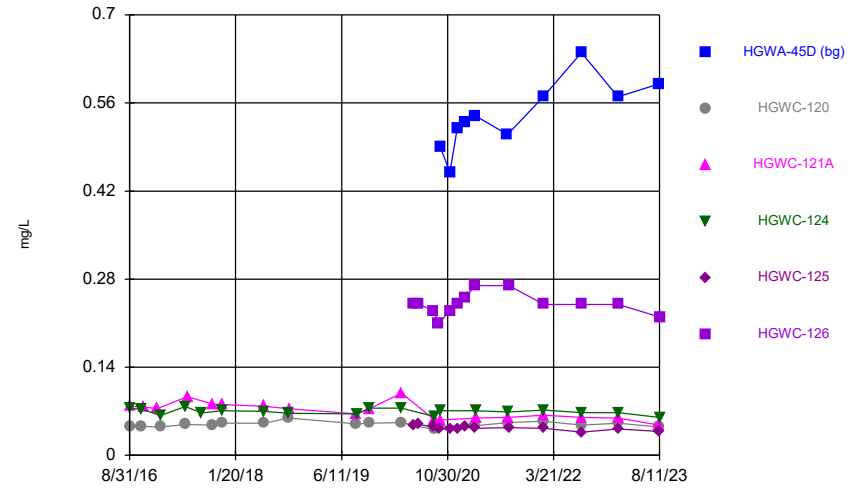
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Time Series



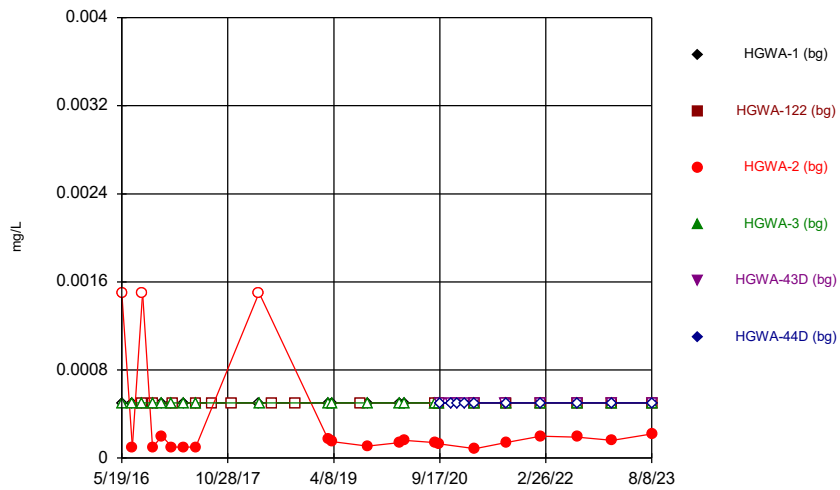
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Time Series



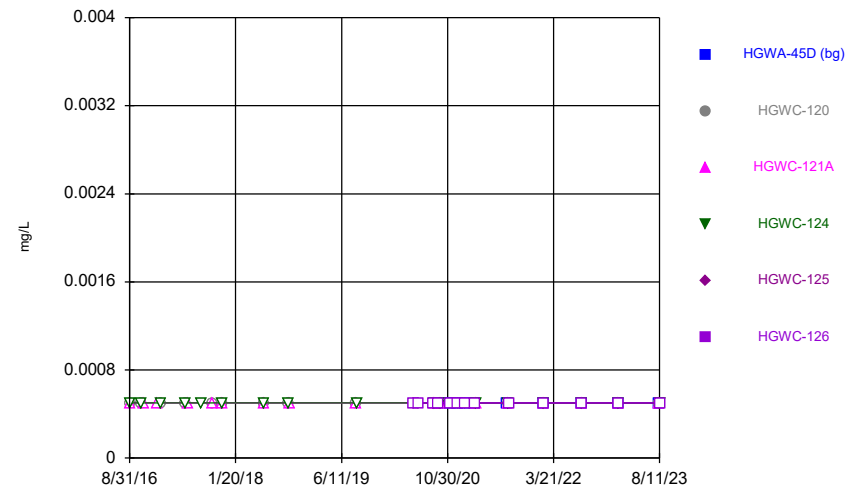
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Time Series



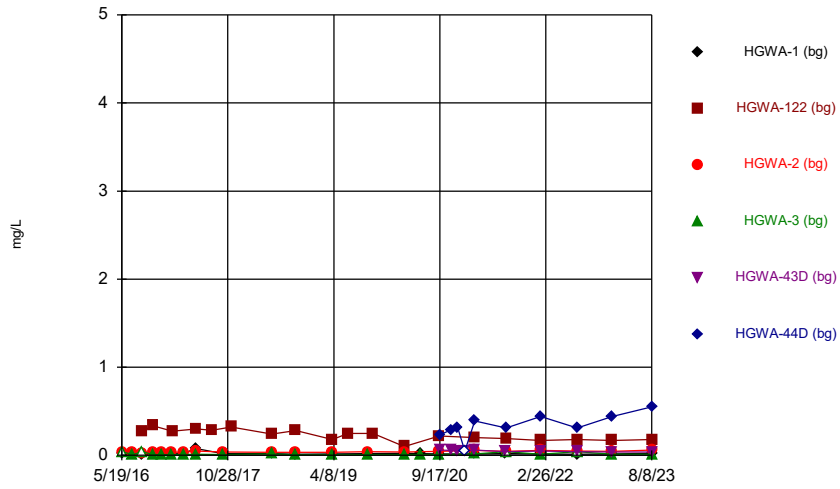
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Time Series



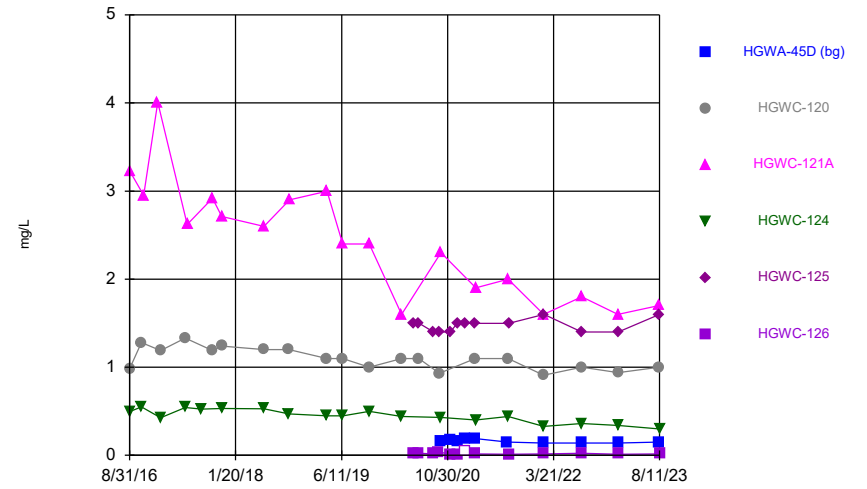
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Time Series



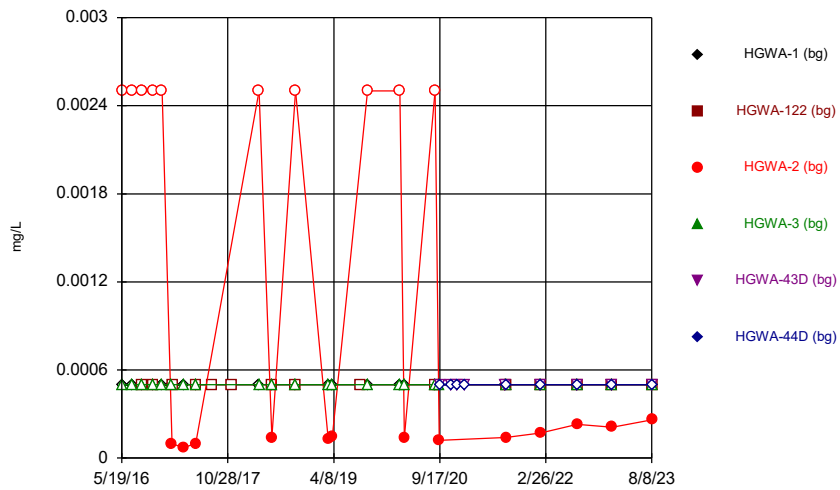
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Time Series



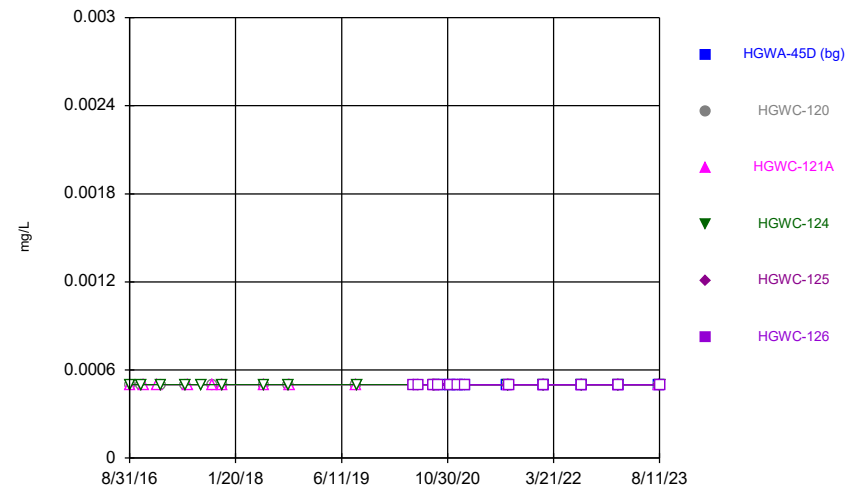
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Time Series



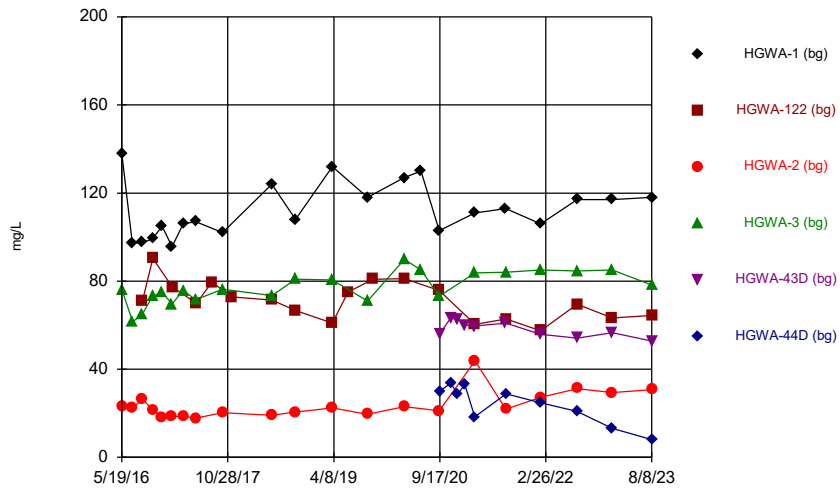
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Time Series



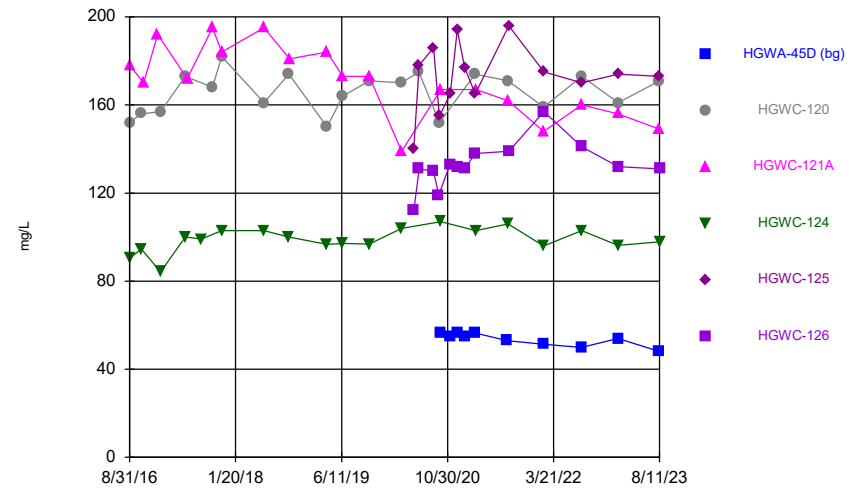
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Time Series



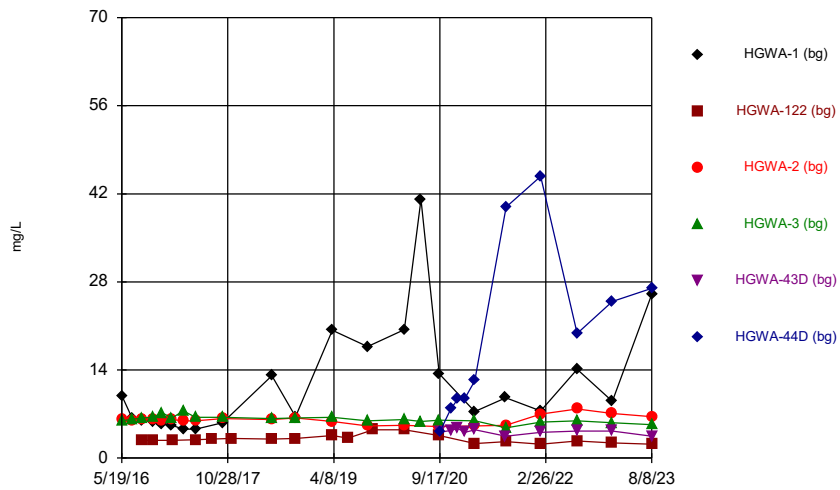
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Time Series



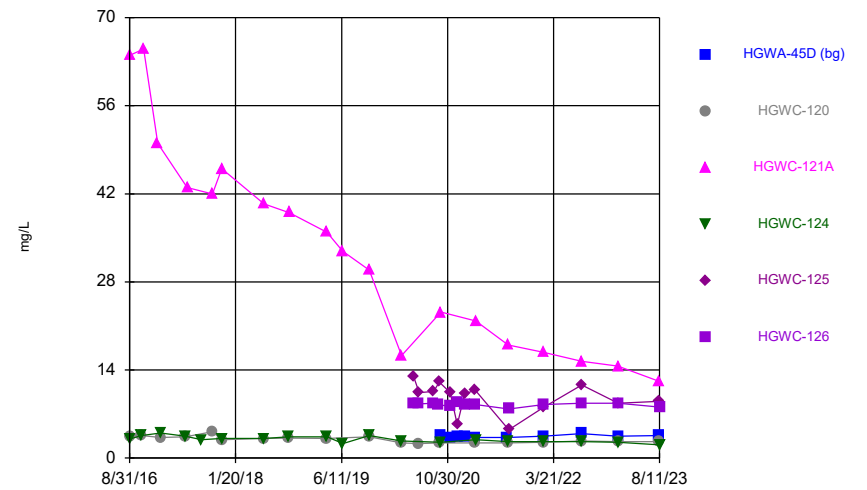
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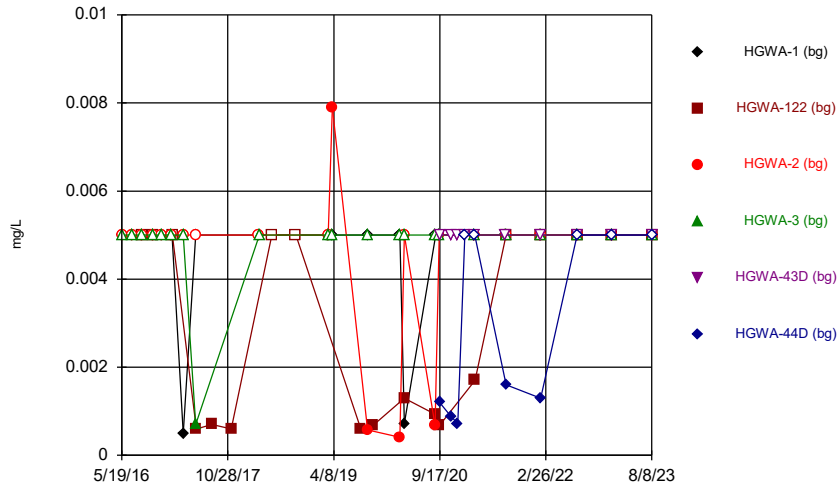
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Time Series



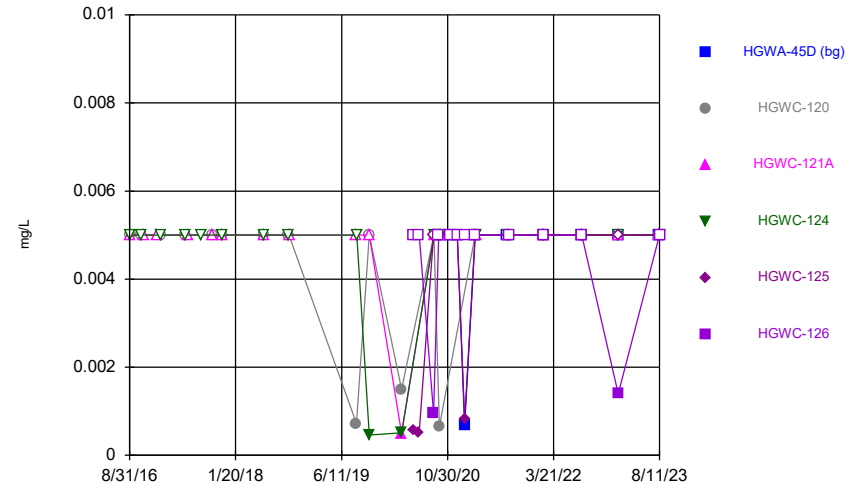
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Time Series



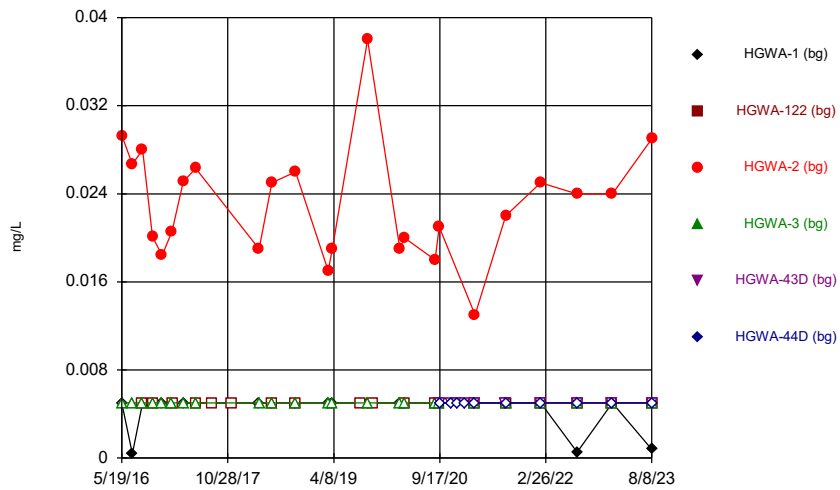
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Time Series



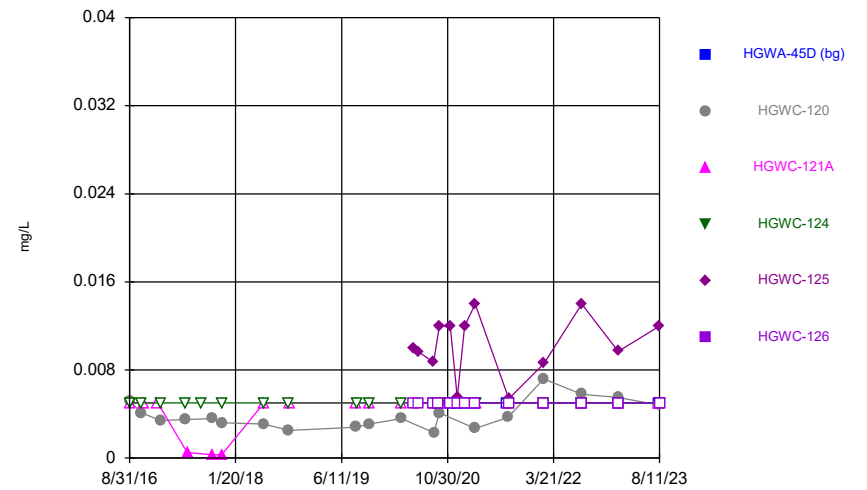
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Time Series



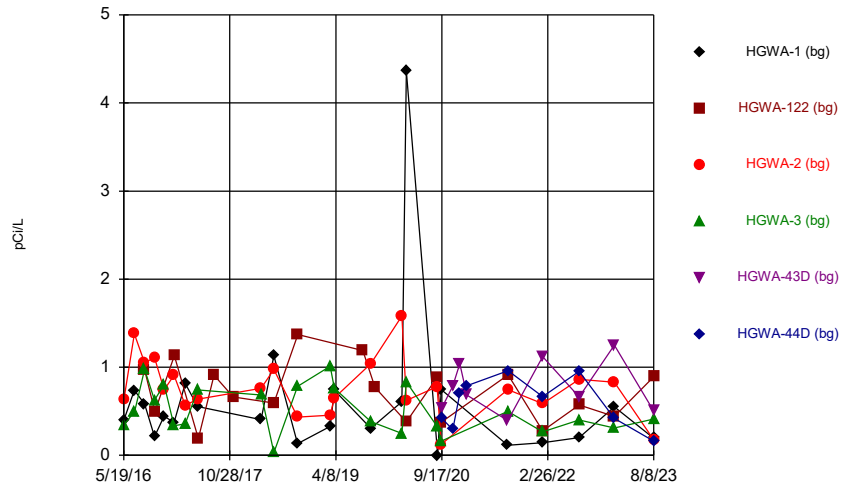
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Time Series



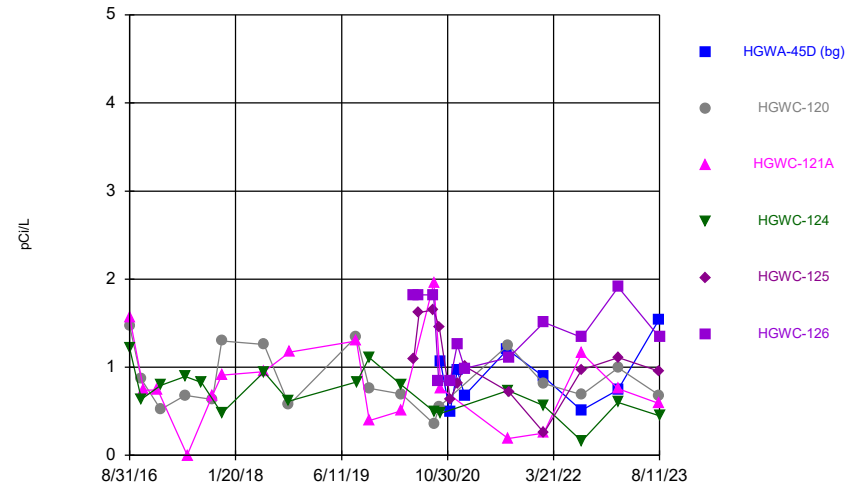
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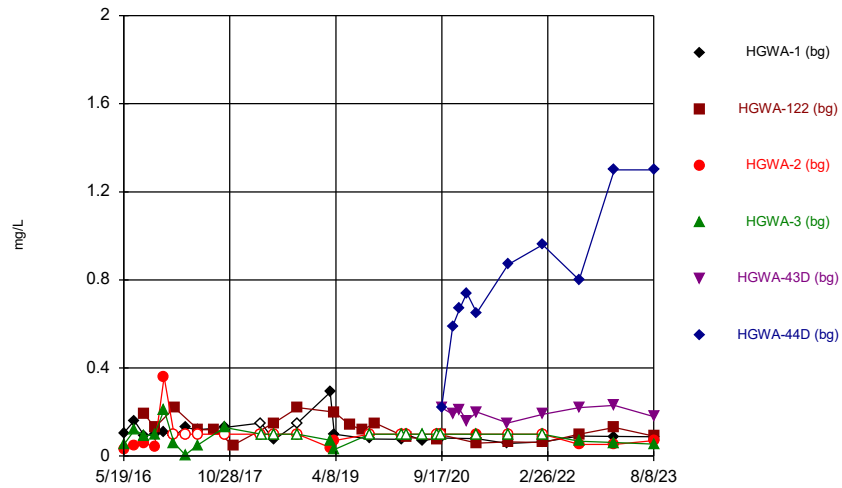
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Time Series



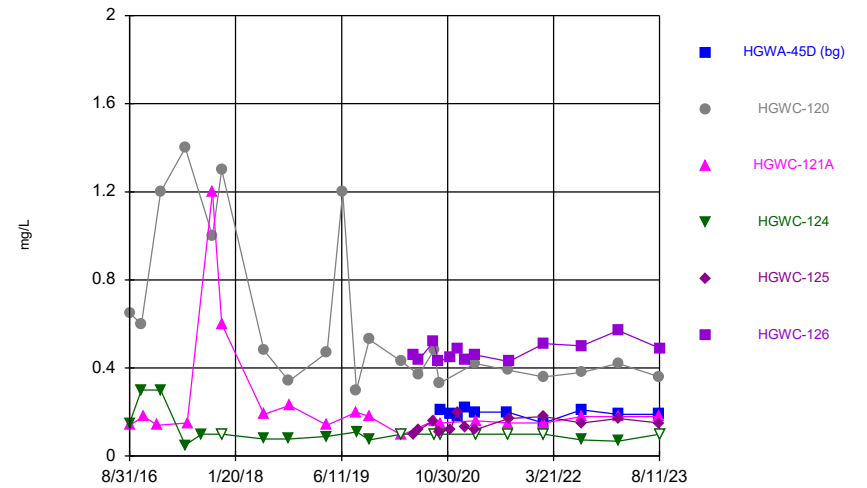
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Time Series



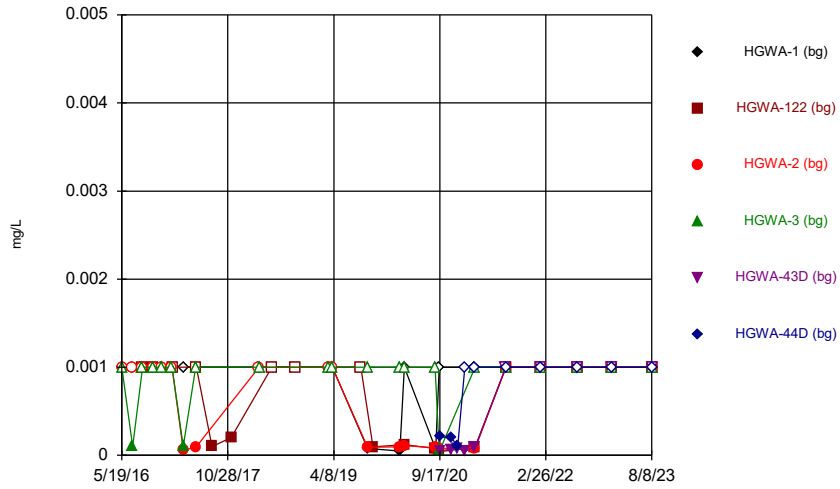
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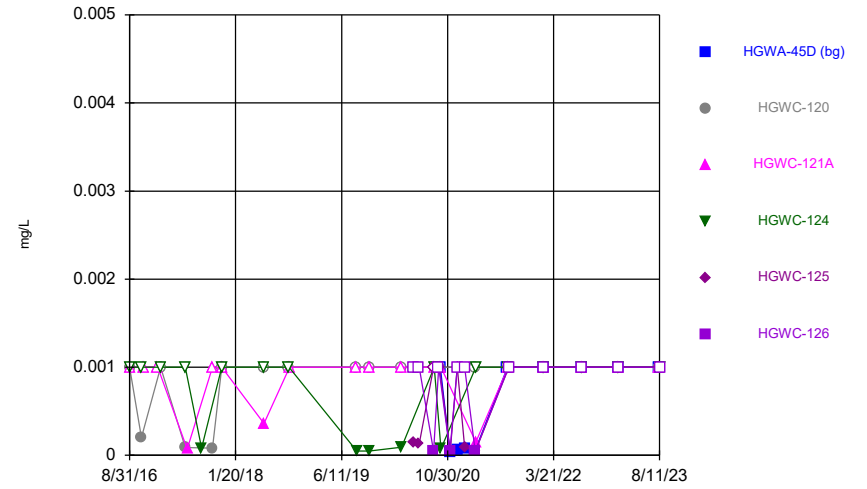
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Time Series



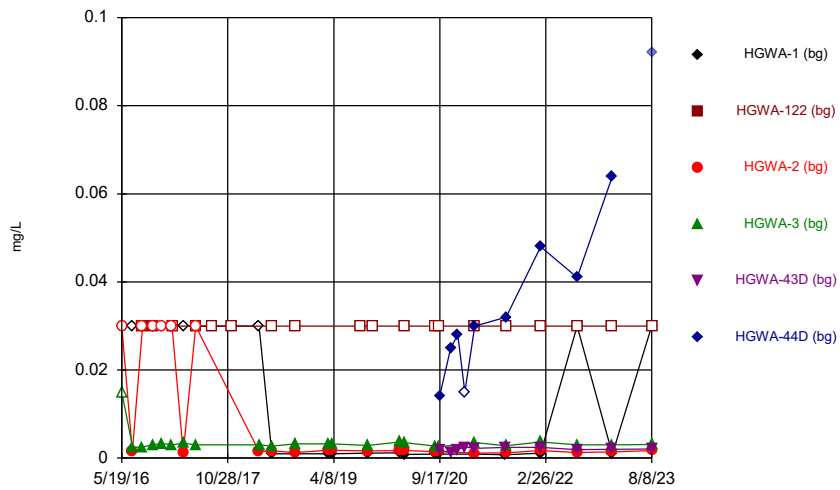
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Time Series



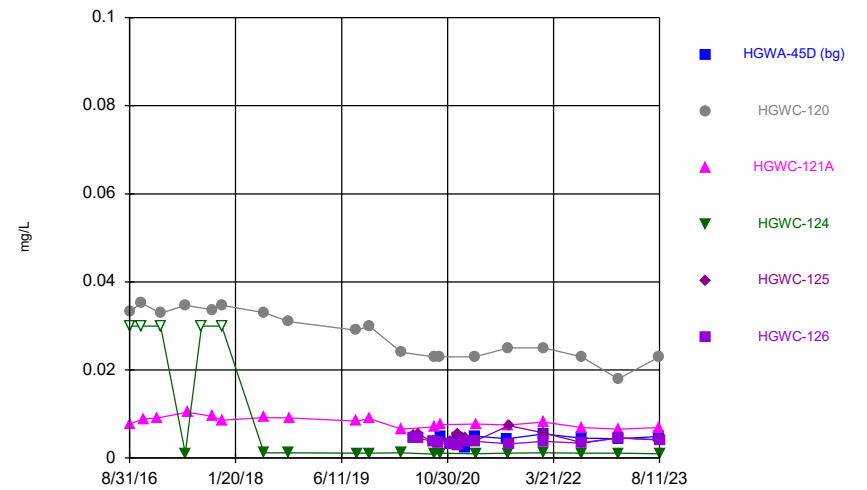
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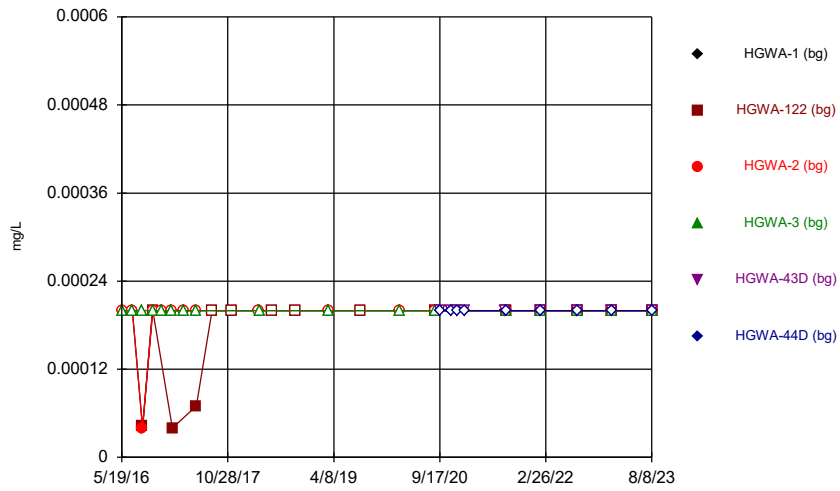
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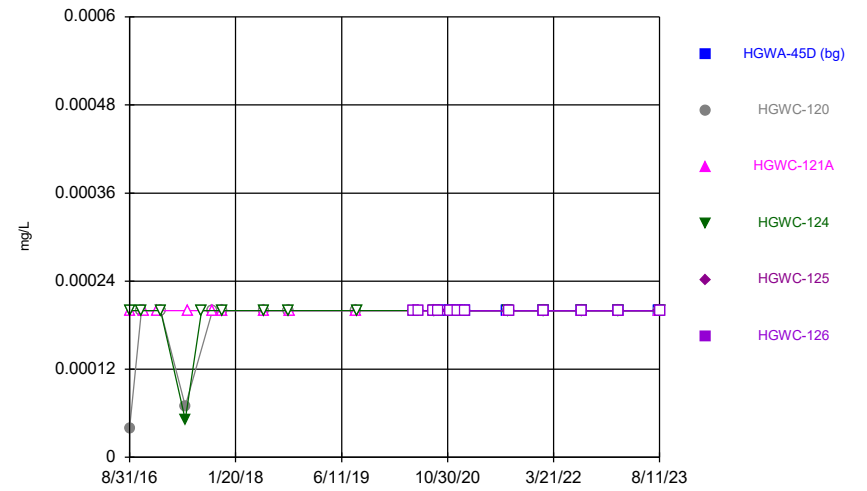
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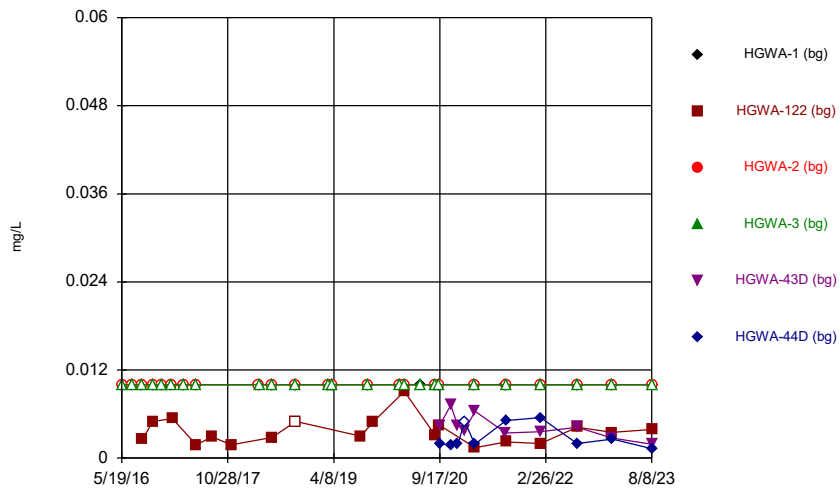
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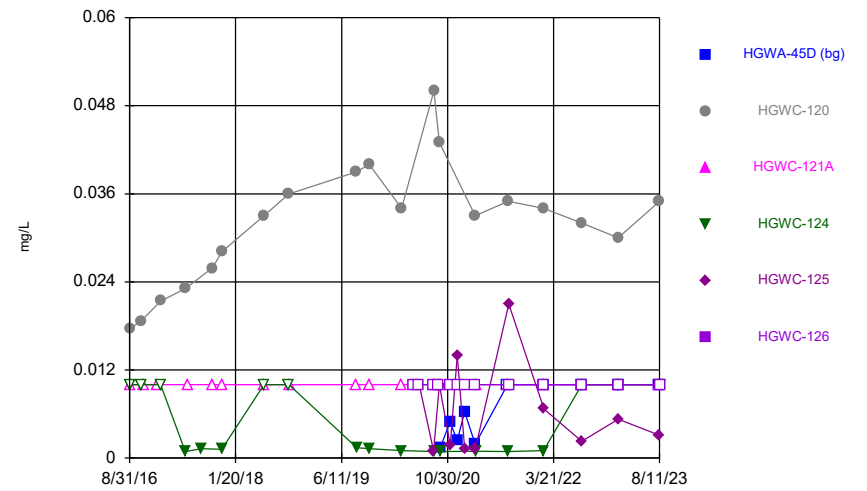
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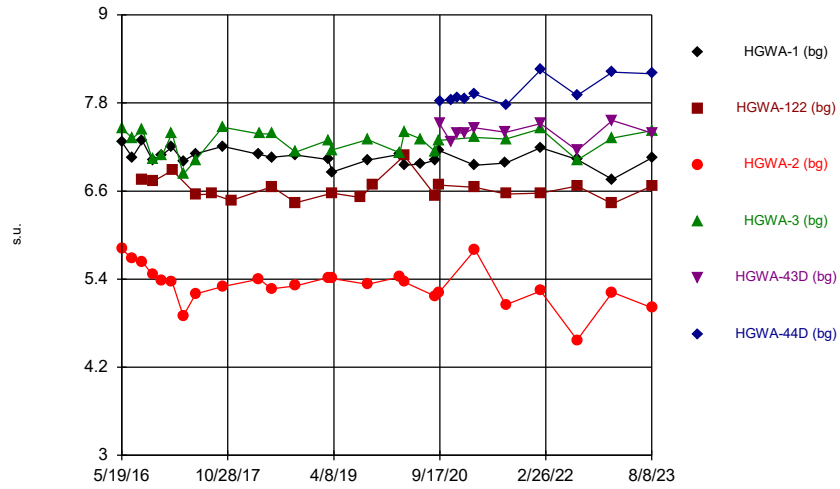
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Time Series



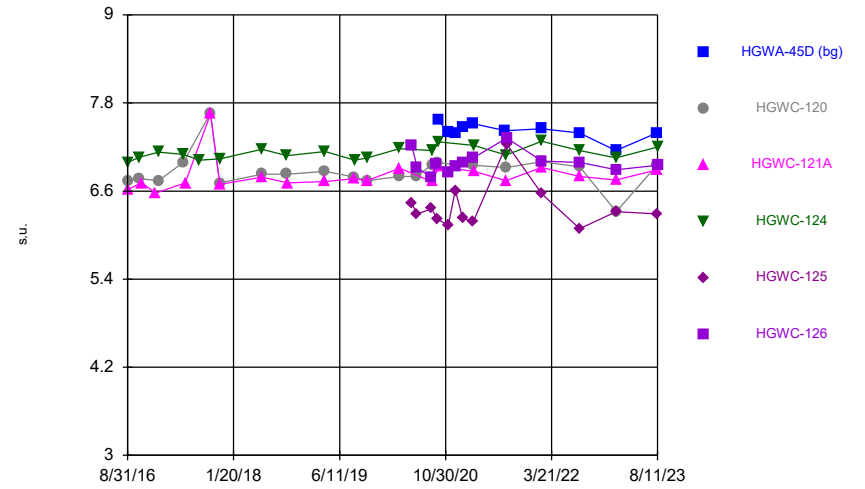
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Time Series



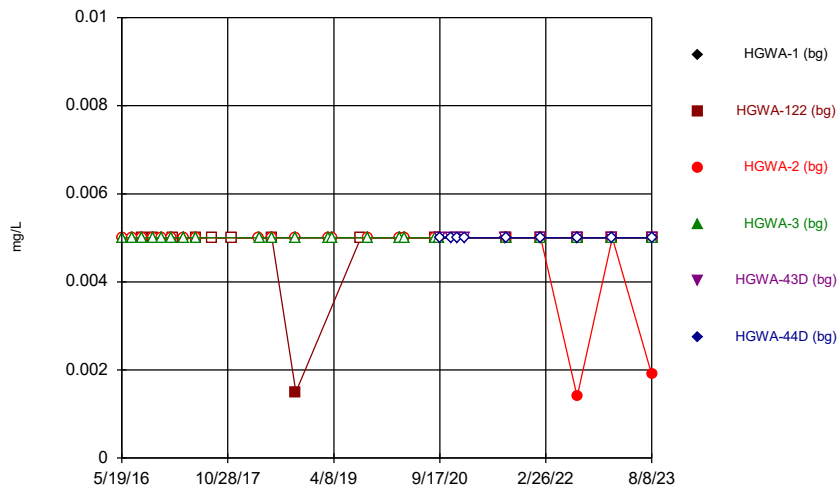
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Time Series



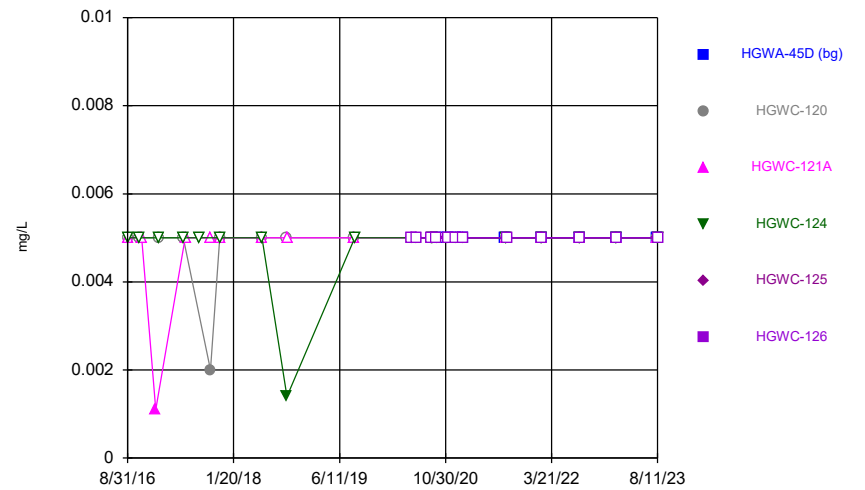
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Plant Hammond Client: Southern Company Data: Hammond AP-3

Time Series



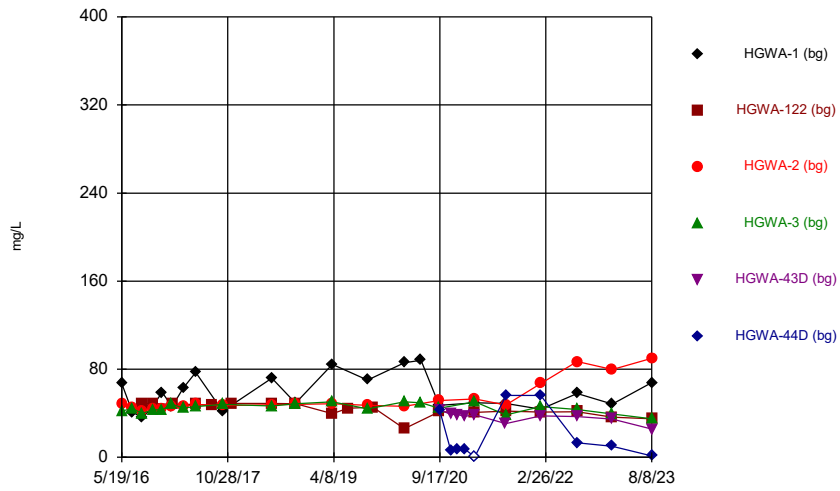
Constituent: Selenium Analysis Run 10/25/2023 6:22 PM View: Time Series & Box Plot
Plant Hammond Client: Southern Company Data: Hammond AP-3

Time Series



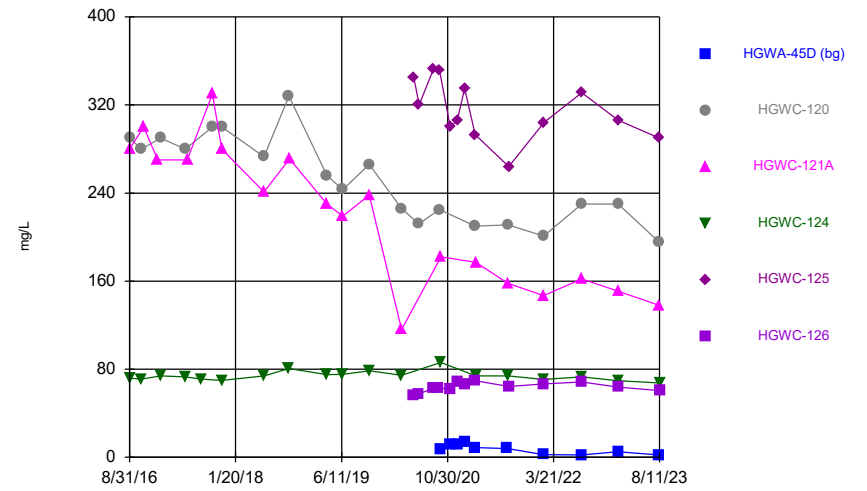
Constituent: Selenium Analysis Run 10/25/2023 6:22 PM View: Time Series & Box Plot
Plant Hammond Client: Southern Company Data: Hammond AP-3

Time Series



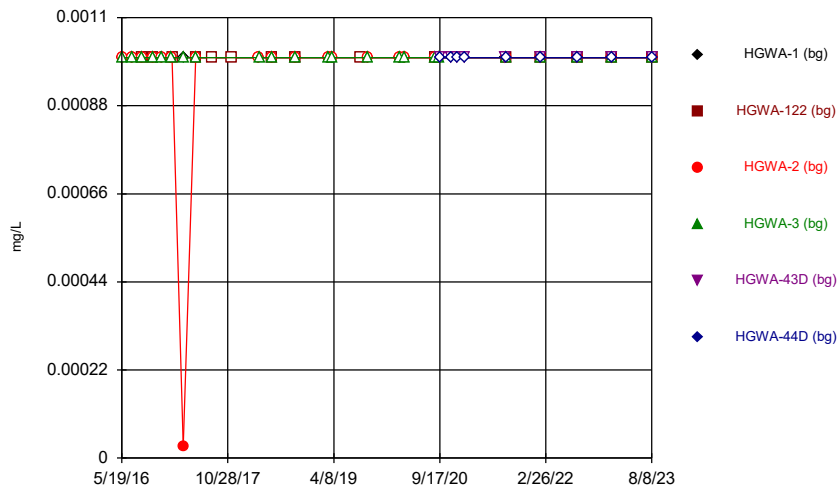
Constituent: Sulfate Analysis Run 10/25/2023 6:22 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Time Series



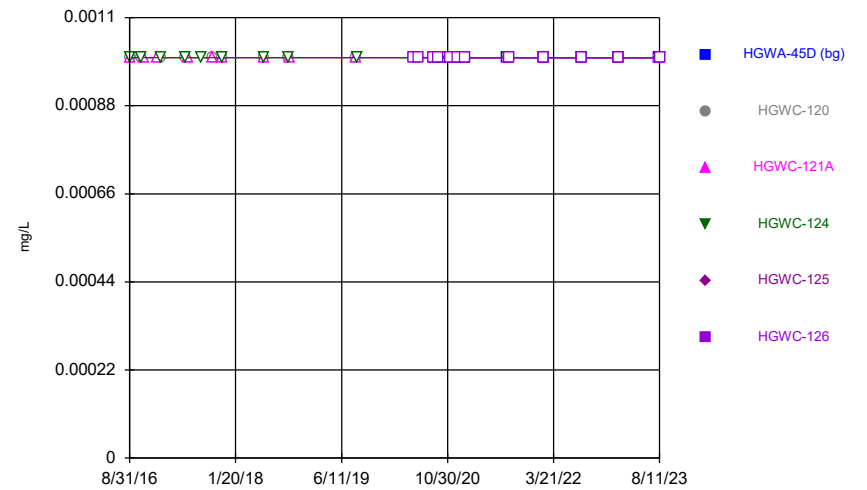
Constituent: Sulfate Analysis Run 10/25/2023 6:22 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Time Series



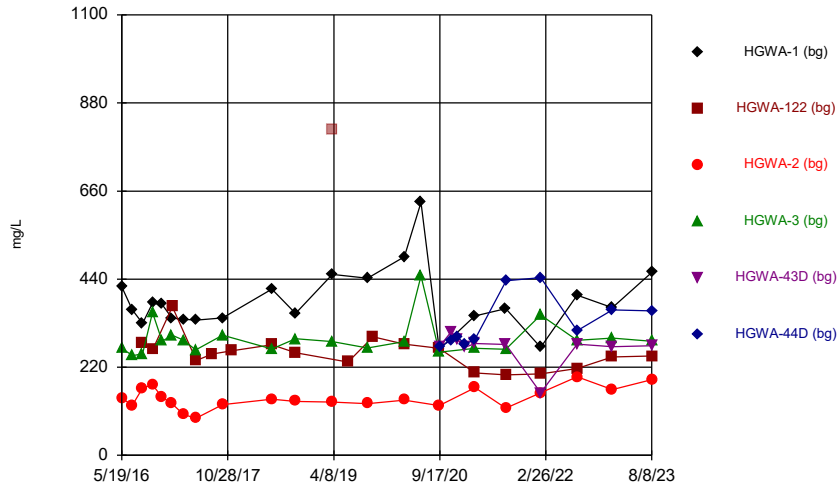
Constituent: Thallium Analysis Run 10/25/2023 6:22 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Time Series



Constituent: Thallium Analysis Run 10/25/2023 6:22 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

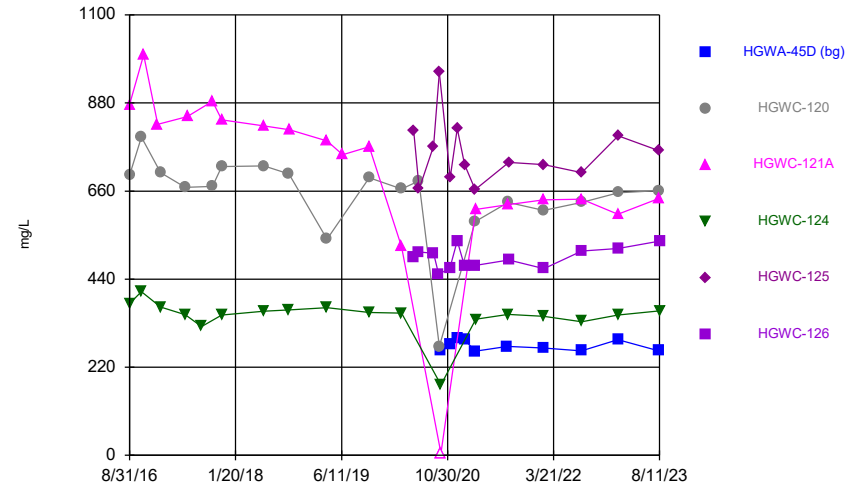
Time Series



Constituent: Total Dissolved Solids Analysis Run 10/25/2023 6:22 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Hollow symbols indicate censored values.

Time Series



Constituent: Total Dissolved Solids Analysis Run 10/25/2023 6:22 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Time Series

Constituent: Antimony (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-122 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-43D (bg)	HGWA-44D (bg)
5/19/2016	<0.003		<0.003	<0.003		
7/11/2016	<0.003		<0.003			
7/12/2016				0.0003 (J)		
8/30/2016	<0.003	<0.003	<0.003	<0.003		
10/19/2016	0.0014 (J)		<0.003	<0.003		
10/20/2016		<0.003				
12/6/2016	<0.003		<0.003	<0.003		
1/24/2017	<0.003		<0.003	<0.003		
1/25/2017		<0.003				
3/21/2017	<0.003		<0.003	<0.003		
5/22/2017	<0.003		<0.003	<0.003		
5/25/2017		<0.003				
8/11/2017		<0.003				
11/15/2017		<0.003				
4/2/2018	<0.003		<0.003			
4/3/2018				<0.003		
6/5/2018		<0.003				
10/2/2018		<0.003				
3/12/2019	<0.003		<0.003	<0.003		
4/1/2019				<0.003		
4/2/2019	<0.003		<0.003			
8/22/2019		<0.003				
9/23/2019	<0.003		<0.003	<0.003		
3/2/2020	<0.003		<0.003	<0.003		
3/25/2020	<0.003		<0.003	<0.003		
8/24/2020		<0.003				
8/25/2020			<0.003	<0.003		
8/28/2020	<0.003					
9/15/2020	<0.003	0.001 (J)	<0.003	<0.003		
9/16/2020					0.00051 (J)	0.00049 (J)
11/10/2020					0.00043 (J)	<0.003
12/15/2020					0.00031 (J)	0.00047 (J)
1/19/2021					0.00029 (J)	<0.003
3/10/2021	<0.003					0.00037 (J)
3/11/2021		<0.003	<0.003	<0.003	0.00057 (J)	
8/11/2021	<0.003				<0.003	
8/12/2021			<0.003	<0.003		
8/13/2021		<0.003				<0.003
2/1/2022	<0.003	<0.003	<0.003	<0.003	<0.003	0.0013 (J)
8/2/2022	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
1/23/2023				<0.003		
1/24/2023	<0.003	<0.003	<0.003		<0.003	<0.003
8/8/2023	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003

Time Series

Constituent: Antimony (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-45D (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016		<0.003	<0.003	<0.003		
10/26/2016		<0.003		<0.003		
11/7/2016			<0.003			
1/13/2017			<0.003			
1/27/2017		<0.003		<0.003		
5/25/2017		<0.003		<0.003		
6/3/2017			<0.003			
8/11/2017				<0.003		
10/2/2017		<0.003	<0.003			
11/15/2017		<0.003	<0.003	<0.003		
6/5/2018		<0.003	<0.003	<0.003		
10/2/2018		<0.003		<0.003		
10/5/2018			<0.003			
8/22/2019		<0.003	<0.003			
8/23/2019				<0.003		
5/22/2020					0.00047 (J)	<0.003
6/16/2020					<0.003	<0.003
8/25/2020					<0.003	<0.003
8/26/2020		<0.003	<0.003			
8/27/2020				<0.003		
9/18/2020						<0.003
9/21/2020		<0.003			<0.003	
9/25/2020	<0.003					
9/28/2020			<0.003	<0.003		
11/11/2020	0.00057 (J)					0.0004 (J)
11/12/2020					<0.003	
12/16/2020	<0.003				<0.003	<0.003
1/20/2021	<0.003				<0.003	<0.003
3/12/2021	0.0003 (J)	0.0018 (J)			0.00061 (J)	0.00043 (J)
3/15/2021			<0.003	<0.003		
8/13/2021	<0.003					
8/16/2021		<0.003	<0.003	<0.003		
8/19/2021					<0.003	<0.003
2/1/2022	0.0018 (J)					
2/2/2022		<0.003	<0.003	<0.003		
2/3/2022					<0.003	<0.003
8/2/2022	<0.003					
8/4/2022		<0.003	0.0016 (J)	<0.003	<0.003	<0.003
1/24/2023	<0.003		<0.003	0.0018 (J)		
1/25/2023		<0.003			<0.003	<0.003
8/8/2023	<0.003					
8/10/2023		<0.003	<0.003		<0.003	
8/11/2023				<0.003		<0.003

Time Series

Constituent: Arsenic (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-122 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-43D (bg)	HGWA-44D (bg)
5/19/2016	<0.005		0.00127 (J)	<0.005		
7/11/2016	<0.005		0.002 (J)			
7/12/2016				0.0008 (J)		
8/30/2016	<0.005	<0.005	0.0017 (J)	<0.005		
10/19/2016	<0.005		<0.005	<0.005		
10/20/2016		<0.005				
12/6/2016	<0.005		<0.005	<0.005		
1/24/2017	<0.005		<0.005	<0.005		
1/25/2017		<0.005				
3/21/2017	0.0005 (J)		<0.005	0.0007 (J)		
5/22/2017	<0.005		0.0006 (J)	0.0006 (J)		
5/25/2017		<0.005				
8/11/2017		<0.005				
11/15/2017		<0.005				
4/2/2018	<0.005		<0.005			
4/3/2018				<0.005		
6/4/2018	<0.005		0.00088 (J)	0.0008 (J)		
6/5/2018		<0.005				
10/1/2018	<0.005		<0.005	0.0011 (J)		
10/2/2018		<0.005				
3/12/2019	<0.005		0.00069 (J)	0.00063 (J)		
4/1/2019				<0.005		
4/2/2019	<0.005		<0.005			
8/22/2019		<0.005				
9/23/2019	0.00046 (J)		0.00067 (J)	0.0011 (J)		
3/2/2020	<0.005		0.00043 (J)	0.0004 (J)		
3/25/2020	<0.005		<0.005	<0.005		
8/24/2020		<0.005				
8/25/2020			<0.005	<0.005		
8/28/2020	<0.005					
9/15/2020	<0.005		<0.005	<0.005		
9/16/2020					<0.005	<0.005
11/10/2020					0.0021 (J)	<0.005
12/15/2020					<0.005	<0.005
1/19/2021					0.0011 (J)	<0.005
8/11/2021	<0.005				0.0015 (J)	
8/12/2021			<0.005	<0.005		
8/13/2021		<0.005				<0.005
2/1/2022	0.0016 (J)	<0.005	0.0023 (J)	0.0024 (J)	0.0036 (J)	0.0025 (J)
8/2/2022	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1/23/2023				<0.005		
1/24/2023	<0.005	<0.005	<0.005		<0.005	0.0027 (J)
8/8/2023	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Time Series

Constituent: Arsenic (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-45D (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016		<0.005	<0.005	<0.005		
10/26/2016		<0.005		<0.005		
11/7/2016			<0.005			
1/13/2017			<0.005			
1/27/2017		<0.005		<0.005		
5/25/2017		0.0014 (J)		0.0006 (J)		
6/3/2017			0.001 (J)			
8/11/2017				<0.005		
10/2/2017		0.0007 (J)	<0.005			
11/15/2017		<0.005	<0.005	<0.005		
6/5/2018		0.001 (J)	0.0014 (J)	<0.005		
10/2/2018		<0.005		<0.005		
10/5/2018			<0.005			
8/22/2019		<0.005	<0.005			
8/23/2019				<0.005		
5/22/2020					0.00081 (J)	0.00071 (J)
6/16/2020					0.0014 (J)	0.00091 (J)
8/25/2020					<0.005	<0.005
8/26/2020		<0.005	<0.005			
8/27/2020				<0.005		
9/18/2020						<0.005
9/21/2020					<0.005	
9/25/2020	<0.005					
11/11/2020	0.0011 (J)					<0.005
11/12/2020					<0.005	
12/16/2020	<0.005				<0.005	<0.005
1/20/2021	0.0022 (J)				<0.005	<0.005
8/13/2021	0.0012 (J)					
8/16/2021		0.0015 (J)	0.0014 (J)	<0.005		
8/19/2021					<0.005	<0.005
2/1/2022	<0.005					
2/2/2022		0.0014 (J)	<0.005	<0.005		
2/3/2022					0.0032 (J)	0.0026 (J)
8/2/2022	<0.005					
8/4/2022		<0.005	<0.005	<0.005	<0.005	<0.005
1/24/2023	<0.005		<0.005	<0.005		
1/25/2023		<0.005			<0.005	<0.005
8/8/2023	<0.005					
8/10/2023		<0.005	<0.005		<0.005	
8/11/2023				<0.005		<0.005

Time Series

Constituent: Barium (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-122 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-43D (bg)	HGWA-44D (bg)
5/19/2016	0.0346		0.114	0.111		
7/11/2016	0.0311		0.112			
7/12/2016				0.115		
8/30/2016	0.0293	0.0463	0.131	0.113		
10/19/2016	0.0293		0.111	0.123		
10/20/2016		0.0431				
12/6/2016	0.0304		0.108	0.127		
1/24/2017	0.028		0.102	0.126		
1/25/2017		0.0429				
3/21/2017	0.0275		0.095	0.12		
5/22/2017	0.0281		0.103	0.117		
5/25/2017		0.0447				
8/11/2017		0.0451				
11/15/2017		0.0439				
4/2/2018	0.026		0.099			
4/3/2018				0.11		
6/4/2018	0.035		0.11	0.12		
6/5/2018		0.04				
10/1/2018	0.029		0.11	0.14		
10/2/2018		0.042				
3/12/2019	0.042		0.12	0.13		
4/1/2019				0.13		
4/2/2019	0.04		0.13			
8/22/2019		0.044				
9/23/2019	0.042		0.13	0.13		
10/21/2019		0.04				
3/2/2020	0.034		0.11	0.14		
3/24/2020		0.032				
3/25/2020	0.043		0.12	0.13		
8/24/2020		0.041				
8/25/2020			0.11	0.11		
8/28/2020	0.036					
9/15/2020	0.035	0.039	0.12	0.12		
9/16/2020					0.26	0.24
11/10/2020					0.25	0.38
12/15/2020					0.29	0.39
1/19/2021					0.32	<0.01
3/10/2021	0.03					0.26
3/11/2021		0.032	0.07	0.13	0.3	
8/11/2021	0.03				0.28	
8/12/2021			0.12	0.11		
8/13/2021		0.033				0.22
2/1/2022	0.031	0.035	0.13	0.12	0.29	0.23
8/2/2022	0.039	0.038	0.11	0.16	0.35	0.37
1/23/2023				0.13		
1/24/2023	0.033	0.035	0.088		0.28	0.18
8/8/2023	0.039	0.032	0.068	0.12	0.3	0.12

Time Series

Constituent: Barium (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-45D (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016		0.045	0.0782	0.0744		
10/26/2016		0.0462		0.0735		
11/7/2016			0.0764			
1/13/2017			0.0744			
1/27/2017		0.0451		0.0632		
5/25/2017		0.0488		0.0773		
6/3/2017			0.0933			
8/11/2017				0.0672		
10/2/2017		0.0479	0.0815			
11/15/2017		0.051	0.0807	0.0707		
6/5/2018		0.051	0.078	0.07		
10/2/2018		0.059		0.067		
10/5/2018			0.074			
8/22/2019		0.05	0.066			
8/23/2019				0.066		
10/21/2019			0.074	0.075		
10/22/2019		0.051				
3/24/2020				0.075		
3/25/2020		0.052	0.099			
5/22/2020				0.048		0.24
6/16/2020				0.049		0.24
8/25/2020				0.045		0.23
8/26/2020		0.041	0.057			
8/27/2020				0.062		
9/18/2020						0.21
9/21/2020		0.046		0.042		
9/25/2020	0.49					
9/28/2020			0.056	0.071		
11/11/2020	0.45					0.23
11/12/2020				0.042		
12/16/2020	0.52			0.041		0.24
1/20/2021	0.53			0.045		0.25
3/12/2021	0.54	0.047		0.043		0.27
3/15/2021			0.059	0.071		
8/13/2021	0.51					
8/16/2021		0.052	0.06	0.069		
8/19/2021					0.044	0.27
2/1/2022	0.57					
2/2/2022		0.054	0.064	0.072		
2/3/2022					0.043	0.24
8/2/2022	0.64					
8/4/2022		0.048	0.06	0.068	0.037	0.24
1/24/2023	0.57		0.059	0.068		
1/25/2023		0.051			0.042	0.24
8/8/2023	0.59					
8/10/2023		0.045	0.048		0.038	
8/11/2023				0.06		0.22

Time Series

Constituent: Beryllium (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-122 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-43D (bg)	HGWA-44D (bg)
5/19/2016	<0.0005		<0.003	<0.0005		
7/11/2016	<0.0005		0.0001 (J)			
7/12/2016				<0.0005		
8/30/2016	<0.0005	<0.0005	<0.003	<0.0005		
10/19/2016	<0.0005		0.0001 (J)	<0.0005		
10/20/2016		<0.0005				
12/6/2016	<0.0005		0.0002 (J)	<0.0005		
1/24/2017	<0.0005		0.0001 (J)	<0.0005		
1/25/2017		<0.0005				
3/21/2017	<0.0005		0.0001 (J)	<0.0005		
5/22/2017	<0.0005		0.0001 (J)	<0.0005		
5/25/2017		<0.0005				
8/11/2017		<0.0005				
11/15/2017		<0.0005				
4/2/2018	<0.0005		<0.003			
4/3/2018				<0.0005		
6/5/2018		<0.0005				
10/2/2018		<0.0005				
3/12/2019	<0.0005		0.00017 (J)	<0.0005		
4/1/2019				<0.0005		
4/2/2019	<0.0005		0.00015 (J)			
8/22/2019		<0.0005				
9/23/2019	<0.0005		0.00011 (J)	<0.0005		
3/2/2020	<0.0005		0.00014 (J)	<0.0005		
3/25/2020	<0.0005		0.00016 (J)	<0.0005		
8/24/2020		<0.0005				
8/25/2020			0.00014 (J)	<0.0005		
8/28/2020	<0.0005					
9/15/2020	<0.0005	<0.0005	0.00013 (J)	<0.0005		
9/16/2020					<0.0005	<0.0005
11/10/2020					<0.0005	<0.0005
12/15/2020					<0.0005	<0.0005
1/19/2021					<0.0005	<0.0005
3/10/2021	<0.0005					<0.0005
3/11/2021		<0.0005	8.6E-05 (J)	<0.0005	<0.0005	
8/11/2021	<0.0005				<0.0005	
8/12/2021			0.00014 (J)	<0.0005		
8/13/2021		<0.0005				<0.0005
2/1/2022	<0.0005	<0.0005	0.0002 (J)	<0.0005	<0.0005	<0.0005
8/2/2022	<0.0005	<0.0005	0.00019 (J)	<0.0005	<0.0005	<0.0005
1/23/2023				<0.0005		
1/24/2023	<0.0005	<0.0005	0.00016 (J)		<0.0005	<0.0005
8/8/2023	<0.0005	<0.0005	0.00022 (J)	<0.0005	<0.0005	<0.0005

Time Series

Constituent: Beryllium (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-45D (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016		<0.0005	<0.0005	<0.0005		
10/26/2016		<0.0005		<0.0005		
11/7/2016			<0.0005			
1/13/2017			<0.0005			
1/27/2017		<0.0005		<0.0005		
5/25/2017		<0.0005		<0.0005		
6/3/2017			<0.0005			
8/11/2017				<0.0005		
10/2/2017		<0.0005	<0.0005			
11/15/2017		<0.0005	<0.0005	<0.0005		
6/5/2018		<0.0005	<0.0005	<0.0005		
10/2/2018		<0.0005		<0.0005		
10/5/2018			<0.0005			
8/22/2019		<0.0005	<0.0005			
8/23/2019				<0.0005		
5/22/2020					<0.0005	<0.0005
6/16/2020					<0.0005	<0.0005
8/25/2020					<0.0005	<0.0005
8/26/2020		<0.0005	<0.0005			
8/27/2020				<0.0005		
9/18/2020						<0.0005
9/21/2020		<0.0005			<0.0005	
9/25/2020	<0.0005					
9/28/2020			<0.0005	<0.0005		
11/11/2020	<0.0005					<0.0005
11/12/2020					<0.0005	
12/16/2020	<0.0005				<0.0005	<0.0005
1/20/2021	<0.0005				<0.0005	<0.0005
3/12/2021	<0.0005	<0.0005			<0.0005	<0.0005
3/15/2021			<0.0005	<0.0005		
8/13/2021	<0.0005					
8/16/2021		<0.0005	<0.0005	<0.0005		
8/19/2021					<0.0005	<0.0005
2/1/2022	<0.0005					
2/2/2022		<0.0005	<0.0005	<0.0005		
2/3/2022					<0.0005	<0.0005
8/2/2022	<0.0005					
8/4/2022		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1/24/2023	<0.0005		<0.0005	<0.0005		
1/25/2023		<0.0005			<0.0005	<0.0005
8/8/2023	<0.0005					
8/10/2023		<0.0005	<0.0005		<0.0005	
8/11/2023				<0.0005		<0.0005

Time Series

Constituent: Boron (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-122 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-43D (bg)	HGWA-44D (bg)
5/19/2016	0.0214 (J)		0.0321 (J)	<0.04		
7/11/2016	0.0142 (J)		0.0337 (J)			
7/12/2016				0.0074 (J)		
8/30/2016	0.0074 (J)	0.277	0.0173 (J)	<0.04		
10/19/2016	0.0224 (J)		0.0341 (J)	0.0085 (J)		
10/20/2016		0.336				
12/6/2016	0.0211 (J)		0.0326 (J)	0.0085 (J)		
1/24/2017	0.0165 (J)		0.0365 (J)	0.01 (J)		
1/25/2017		0.274				
3/21/2017	0.0187 (J)		0.0349 (J)	0.0079 (J)		
5/22/2017	0.0782		0.0475	0.0131 (J)		
5/25/2017		0.298				
8/11/2017		0.285				
10/3/2017	0.0198 (J)		0.0386 (J)	0.0097 (J)		
11/15/2017		0.322				
6/4/2018	0.02 (J)		0.036 (J)	0.017 (J)		
6/5/2018		0.24				
10/1/2018	0.013 (J)		0.035 (J)	0.0061 (J)		
10/2/2018		0.28				
4/1/2019				0.0066 (J)		
4/2/2019	0.016 (J)	0.18	0.034 (J)			
6/18/2019		0.25				
9/23/2019	0.021 (J)		0.04 (J)	0.0081 (J)		
10/21/2019		0.25				
3/24/2020		0.1				
3/25/2020	0.025 (J)		0.039 (J)	0.0096 (J)		
6/16/2020	0.021 (J)			0.01 (J)		
9/15/2020	0.017 (J)	0.22	0.044 (J)	0.0071 (J)		
9/16/2020					0.061 (J)	0.23
11/10/2020					0.057 (J)	0.29
12/15/2020					0.052 (J)	0.31
1/19/2021					0.049 (J)	<0.1
3/10/2021	0.015 (J)					0.39
3/11/2021		0.2	0.056	0.015 (J)	0.06	
8/11/2021	0.02 (J)				0.042	
8/12/2021			0.044	<0.04		
8/13/2021		0.19				0.31
2/1/2022	0.016 (J)	0.17	0.056	0.011 (J)	0.05	0.44
8/2/2022	0.012 (J)	0.18	0.047	<0.04	0.043	0.31
1/23/2023				0.012 (J)		
1/24/2023	0.015 (J)	0.17	0.046		0.037 (J)	0.44
8/8/2023	0.023 (J)	0.18	0.06	0.011 (J)	0.038 (J)	0.55

Time Series

Constituent: Boron (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-45D (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016		0.981	3.23	0.494		
10/26/2016		1.28		0.55		
11/7/2016			2.95			
1/13/2017			4.01			
1/27/2017		1.19		0.428		
5/25/2017		1.33		0.544		
6/3/2017			2.62			
8/11/2017				0.524		
10/2/2017		1.19	2.92			
11/15/2017		1.24	2.71	0.531		
6/5/2018		1.2	2.6	0.53		
10/2/2018		1.2		0.47		
10/5/2018			2.9			
4/2/2019		1.1				
4/3/2019			3	0.45		
6/17/2019		1.1	2.4			
6/18/2019				0.45		
10/21/2019			2.4	0.5		
10/22/2019		1				
3/24/2020				0.44		
3/25/2020		1.1	1.6			
5/22/2020					1.5	0.026 (J)
6/15/2020		1.1				
6/16/2020					1.5	0.023 (J)
8/25/2020					1.4	0.016 (J)
9/18/2020						0.041 (J)
9/21/2020		0.93			1.4	
9/25/2020	0.16					
9/28/2020			2.3	0.43		
11/11/2020	0.17					0.009 (J)
11/12/2020					1.4	
12/16/2020	0.16				1.5	0.011 (J)
1/20/2021	0.19				1.5	<0.1
3/12/2021	0.19	1.1			1.5	0.016 (J)
3/15/2021			1.9	0.4		
8/13/2021	0.15					
8/16/2021		1.1	2	0.44		
8/19/2021					1.5	0.011 (J)
2/1/2022	0.14					
2/2/2022		0.91	1.6	0.33		
2/3/2022					1.6	0.016 (J)
8/2/2022	0.14					
8/4/2022		1	1.8	0.36	1.4	0.023 (J)
1/24/2023	0.14		1.6	0.34		
1/25/2023		0.94			1.4	0.014 (J)
8/8/2023	0.15					
8/10/2023		1	1.7		1.6	
8/11/2023				0.3		0.016 (J)

Time Series

Constituent: Cadmium (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-122 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-43D (bg)	HGWA-44D (bg)
5/19/2016	<0.0005		<0.0025	<0.0005		
7/11/2016	<0.0005		<0.0025			
7/12/2016				<0.0005		
8/30/2016	<0.0005	<0.0005	<0.0025	<0.0005		
10/19/2016	<0.0005		<0.0025	<0.0005		
10/20/2016		<0.0005				
12/6/2016	<0.0005		<0.0025	<0.0005		
1/24/2017	<0.0005		0.0001 (J)	<0.0005		
1/25/2017		<0.0005				
3/21/2017	<0.0005		7E-05 (J)	<0.0005		
5/22/2017	<0.0005		0.0001 (J)	<0.0005		
5/25/2017		<0.0005				
8/11/2017		<0.0005				
11/15/2017		<0.0005				
4/2/2018	<0.0005		<0.0025			
4/3/2018				<0.0005		
6/4/2018	<0.0005		0.00014 (J)	<0.0005		
6/5/2018		<0.0005				
10/1/2018	<0.0005		<0.0025	<0.0005		
10/2/2018		<0.0005				
3/12/2019	<0.0005		0.00013 (J)	<0.0005		
4/1/2019				<0.0005		
4/2/2019	<0.0005		0.00015 (J)			
8/22/2019		<0.0005				
9/23/2019	<0.0005		<0.0025	<0.0005		
3/2/2020	<0.0005		<0.0025	<0.0005		
3/25/2020	<0.0005		0.00014 (J)	<0.0005		
8/24/2020		<0.0005				
8/25/2020			<0.0025	<0.0005		
8/28/2020	<0.0005					
9/15/2020	<0.0005		0.00012 (J)	<0.0005		
9/16/2020					<0.0005	<0.0005
11/10/2020					<0.0005	<0.0005
12/15/2020					<0.0005	<0.0005
1/19/2021					<0.0005	<0.0005
8/11/2021	<0.0005				<0.0005	
8/12/2021			0.00014 (J)	<0.0005		
8/13/2021		<0.0005				<0.0005
2/1/2022	<0.0005	<0.0005	0.00017 (J)	<0.0005	<0.0005	<0.0005
8/2/2022	<0.0005	<0.0005	0.00023 (J)	<0.0005	<0.0005	<0.0005
1/23/2023				<0.0005		
1/24/2023	<0.0005	<0.0005	0.00021 (J)		<0.0005	<0.0005
8/8/2023	<0.0005	<0.0005	0.00026 (J)	<0.0005	<0.0005	<0.0005

Time Series

Constituent: Cadmium (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-45D (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016		<0.0005	<0.0005	<0.0005		
10/26/2016		<0.0005		<0.0005		
11/7/2016			<0.0005			
1/13/2017			<0.0005			
1/27/2017		<0.0005		<0.0005		
5/25/2017		<0.0005		<0.0005		
6/3/2017			<0.0005			
8/11/2017				<0.0005		
10/2/2017		<0.0005	<0.0005			
11/15/2017		<0.0005	<0.0005	<0.0005		
6/5/2018		<0.0005	<0.0005	<0.0005		
10/2/2018		<0.0005		<0.0005		
10/5/2018			<0.0005			
8/22/2019		<0.0005	<0.0005			
8/23/2019				<0.0005		
5/22/2020					<0.0005	<0.0005
6/16/2020					<0.0005	<0.0005
8/25/2020					<0.0005	<0.0005
8/26/2020		<0.0005	<0.0005			
8/27/2020				<0.0005		
9/18/2020						<0.0005
9/21/2020					<0.0005	
9/25/2020	<0.0005					
11/11/2020	<0.0005					<0.0005
11/12/2020					<0.0005	
12/16/2020	<0.0005				<0.0005	<0.0005
1/20/2021	<0.0005				<0.0005	<0.0005
8/13/2021	<0.0005					
8/16/2021		<0.0005	<0.0005	<0.0005		
8/19/2021					<0.0005	<0.0005
2/1/2022	<0.0005					
2/2/2022		<0.0005	<0.0005	<0.0005		
2/3/2022					<0.0005	<0.0005
8/2/2022	<0.0005					
8/4/2022		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
1/24/2023	<0.0005		<0.0005	<0.0005		
1/25/2023		<0.0005			<0.0005	<0.0005
8/8/2023	<0.0005					
8/10/2023		<0.0005	<0.0005		<0.0005	
8/11/2023				<0.0005		<0.0005

Time Series

Constituent: Calcium (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-122 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-43D (bg)	HGWA-44D (bg)
5/19/2016	138		22.9	76.2		
7/11/2016	97.2		22.3			
7/12/2016				61.5		
8/30/2016	97.5	71.3	26.4	65.1		
10/19/2016	99.2		21.7	73.2		
10/20/2016		90.3				
12/6/2016	105		18.2	74.9		
1/24/2017	95.7		18.5	69.6		
1/25/2017		77.3				
3/21/2017	106		18.6	75.7		
5/22/2017	107		17.8	71.5		
5/25/2017		69.9				
8/11/2017		79.5				
10/3/2017	102		20.2	76.3		
11/15/2017		72.8				
6/4/2018	124		19.1	73.4		
6/5/2018		71.4				
10/1/2018	108		20.5 (J)	80.9		
10/2/2018		66.6				
4/1/2019				80.5		
4/2/2019	132	60.9	22.5 (J)			
6/18/2019		75				
9/23/2019	118		19.5	71		
10/21/2019		80.8				
3/24/2020		81.2				
3/25/2020	127		23	89.8		
6/16/2020	130			85.1		
9/15/2020	103	75.8	21.1	73.1		
9/16/2020					56	30
11/10/2020					63.3	33.6
12/15/2020					62.6	28.7
1/19/2021					60.1	33
3/10/2021	111					18.3
3/11/2021		60.4 (M1)	43.8	83.8	59.6	
8/11/2021	113				61	
8/12/2021			21.9	84		
8/13/2021		62.9				28.9
2/1/2022	106	57.5	27.2	85.1	55.9	24.8
8/2/2022	117	69.5	31.2	84.6	54.1	20.9
1/23/2023				85		
1/24/2023	117	63.3	29.4		56.6	13.2
8/8/2023	118	64.4	30.7	78.3	52.8	8.1

Time Series

Constituent: Calcium (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-45D (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016		152	178	90.4		
10/26/2016		156		94.5		
11/7/2016			170			
1/13/2017			192			
1/27/2017		157		84.2		
5/25/2017		173		100		
6/3/2017			172			
8/11/2017				99.1		
10/2/2017		168	195			
11/15/2017		182	184	103		
6/5/2018		161	195	103		
10/2/2018		174		100		
10/5/2018			181			
4/2/2019		150				
4/3/2019			184	96.7		
6/17/2019		164	173			
6/18/2019				97.1		
10/21/2019			173	96.9		
10/22/2019		171				
3/24/2020				104		
3/25/2020		170	139			
5/22/2020					140	112
6/15/2020		175				
6/16/2020					178	131
8/25/2020					186	130
9/18/2020						119
9/21/2020		152			155	
9/25/2020	56.8					
9/28/2020			167	107		
11/11/2020	54.9					133
11/12/2020					165	
12/16/2020	56.4				194	132
1/20/2021	55				177 (M1)	131
3/12/2021	56.5	174			165	138
3/15/2021			167	103		
8/13/2021	53					
8/16/2021		171	162	106		
8/19/2021					196	139
2/1/2022	51.3					
2/2/2022		159	148	95.9		
2/3/2022					175	157
8/2/2022	49.9					
8/4/2022		173	160	103	170	141
1/24/2023	53.9		156	96.2		
1/25/2023		161			174	132
8/8/2023	48.1					
8/10/2023		171	149		173	
8/11/2023				97.8		131

Time Series

Constituent: Chloride (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-122 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-43D (bg)	HGWA-44D (bg)
5/19/2016	9.94		6.14	5.93		
7/11/2016	6.3		5.9			
7/12/2016				6.2		
8/30/2016	6	2.8	6.2	6.4		
10/19/2016	5.8		6.1	6.5		
10/20/2016		2.8				
12/6/2016	5.4		6	7.2		
1/24/2017	5.2		6.1	6.4		
1/25/2017		2.8				
3/21/2017	4.6		5.9	7.5		
5/22/2017	4.6		5.9	6.5		
5/25/2017		2.9				
8/11/2017		3				
10/3/2017	5.6		6.3	6.5		
11/15/2017		3.1				
6/4/2018	13.1		6.1	6.3		
6/5/2018		3				
10/1/2018	6.6		6.4	6.4		
10/2/2018		3.1				
4/1/2019				6.5		
4/2/2019	20.3	3.6	5.8			
6/18/2019		3.2				
9/23/2019	17.7		5.1	5.9		
10/21/2019		4.5				
3/24/2020		4.5				
3/25/2020	20.4		5.2	6.1		
6/16/2020	41.1			5.8		
9/15/2020	13.4	3.6	5	6		
9/16/2020					4.1	4.1
11/10/2020					4.4	7.8
12/15/2020					4.7	9.4
1/19/2021					4.1	9.5
3/10/2021	7.4					12.3
3/11/2021		2.3	5.1	5.9	4.5	
8/11/2021	9.6				3.5	
8/12/2021			5.2	4.8		
8/13/2021		2.6				39.9
2/1/2022	7.5	2.2	7	5.7	4.1	44.8
8/2/2022	14.1	2.7	7.8	5.9	4.3	19.8
1/23/2023				5.6		
1/24/2023	9	2.4	7.1		4.3	24.9
8/8/2023	26	2.2	6.6	5.3	3.5	27

Time Series

Constituent: Chloride (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-45D (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016		3.5	64	3		
10/26/2016		3.6		3.6		
11/7/2016			65			
1/13/2017			50			
1/27/2017		3.3		4		
5/25/2017		3.4		3.5		
6/3/2017			43			
8/11/2017				2.9		
10/2/2017		4.2	42			
11/15/2017		2.9	46	3.1		
6/5/2018		3.1	40.4	3.1		
10/2/2018		3.2		3.4		
10/5/2018			39			
4/2/2019		3.1				
4/3/2019			35.9	3.4		
6/17/2019			32.9			
6/18/2019				2.3 (J)		
10/21/2019			29.9	3.6		
10/22/2019		3.4				
3/24/2020				2.7		
3/25/2020		2.4	16.3			
5/22/2020					12.9	8.6
6/15/2020		2.3				
6/16/2020					10.4	8.6
8/25/2020					10.6	8.7
9/18/2020						8.4
9/21/2020		2.4			12.1	
9/25/2020	3.6					
9/28/2020			23.2	2.5		
11/11/2020	3.3					8.3
11/12/2020					10.4	
12/16/2020	3.4				5.3	8.9
1/20/2021	3.5				10.2	8.5
3/12/2021	3.3	2.4			10.8	8.5
3/15/2021			21.8	2.9		
8/13/2021	3.3					
8/16/2021		2.4	18	2.6		
8/19/2021					4.5	7.8
2/1/2022	3.5					
2/2/2022		2.5	16.8	2.6		
2/3/2022					8.1	8.5
8/2/2022	3.9					
8/4/2022		2.7	15.4	2.6	11.6	8.7
1/24/2023	3.5		14.6	2.5		
1/25/2023		2.6			8.7	8.7
8/8/2023	3.6					
8/10/2023		2.6	12.2		9	
8/11/2023				2.1		8.1

Time Series

Constituent: Chromium (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-122 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-43D (bg)	HGWA-44D (bg)
5/19/2016	<0.005		<0.005	<0.005		
7/11/2016	<0.005		<0.005			
7/12/2016				<0.005		
8/30/2016	<0.005	<0.005	<0.005	<0.005		
10/19/2016	<0.005		<0.005	<0.005		
10/20/2016		<0.005				
12/6/2016	<0.005		<0.005	<0.005		
1/24/2017	<0.005		<0.005	<0.005		
1/25/2017		<0.005				
3/21/2017	0.0005 (J)		<0.005	<0.005		
5/22/2017	<0.005		<0.005	0.0007 (J)		
5/25/2017		0.0006 (J)				
8/11/2017		0.0007 (J)				
11/15/2017		0.0006 (J)				
4/2/2018	<0.005		<0.005			
4/3/2018				<0.005		
6/5/2018		<0.005				
10/2/2018		<0.005				
3/12/2019	<0.005		<0.005	<0.005		
4/1/2019				<0.005		
4/2/2019	<0.005		0.0079 (J)			
8/22/2019		0.0006 (J)				
9/23/2019	<0.005		0.00058 (J)	<0.005		
10/21/2019		0.00068 (J)				
3/2/2020	<0.005		0.00041 (J)	<0.005		
3/24/2020		0.0013 (J)				
3/25/2020	0.00072 (J)		<0.005	<0.005		
8/24/2020		0.00093 (J)				
8/25/2020			0.00067 (J)	<0.005		
8/28/2020	<0.005					
9/15/2020	<0.005	0.00067 (J)	<0.005	<0.005		
9/16/2020					<0.005	0.0012 (J)
11/10/2020					<0.005	0.00089 (J)
12/15/2020					<0.005	0.00072 (J)
1/19/2021					<0.005	<0.005
3/10/2021	<0.005					<0.005
3/11/2021		0.0017 (J)	<0.005	<0.005	<0.005	
8/11/2021	<0.005				<0.005	
8/12/2021			<0.005	<0.005		
8/13/2021		<0.005				0.0016 (J)
2/1/2022	<0.005	<0.005	<0.005	<0.005	<0.005	0.0013 (J)
8/2/2022	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1/23/2023				<0.005		
1/24/2023	<0.005	<0.005	<0.005		<0.005	<0.005
8/8/2023	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Time Series

Constituent: Chromium (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-45D (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016		<0.005	<0.005	<0.005		
10/26/2016		<0.005		<0.005		
11/7/2016			<0.005			
1/13/2017			<0.005			
1/27/2017		<0.005		<0.005		
5/25/2017		<0.005		<0.005		
6/3/2017			<0.005			
8/11/2017				<0.005		
10/2/2017		<0.005	<0.005			
11/15/2017		<0.005	<0.005	<0.005		
6/5/2018		<0.005	<0.005	<0.005		
10/2/2018		<0.005		<0.005		
10/5/2018			<0.005			
8/22/2019		0.00072 (J)	<0.005			
8/23/2019				<0.005		
10/21/2019			<0.005	0.00046 (J)		
10/22/2019		<0.005				
3/24/2020				0.00051 (J)		
3/25/2020		0.0015 (J)	0.0005 (J)			
5/22/2020				0.00058 (J)	<0.005	
6/16/2020				0.00052 (J)	<0.005	
8/25/2020				<0.005		0.00096 (J)
8/26/2020		<0.005	<0.005			
8/27/2020				<0.005		
9/18/2020						<0.005
9/21/2020		0.00065 (J)		<0.005		
9/25/2020	<0.005					
9/28/2020			<0.005	<0.005		
11/1/2020	<0.005					<0.005
11/12/2020				<0.005		
12/16/2020	<0.005			<0.005	<0.005	
1/20/2021	0.00067 (J)			0.00081 (J)	<0.005	
3/12/2021	<0.005	<0.005		<0.005	<0.005	
3/15/2021			<0.005	<0.005		
8/13/2021	<0.005					
8/16/2021		<0.005	<0.005	<0.005		
8/19/2021				<0.005	<0.005	
2/1/2022	<0.005					
2/2/2022		<0.005	<0.005	<0.005		
2/3/2022				<0.005	<0.005	
8/2/2022	<0.005					
8/4/2022		<0.005	<0.005	<0.005	<0.005	<0.005
1/24/2023	<0.005		<0.005	<0.005		
1/25/2023		<0.005		<0.005		0.0014 (J)
8/8/2023	<0.005					
8/10/2023		<0.005	<0.005	<0.005	<0.005	
8/11/2023				<0.005		<0.005

Time Series

Constituent: Cobalt (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-122 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-43D (bg)	HGWA-44D (bg)
5/19/2016	<0.005		0.0293	<0.005		
7/11/2016	0.0004 (J)		0.0267			
7/12/2016				<0.005		
8/30/2016	<0.005	<0.005	0.028	<0.005		
10/19/2016	<0.005		0.0201	<0.005		
10/20/2016		<0.005				
12/6/2016	<0.005		0.0184	<0.005		
1/24/2017	<0.005		0.0206	<0.005		
1/25/2017		<0.005				
3/21/2017	<0.005		0.0251	<0.005		
5/22/2017	<0.005		0.0263	<0.005		
5/25/2017		<0.005				
8/11/2017		<0.005				
11/15/2017		<0.005				
4/2/2018	<0.005		0.019			
4/3/2018				<0.005		
6/4/2018	<0.005		0.025	<0.005		
6/5/2018		<0.005				
10/1/2018	<0.005		0.026	<0.005		
10/2/2018		<0.005				
3/12/2019	<0.005		0.017	<0.005		
4/1/2019				<0.005		
4/2/2019	<0.005		0.019			
8/22/2019		<0.005				
9/23/2019	<0.005		0.038	<0.005		
10/21/2019		<0.005				
3/2/2020	<0.005		0.019	<0.005		
3/24/2020		<0.005				
3/25/2020	<0.005		0.02	<0.005		
8/24/2020		<0.005				
8/25/2020			0.018	<0.005		
8/28/2020	<0.005					
9/15/2020	<0.005	<0.005	0.021	<0.005		
9/16/2020					<0.005	<0.005
11/10/2020					<0.005	<0.005
12/15/2020					<0.005	<0.005
1/19/2021					<0.005	<0.005
3/10/2021	<0.005					<0.005
3/11/2021		<0.005	0.013	<0.005	<0.005	
8/11/2021	<0.005				<0.005	
8/12/2021			0.022	<0.005		
8/13/2021		<0.005				<0.005
2/1/2022	<0.005	<0.005	0.025	<0.005	<0.005	<0.005
8/2/2022	0.00054 (J)	<0.005	0.024	<0.005	<0.005	<0.005
1/23/2023				<0.005		
1/24/2023	<0.005	<0.005	0.024		<0.005	<0.005
8/8/2023	0.0008 (J)	<0.005	0.029	<0.005	<0.005	<0.005

Time Series

Constituent: Cobalt (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-45D (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016		0.0052 (J)	<0.005	<0.005		
10/26/2016		0.0041 (J)		<0.005		
11/7/2016			<0.005			
1/13/2017			<0.005			
1/27/2017		0.0034 (J)		<0.005		
5/25/2017		0.0035 (J)		<0.005		
6/3/2017			0.0005 (J)			
8/11/2017				<0.005		
10/2/2017		0.0036 (J)	0.0003 (J)			
11/15/2017		0.0032 (J)	0.0003 (J)	<0.005		
6/5/2018		0.0031 (J)	<0.005	<0.005		
10/2/2018		0.0025 (J)		<0.005		
10/5/2018			<0.005			
8/22/2019		0.0028 (J)	<0.005			
8/23/2019				<0.005		
10/21/2019			<0.005	<0.005		
10/22/2019		0.0031 (J)				
3/24/2020				<0.005		
3/25/2020		0.0036 (J)	<0.005			
5/22/2020					0.01	<0.005
6/16/2020					0.0096	<0.005
8/25/2020					0.0087	<0.005
8/26/2020		0.0023 (J)	<0.005			
8/27/2020				<0.005		
9/18/2020						<0.005
9/21/2020		0.0041 (J)			0.012	
9/25/2020	<0.005					
9/28/2020			<0.005	<0.005		
11/11/2020	<0.005					<0.005
11/12/2020					0.012	
12/16/2020	<0.005				0.0055	<0.005
1/20/2021	<0.005				0.012	<0.005
3/12/2021	<0.005	0.0027 (J)			0.014	<0.005
3/15/2021			<0.005	<0.005		
8/13/2021	<0.005					
8/16/2021		0.0037 (J)	<0.005	<0.005		
8/19/2021					0.0054	<0.005
2/1/2022	<0.005					
2/2/2022		0.0072	<0.005	<0.005		
2/3/2022					0.0086	<0.005
8/2/2022	<0.005					
8/4/2022		0.0058	<0.005	<0.005	0.014	<0.005
1/24/2023	<0.005		<0.005	<0.005		
1/25/2023		0.0055			0.0097	<0.005
8/8/2023	<0.005					
8/10/2023		0.0048 (J)	<0.005		0.012	
8/11/2023				<0.005		<0.005

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-122 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-43D (bg)	HGWA-44D (bg)
5/19/2016	0.397 (U)		0.627 (U)	0.342 (U)		
7/11/2016	0.738 (U)		1.38			
7/12/2016				0.499 (U)		
8/30/2016	0.581 (U)	0.972 (U)	1.05 (U)	0.976 (U)		
10/19/2016	0.213 (U)		1.11 (U)	0.626 (U)		
10/20/2016		0.496 (U)				
12/6/2016	0.444 (U)		0.741 (U)	0.805 (U)		
1/24/2017	0.373 (U)		0.908 (U)	0.336 (U)		
1/25/2017		1.13 (U)				
3/21/2017	0.816 (U)		0.567 (U)	0.358 (U)		
5/22/2017	0.554 (U)		0.638 (U)	0.744 (U)		
5/25/2017		0.192 (U)				
8/11/2017		0.908 (U)				
11/15/2017		0.662 (U)				
4/2/2018	0.405 (U)		0.761 (U)			
4/3/2018				0.684 (U)		
6/4/2018	1.13 (U)		0.975 (U)	0.0291 (U)		
6/5/2018		0.593 (U)				
10/1/2018	0.132 (U)		0.434 (U)	0.781 (U)		
10/2/2018		1.37				
3/12/2019	0.327 (U)		0.454 (U)	1.01 (U)		
4/1/2019				0.76 (U)		
4/2/2019	0.739 (U)		0.651 (U)			
8/22/2019		1.19 (U)				
9/30/2019	0.306 (U)		1.04 (U)	0.384 (U)		
10/21/2019		0.772 (U)				
3/2/2020	0.61 (U)		1.58	0.249 (U)		
3/24/2020		0.379 (U)				
3/25/2020	4.36		0.621 (U)	0.833 (U)		
8/24/2020		0.883 (U)				
8/25/2020			0.778 (U)	0.33 (U)		
8/28/2020	0 (U)					
9/15/2020	0.748 (U)	0.375 (U)	0.124 (U)	0.161 (U)		
9/16/2020					0.531 (U)	0.422 (U)
11/10/2020					0.788 (U)	0.293 (U)
12/15/2020					1.04 (U)	0.7 (U)
1/19/2021					0.685 (U)	0.79 (U)
8/11/2021	0.115 (U)				0.394 (U)	
8/12/2021			0.746 (U)	0.498 (U)		
8/13/2021		0.914 (U)				0.959 (U)
2/1/2022	0.143 (U)	0.276 (U)	0.588 (U)	0.266 (U)	1.12	0.665 (U)
8/2/2022	0.203 (U)	0.573 (U)	0.861 (U)	0.4 (U)	0.662 (U)	0.952 (U)
1/23/2023				0.311 (U)		
1/24/2023	0.549 (U)	0.442 (U)	0.829 (U)		1.25	0.421 (U)
8/8/2023	0.195 (U)	0.892 (U)	0.175 (U)	0.411 (U)	0.503 (U)	0.163 (U)

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-45D (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016		1.47	1.57	1.22		
10/26/2016		0.864 (U)		0.637 (U)		
11/7/2016			0.739 (U)			
1/13/2017			0.744 (U)			
1/27/2017		0.521 (U)		0.795 (U)		
5/25/2017		0.681 (U)		0.896 (U)		
6/3/2017			0 (U)			
8/11/2017				0.828 (U)		
10/2/2017		0.632 (U)	0.68 (U)			
11/15/2017		1.3	0.911 (U)	0.478 (U)		
6/5/2018		1.26 (U)	0.948 (U)	0.947 (U)		
10/2/2018		0.572 (U)		0.617 (U)		
10/5/2018			1.17 (U)			
8/22/2019		1.35	1.3			
8/23/2019				0.834		
10/21/2019			0.393 (U)	1.11 (U)		
10/22/2019		0.76 (U)				
3/24/2020				0.796 (U)		
3/25/2020		0.696 (U)	0.505 (U)			
5/22/2020				1.1 (U)	1.82	
6/16/2020				1.62	1.82	
8/25/2020				1.65	1.82	
8/26/2020		0.357 (U)	1.96			
8/27/2020				0.494 (U)		
9/18/2020						0.841 (U)
9/21/2020		0.553 (U)		1.45		
9/25/2020	1.07 (U)					
9/28/2020			0.761 (U)	0.477 (U)		
11/11/2020	0.49 (U)					0.837 (U)
11/12/2020				0.633 (U)		
12/16/2020	0.963 (U)			0.818 (U)	1.26 (U)	
1/20/2021	0.682 (U)			1.01 (U)	0.985 (U)	
8/13/2021	1.2					
8/16/2021		1.25	0.192 (U)	0.734 (U)		
8/19/2021					0.721 (U)	1.11
2/1/2022	0.895					
2/2/2022		0.816 (U)	0.254 (U)	0.564 (U)		
2/3/2022					0.257 (U)	1.51
8/2/2022	0.509 (U)					
8/4/2022		0.687 (U)	1.16 (U)	0.16 (U)	0.971 (U)	1.34 (U)
1/24/2023	0.743 (U)		0.757 (U)	0.601 (U)		
1/25/2023		0.992			1.11	1.91
8/8/2023	1.54					
8/10/2023		0.682 (U)	0.585 (U)		0.953 (U)	
8/11/2023				0.449 (U)		1.34

Time Series

Constituent: Fluoride (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-122 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-43D (bg)	HGWA-44D (bg)
5/19/2016	0.105 (J)		0.0303 (J)	0.0513 (J)		
7/11/2016	0.16 (J)		0.05 (J)			
7/12/2016				0.12 (J)		
8/30/2016	0.09 (J)	0.19 (J)	0.06 (J)	0.09 (J)		
10/19/2016	0.1 (J)		0.04 (J)	0.1 (J)		
10/20/2016		0.13 (J)				
12/6/2016	0.11 (J)		0.36	0.21 (J)		
1/24/2017	0.09 (J)		<0.1	0.06 (J)		
1/25/2017		0.22 (J)				
3/21/2017	0.13 (J)		<0.1	0.005 (J)		
5/22/2017	0.12 (J)		<0.1	0.05 (J)		
5/25/2017		0.12 (J)				
8/11/2017		0.12 (J)				
10/3/2017	0.13 (J)		<0.1	0.13 (J)		
11/15/2017		0.05 (J)				
4/2/2018	<0.3		<0.1			
4/3/2018				<0.1		
6/4/2018	0.074 (J)		<0.1	<0.1		
6/5/2018		0.15 (J)				
10/1/2018	<0.3		<0.1	<0.1		
10/2/2018		0.22 (J)				
3/12/2019	0.29 (J)		0.038 (J)	0.072 (J)		
4/1/2019				0.029 (J)		
4/2/2019	0.1 (J)	0.2 (J)	0.071 (J)			
6/18/2019		0.14 (J)				
8/22/2019		0.12 (J)				
9/23/2019	0.078 (J)		<0.1	<0.1		
10/21/2019		0.15 (J)				
3/2/2020	0.076 (J)		<0.1	<0.1		
3/24/2020		0.085 (J)				
3/25/2020	0.098 (J)		<0.1	<0.1		
6/16/2020	0.071 (J)			<0.1		
8/24/2020		0.075 (J)				
8/25/2020			<0.1	<0.1		
8/28/2020	0.08 (J)					
9/15/2020	0.082 (J)	0.096 (J)	<0.1	<0.1		
9/16/2020					0.22	0.22
11/10/2020					0.19	0.59
12/15/2020					0.21	0.67
1/19/2021					0.16	0.74
3/10/2021	0.079 (J)					0.65
3/11/2021		0.059 (J)	0.1	<0.1	0.2	
8/11/2021	0.058 (J)				0.15	
8/12/2021			<0.1	<0.1		
8/13/2021		0.065 (J)				0.87
2/1/2022	0.064 (J)	0.062 (J)	<0.1	<0.1	0.19	0.96
8/2/2022	0.09 (J)	0.1	0.053 (J)	0.067 (J)	0.22	0.8
1/23/2023				0.061 (J)		
1/24/2023	0.089 (J)	0.13	0.053 (J)		0.23	1.3
8/8/2023	0.088 (J)	0.091 (J)	0.07 (J)	0.055 (J)	0.18	1.3

Time Series

Constituent: Fluoride (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-45D (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016		0.65	0.14 (J)	0.15 (J)		
10/26/2016		0.6		0.3		
11/7/2016			0.18 (J)			
1/13/2017			0.14 (J)			
1/27/2017		1.2		0.3		
5/25/2017		1.4		0.05 (J)		
6/3/2017			0.15 (J)			
8/11/2017				0.1 (J)		
10/2/2017		1	1.2			
11/15/2017		1.3	0.6	<0.1		
6/5/2018		0.48	0.19 (J)	0.078 (J)		
10/2/2018		0.34		0.078 (J)		
10/5/2018			0.23 (J)			
4/2/2019		0.47				
4/3/2019			0.14 (J)	0.089 (J)		
6/17/2019		1.2				
8/22/2019		0.3 (J)	0.2 (J)			
8/23/2019				0.11 (J)		
10/21/2019			0.18 (J)	0.073 (J)		
10/22/2019		0.53				
3/24/2020				<0.1		
3/25/2020		0.43	0.095 (J)			
5/22/2020					0.1 (J)	0.46
6/15/2020		0.37				
6/16/2020					0.12	0.44
8/25/2020					0.16	0.52
8/26/2020		0.48	0.16			
8/27/2020				<0.1		
9/18/2020						0.43
9/21/2020		0.33			0.11	
9/25/2020	0.21					
9/28/2020			0.15	<0.1		
11/11/2020	0.19					0.45
11/12/2020					0.12	
12/16/2020	0.18				0.2	0.49
1/20/2021	0.22				0.13	0.44
3/12/2021	0.2	0.42			0.12	0.46
3/15/2021			0.16	<0.1		
8/13/2021	0.2					
8/16/2021		0.39	0.15	<0.1		
8/19/2021					0.17	0.43
2/1/2022	0.15					
2/2/2022		0.36	0.15	<0.1		
2/3/2022					0.18	0.51
8/2/2022	0.21					
8/4/2022		0.38	0.18	0.074 (J)	0.15	0.5
1/24/2023	0.19		0.18	0.068 (J)		
1/25/2023		0.42			0.17	0.57
8/8/2023	0.19					
8/10/2023		0.36	0.18		0.15	
8/11/2023				<0.1		0.49

Time Series

Constituent: Lead (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-122 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-43D (bg)	HGWA-44D (bg)
5/19/2016	<0.001		<0.001	<0.001		
7/11/2016	<0.001		<0.001			
7/12/2016				0.0001 (J)		
8/30/2016	<0.001	<0.001	<0.001	<0.001		
10/19/2016	<0.001		<0.001	<0.001		
10/20/2016		<0.001				
12/6/2016	<0.001		<0.001	<0.001		
1/24/2017	<0.001		<0.001	<0.001		
1/25/2017		<0.001				
3/21/2017	<0.001		6E-05 (J)	0.0001 (J)		
5/22/2017	<0.001		9E-05 (J)	<0.001		
5/25/2017		<0.001				
8/11/2017		0.0001 (J)				
11/15/2017		0.0002 (J)				
4/2/2018	<0.001		<0.001			
4/3/2018				<0.001		
6/5/2018		<0.001				
10/2/2018		<0.001				
3/12/2019	<0.001		<0.001	<0.001		
4/1/2019				<0.001		
4/2/2019	<0.001		<0.001			
8/22/2019		<0.001				
9/23/2019	7.8E-05 (J)		9.2E-05 (J)	<0.001		
10/21/2019		9.7E-05 (J)				
3/2/2020	4.8E-05 (J)		9.5E-05 (J)	<0.001		
3/24/2020		0.00012 (J)				
3/25/2020	<0.001		0.00011 (J)	<0.001		
8/24/2020		7.7E-05 (J)				
8/25/2020			8.5E-05 (J)	<0.001		
8/28/2020	7E-05 (J)					
9/15/2020	<0.001	4.3E-05 (J)	8E-05 (J)	4.2E-05 (J)		
9/16/2020					5E-05 (J)	0.00021 (J)
11/10/2020					6.9E-05 (J)	0.0002 (J)
12/15/2020					8.2E-05 (J)	0.00011 (J)
1/19/2021					4.4E-05 (J)	<0.001
3/10/2021	<0.001					<0.001
3/11/2021		9.3E-05 (J)	7.6E-05 (J)	<0.001	9.4E-05 (J)	
8/11/2021	<0.001				<0.001	
8/12/2021			<0.001	<0.001		
8/13/2021		<0.001				<0.001
2/1/2022	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
8/2/2022	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1/23/2023				<0.001		
1/24/2023	<0.001	<0.001	<0.001		<0.001	<0.001
8/8/2023	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Time Series

Constituent: Lead (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-45D (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016		<0.001	<0.001	<0.001		
10/26/2016		0.0002 (J)		<0.001		
11/7/2016			<0.001			
1/13/2017			<0.001			
1/27/2017		<0.001		<0.001		
5/25/2017		9E-05 (J)		<0.001		
6/3/2017			7E-05 (J)			
8/11/2017				8E-05 (J)		
10/2/2017		8E-05 (J)	<0.001			
11/15/2017		<0.001	<0.001	<0.001		
6/5/2018		<0.001	0.00036 (J)	<0.001		
10/2/2018		<0.001		<0.001		
10/5/2018			<0.001			
8/22/2019		<0.001	<0.001			
8/23/2019				4.9E-05 (J)		
10/21/2019			<0.001	4.9E-05 (J)		
10/22/2019		<0.001				
3/24/2020				9.4E-05 (J)		
3/25/2020		<0.001	<0.001			
5/22/2020				0.00014 (J)	<0.001	
6/16/2020				0.00013 (J)	<0.001	
8/25/2020				<0.001	4.5E-05 (J)	
8/26/2020		<0.001	<0.001			
8/27/2020				<0.001		
9/18/2020						<0.001
9/21/2020		<0.001		<0.001		
9/25/2020	<0.001					
9/28/2020			<0.001	7.5E-05 (J)		
11/11/2020	4E-05 (J)					4.2E-05 (J)
11/12/2020				4.7E-05 (J)		
12/16/2020	5.8E-05 (J)			<0.001	<0.001	
1/20/2021	8.2E-05 (J)			9.2E-05 (J)	<0.001	
3/12/2021	5.5E-05 (J)	<0.001		4.4E-05 (J)	4.6E-05 (J)	
3/15/2021			0.00015 (J)	<0.001		
8/13/2021	<0.001					
8/16/2021		<0.001	<0.001	<0.001		
8/19/2021					<0.001	<0.001
2/1/2022	<0.001					
2/2/2022		<0.001	<0.001	<0.001		
2/3/2022					<0.001	<0.001
8/2/2022	<0.001					
8/4/2022		<0.001	<0.001	<0.001	<0.001	<0.001
1/24/2023	<0.001		<0.001	<0.001		
1/25/2023		<0.001			<0.001	<0.001
8/8/2023	<0.001					
8/10/2023		<0.001	<0.001		<0.001	
8/11/2023				<0.001		<0.001

Time Series

Constituent: Lithium (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-122 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-43D (bg)	HGWA-44D (bg)
5/19/2016	<0.03		<0.03	<0.03		
7/11/2016	<0.03		0.0014 (J)			
7/12/2016				0.0024 (J)		
8/30/2016	<0.03	<0.03	<0.03	0.0025 (J)		
10/19/2016	<0.03		<0.03	0.003 (J)		
10/20/2016		<0.03				
12/6/2016	<0.03		<0.03	0.0033 (J)		
1/24/2017	<0.03		<0.03	0.003 (J)		
1/25/2017		<0.03				
3/21/2017	<0.03		0.0012 (J)	0.0034 (J)		
5/22/2017	<0.03		<0.03	0.003 (J)		
5/25/2017		<0.03				
8/11/2017		<0.03				
11/15/2017		<0.03				
4/2/2018	<0.03		0.0015 (J)			
4/3/2018				0.003 (J)		
6/4/2018	0.001 (J)		0.0016 (J)	0.0027 (J)		
6/5/2018		<0.03				
10/1/2018	0.00099 (J)		0.0013 (J)	0.0032 (J)		
10/2/2018		<0.03				
3/12/2019	0.001 (J)		0.0018 (J)	0.0032 (J)		
4/1/2019				0.0032 (J)		
4/2/2019	0.001 (J)		0.0018 (J)			
8/22/2019		<0.03				
9/23/2019	0.0011 (J)		0.0016 (J)	0.0029 (J)		
10/21/2019		<0.03				
3/2/2020	0.0012 (J)		0.0017 (J)	0.0037 (J)		
3/24/2020		<0.03				
3/25/2020	0.00083 (J)		0.0017 (J)	0.0035 (J)		
8/24/2020		<0.03				
8/25/2020			0.0015 (J)	0.0027 (J)		
8/28/2020	0.00087 (J)					
9/15/2020	0.00087 (J)	<0.03	0.0015 (J)	0.0026 (J)		
9/16/2020					0.0018 (J)	0.014 (J)
11/10/2020					0.0013 (J)	0.025 (J)
12/15/2020					0.0019 (J)	0.028 (J)
1/19/2021					0.0025 (J)	<0.03
3/10/2021	0.0009 (J)					0.03
3/11/2021		<0.03	0.0011 (J)	0.0035 (J)	0.0022 (J)	
8/11/2021	0.00078 (J)				0.0024 (J)	
8/12/2021			0.0012 (J)	0.0028 (J)		
8/13/2021		<0.03				0.032
2/1/2022	0.0011 (J)	<0.03	0.0017 (J)	0.0037 (J)	0.0024 (J)	0.048
8/2/2022	<0.03	<0.03	0.0013 (J)	0.003 (J)	0.0019 (J)	0.041
1/23/2023				0.003 (J)		
1/24/2023	0.00092 (J)	<0.03	0.0014 (J)		0.002 (J)	0.064
8/8/2023	<0.03	<0.03	0.0017 (J)	0.0031 (J)	0.0021 (J)	0.092 (o)

Time Series

Constituent: Lithium (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-45D (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016		0.0333 (J)	0.0077 (J)	<0.03		
10/26/2016		0.0352 (J)		<0.03		
11/7/2016			0.0089 (J)			
1/13/2017			0.0091 (J)			
1/27/2017		0.0329 (J)		<0.03		
5/25/2017		0.0347 (J)		0.0011 (J)		
6/3/2017			0.0104 (J)			
8/11/2017				<0.03		
10/2/2017		0.0337 (J)	0.0095 (J)			
11/15/2017		0.0347 (J)	0.0086 (J)	<0.03		
6/5/2018		0.033 (J)	0.0092 (J)	0.0012 (J)		
10/2/2018		0.031 (J)		0.0012 (J)		
10/5/2018			0.0091 (J)			
8/22/2019		0.029 (J)	0.0084 (J)			
8/23/2019				0.0011 (J)		
10/21/2019			0.009 (J)	0.0011 (J)		
10/22/2019		0.03 (J)				
3/24/2020				0.0012 (J)		
3/25/2020		0.024 (J)	0.0066 (J)			
5/22/2020					0.0052 (J)	0.0046 (J)
6/16/2020					0.0053 (J)	0.0045 (J)
8/25/2020					0.0037 (J)	0.0037 (J)
8/26/2020		0.023 (J)	0.0071 (J)			
8/27/2020				0.00091 (J)		
9/18/2020						0.0035 (J)
9/21/2020		0.023 (J)			0.0038 (J)	
9/25/2020	0.0049 (J)					
9/28/2020			0.0076 (J)	0.0011 (J)		
11/11/2020	0.0032 (J)					0.0032 (J)
11/12/2020					0.0038 (J)	
12/16/2020	0.0045 (J)				0.0055 (J)	0.0029 (J)
1/20/2021	0.0025 (J)				0.0046 (J)	0.0038 (J)
3/12/2021	0.005 (J)	0.023 (J)			0.0039 (J)	0.0038 (J)
3/15/2021			0.0077 (J)	0.001 (J)		
8/13/2021	0.0044 (J)					
8/16/2021		0.025 (J)	0.0075 (J)	0.0011 (J)		
8/19/2021					0.0074 (J)	0.0032 (J)
2/1/2022	0.0055 (J)					
2/2/2022		0.025 (J)	0.0082 (J)	0.0012 (J)		
2/3/2022					0.0057 (J)	0.0038 (J)
8/2/2022	0.0045 (J)					
8/4/2022		0.023 (J)	0.0069 (J)	0.0011 (J)	0.0035 (J)	0.0034 (J)
1/24/2023	0.0044 (J)		0.0066 (J)	0.0011 (J)		
1/25/2023		0.018 (J)			0.0045 (J)	0.0046 (J)
8/8/2023	0.0049 (J)					
8/10/2023		0.023 (J)	0.0069 (J)		0.0042 (J)	
8/11/2023				0.00097 (J)		0.0041 (J)

Time Series

Constituent: Mercury (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-122 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-43D (bg)	HGWA-44D (bg)
5/19/2016	<0.0002		<0.0002	<0.0002		
7/11/2016	<0.0002		<0.0002			
7/12/2016				<0.0002		
8/30/2016	4E-05 (J)	4.3E-05 (J)	4E-05 (J)	<0.0002		
10/19/2016	<0.0002		<0.0002	<0.0002		
10/20/2016		<0.0002				
12/6/2016	<0.0002		<0.0002	<0.0002		
1/24/2017	<0.0002		<0.0002	<0.0002		
1/25/2017		4E-05 (J)				
3/21/2017	<0.0002		<0.0002	<0.0002		
5/22/2017	<0.0002		<0.0002	<0.0002		
5/25/2017		7E-05 (J)				
8/11/2017		<0.0002				
11/15/2017		<0.0002				
4/2/2018	<0.0002		<0.0002			
4/3/2018				<0.0002		
6/5/2018		<0.0002				
10/2/2018		<0.0002				
3/12/2019	<0.0002		<0.0002	<0.0002		
8/22/2019		<0.0002				
3/2/2020	<0.0002		<0.0002	<0.0002		
8/24/2020		<0.0002				
8/25/2020			<0.0002	<0.0002		
8/28/2020	<0.0002					
9/16/2020				<0.0002	<0.0002	
11/10/2020				<0.0002	<0.0002	
12/15/2020				<0.0002	<0.0002	
1/19/2021				<0.0002	<0.0002	
8/11/2021	<0.0002			<0.0002		
8/12/2021			<0.0002	<0.0002		
8/13/2021		<0.0002				<0.0002
2/1/2022	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
8/2/2022	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
1/23/2023				<0.0002		
1/24/2023	<0.0002	<0.0002	<0.0002		<0.0002	<0.0002
8/8/2023	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002

Time Series

Constituent: Mercury (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-45D (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016		4E-05 (J)	<0.0002	<0.0002		
10/26/2016		<0.0002		<0.0002		
11/7/2016			<0.0002			
1/13/2017			<0.0002			
1/27/2017		<0.0002		<0.0002		
5/25/2017		7E-05 (J)		5.1E-05 (J)		
6/3/2017			<0.0002			
8/11/2017				<0.0002		
10/2/2017		<0.0002	<0.0002			
11/15/2017		<0.0002	<0.0002	<0.0002		
6/5/2018		<0.0002	<0.0002	<0.0002		
10/2/2018		<0.0002		<0.0002		
10/5/2018			<0.0002			
8/22/2019		<0.0002	<0.0002			
8/23/2019				<0.0002		
5/22/2020					<0.0002	<0.0002
6/16/2020					<0.0002	<0.0002
8/25/2020					<0.0002	<0.0002
8/26/2020		<0.0002	<0.0002			
8/27/2020				<0.0002		
9/18/2020						<0.0002
9/21/2020					<0.0002	
9/25/2020	<0.0002					
11/11/2020	<0.0002					<0.0002
11/12/2020					<0.0002	
12/16/2020	<0.0002				<0.0002	<0.0002
1/20/2021	<0.0002				<0.0002	<0.0002
8/13/2021	<0.0002					
8/16/2021		<0.0002	<0.0002	<0.0002		
8/19/2021					<0.0002	<0.0002
2/1/2022	<0.0002					
2/2/2022		<0.0002	<0.0002	<0.0002		
2/3/2022					<0.0002	<0.0002
8/2/2022	<0.0002					
8/4/2022		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
1/24/2023	<0.0002		<0.0002	<0.0002		
1/25/2023		<0.0002			<0.0002	<0.0002
8/8/2023	<0.0002					
8/10/2023		<0.0002	<0.0002		<0.0002	
8/11/2023				<0.0002		<0.0002

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-122 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-43D (bg)	HGWA-44D (bg)
5/19/2016	<0.01		<0.01	<0.01		
7/11/2016	<0.01		<0.01			
7/12/2016				<0.01		
8/30/2016	<0.01	0.0026 (J)	<0.01	<0.01		
10/19/2016	<0.01		<0.01	<0.01		
10/20/2016		0.005 (J)				
12/6/2016	<0.01		<0.01	<0.01		
1/24/2017	<0.01		<0.01	<0.01		
1/25/2017		0.0054 (J)				
3/21/2017	<0.01		<0.01	<0.01		
5/22/2017	<0.01		<0.01	<0.01		
5/25/2017		0.0018 (J)				
8/11/2017		0.0029 (J)				
11/15/2017		0.0018 (J)				
4/2/2018	<0.01		<0.01			
4/3/2018				<0.01		
6/4/2018	<0.01		<0.01	<0.01		
6/5/2018		0.0028 (J)				
10/1/2018	<0.01		<0.01	<0.01		
10/2/2018		<0.01				
3/12/2019	<0.01		<0.01	<0.01		
4/1/2019				<0.01		
4/2/2019	<0.01		<0.01			
8/22/2019		0.003 (J)				
9/23/2019	<0.01		<0.01	<0.01		
10/21/2019		0.0049 (J)				
3/2/2020	<0.01		<0.01	<0.01		
3/24/2020		0.0091 (J)				
3/25/2020	<0.01		<0.01	<0.01		
6/16/2020	<0.01			<0.01		
8/24/2020		0.0031 (J)				
8/25/2020			<0.01	<0.01		
8/28/2020	<0.01					
9/15/2020	<0.01	0.0045 (J)	<0.01	<0.01		
9/16/2020					0.0044 (J)	0.0019 (J)
11/10/2020					0.0072 (J)	0.0018 (J)
12/15/2020					0.0044 (J)	0.0019 (J)
1/19/2021					0.0038 (J)	<0.01
3/10/2021	<0.01					0.0019 (J)
3/11/2021		0.0014 (J)	<0.01	<0.01	0.0064 (J)	
8/11/2021	<0.01				0.0034 (J)	
8/12/2021			<0.01	<0.01		
8/13/2021		0.0022 (J)				0.0051 (J)
2/1/2022	<0.01	0.002 (J)	<0.01	<0.01	0.0036 (J)	0.0055 (J)
8/2/2022	<0.01	0.0042 (J)	<0.01	<0.01	0.0042 (J)	0.002 (J)
1/23/2023				<0.01		
1/24/2023	<0.01	0.0035 (J)	<0.01		0.0027 (J)	0.0026 (J)
8/8/2023	<0.01	0.0039 (J)	<0.01	<0.01	0.0019 (J)	0.0013 (J)

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-45D (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016		0.0176	<0.01	<0.01		
10/26/2016		0.0187		<0.01		
11/7/2016			<0.01			
1/13/2017			<0.01			
1/27/2017		0.0214		<0.01		
5/25/2017		0.0231		0.0009 (J)		
6/3/2017			<0.01			
8/11/2017				0.0013 (J)		
10/2/2017		0.0259	<0.01			
11/15/2017		0.0281	<0.01	0.0012 (J)		
6/5/2018		0.033	<0.01	<0.01		
10/2/2018		0.036		<0.01		
10/5/2018			<0.01			
8/22/2019		0.039	<0.01			
8/23/2019				0.0014 (J)		
10/21/2019			<0.01	0.0013 (J)		
10/22/2019		0.04				
3/24/2020				0.001 (J)		
3/25/2020		0.034	<0.01			
5/22/2020				<0.01	<0.01	
6/16/2020				<0.01	<0.01	
8/25/2020				0.00099 (J)	<0.01	
8/26/2020		0.05	<0.01			
8/27/2020				0.00091 (J)		
9/18/2020						<0.01
9/21/2020		0.043		<0.01		
9/25/2020	0.0014 (J)					
9/28/2020			<0.01	0.0009 (J)		
11/11/2020	0.0049 (J)					<0.01
11/12/2020				0.0017 (J)		
12/16/2020	0.0024 (J)			0.014	<0.01	
1/20/2021	0.0063 (J)			0.0013 (J)	<0.01	
3/12/2021	0.0019 (J)	0.033		0.0012 (J)	<0.01	
3/15/2021			<0.01	0.00092 (J)		
8/13/2021	<0.01					
8/16/2021		0.035	<0.01	0.00091 (J)		
8/19/2021				0.021	<0.01	
2/1/2022	<0.01					
2/2/2022		0.034	<0.01	0.001 (J)		
2/3/2022				0.0067 (J)	<0.01	
8/2/2022	<0.01					
8/4/2022		0.032	<0.01	<0.01	0.0023 (J)	<0.01
1/24/2023	<0.01		<0.01	<0.01		
1/25/2023		0.03			0.0053 (J)	<0.01
8/8/2023	<0.01					
8/10/2023		0.035	<0.01		0.0031 (J)	
8/11/2023				<0.01		<0.01

Time Series

Constituent: pH (s.u.) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-122 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-43D (bg)	HGWA-44D (bg)
5/19/2016	7.27		5.81	7.45		
7/11/2016	7.06		5.68			
7/12/2016				7.32		
8/30/2016	7.28	6.75	5.63	7.43		
10/19/2016	7.02		5.46	7.03		
10/20/2016		6.73				
12/6/2016	7.09		5.38	7.08		
1/24/2017	7.2		5.37	7.39		
1/25/2017		6.88				
3/21/2017	7.01		4.9	6.83		
5/22/2017	7.11		5.2	7.02		
5/25/2017		6.55				
8/11/2017		6.56				
10/3/2017	7.21		5.3	7.47		
11/15/2017		6.47				
4/2/2018	7.1		5.4			
4/3/2018				7.38		
6/4/2018	7.06		5.27	7.38		
6/5/2018		6.66				
10/1/2018	7.09		5.31	7.13		
10/2/2018		6.44				
3/12/2019	7.03		5.42	7.29		
4/1/2019				7.16		
4/2/2019	6.86	6.57	5.41			
8/22/2019		6.51				
9/23/2019	7.02		5.33	7.3		
10/21/2019		6.69				
3/2/2020	7.1		5.43	7.12		
3/24/2020		7.08				
3/25/2020	6.95		5.36	7.4		
6/16/2020	6.97			7.31		
8/24/2020		6.54				
8/25/2020			5.17	7.14		
8/28/2020	7.02					
9/15/2020	7.15	6.68	5.22	7.29		
9/16/2020					7.52	7.83
11/10/2020					7.27	7.84
12/15/2020					7.39	7.87
1/19/2021					7.39	7.86
3/10/2021	6.95					7.92
3/11/2021		6.65	5.8	7.33	7.46	
8/11/2021	6.98				7.4	
8/12/2021			5.05	7.31		
8/13/2021		6.56				7.77
2/1/2022	7.19	6.57	5.24	7.45	7.52	8.25
8/2/2022	7.03	6.67	4.57	7.02	7.15	7.9
1/23/2023				7.32		
1/24/2023	6.76	6.43	5.22		7.56	8.22
8/8/2023	7.05	6.67	5.01	7.42	7.39	8.2

Time Series

Constituent: pH (s.u.) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-45D (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016		6.73	6.62	6.99		
10/27/2016		6.77		7.06		
11/7/2016			6.71			
1/13/2017			6.57			
1/27/2017		6.74		7.13		
5/25/2017		6.99		7.1		
6/3/2017			6.71			
8/11/2017				7.02		
10/2/2017		7.66	7.65			
11/15/2017		6.71	6.69	7.04		
6/5/2018		6.83	6.79	7.17		
10/2/2018		6.83		7.08		
10/5/2018			6.71			
4/2/2019		6.87				
4/3/2019			6.73	7.14		
8/22/2019		6.79	6.77			
8/23/2019				7.02		
10/21/2019			6.74	7.05		
10/22/2019		6.74				
3/24/2020				7.18		
3/25/2020		6.8	6.91			
5/22/2020					6.43	7.22
6/15/2020		6.8				
6/16/2020					6.29	6.92
8/25/2020					6.36	6.78
8/26/2020		6.96	6.73			
8/27/2020				7.15		
9/18/2020						6.97
9/21/2020		6.98			6.22	
9/25/2020	7.57					
9/28/2020			6.93	7.27		
11/11/2020	7.4					6.86
11/12/2020					6.13	
12/16/2020	7.39				6.61	6.93
1/20/2021	7.47				6.23	6.99
3/12/2021	7.52	6.95			6.18	7.05
3/15/2021			6.87	7.22		
8/13/2021	7.42					
8/16/2021		6.92	6.74	7.09		
8/19/2021					7.24	7.32
2/1/2022	7.45					
2/2/2022		7	6.92	7.28		
2/3/2022					6.56	7.01
8/2/2022	7.39					
8/4/2022		6.93	6.8	7.15	6.09	6.99
1/24/2023	7.15		6.75	7.05		
1/25/2023		6.32			6.32	6.89
8/8/2023	7.39					
8/10/2023		6.96	6.89		6.29	
8/11/2023				7.2		6.95

Time Series

Constituent: Selenium (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-122 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-43D (bg)	HGWA-44D (bg)
5/19/2016	<0.005		<0.005	<0.005		
7/11/2016	<0.005		<0.005			
7/12/2016				<0.005		
8/30/2016	<0.005	<0.005	<0.005	<0.005		
10/19/2016	<0.005		<0.005	<0.005		
10/20/2016		<0.005				
12/6/2016	<0.005		<0.005	<0.005		
1/24/2017	<0.005		<0.005	<0.005		
1/25/2017		<0.005				
3/21/2017	<0.005		<0.005	<0.005		
5/22/2017	<0.005		<0.005	<0.005		
5/25/2017		<0.005				
8/11/2017		<0.005				
11/15/2017		<0.005				
4/2/2018	<0.005		<0.005			
4/3/2018				<0.005		
6/4/2018	<0.005		<0.005	<0.005		
6/5/2018		<0.005				
10/1/2018	<0.005		<0.005	<0.005		
10/2/2018		0.0015 (J)				
3/12/2019	<0.005		<0.005	<0.005		
4/1/2019				<0.005		
4/2/2019	<0.005		<0.005			
8/22/2019		<0.005				
9/23/2019	<0.005		<0.005	<0.005		
3/2/2020	<0.005		<0.005	<0.005		
3/25/2020	<0.005		<0.005	<0.005		
8/24/2020		<0.005				
8/25/2020			<0.005	<0.005		
8/28/2020	<0.005					
9/15/2020	<0.005		<0.005	<0.005		
9/16/2020					<0.005	<0.005
11/10/2020				<0.005		<0.005
12/15/2020				<0.005		<0.005
1/19/2021				<0.005		<0.005
8/11/2021	<0.005			<0.005		
8/12/2021			<0.005	<0.005		
8/13/2021		<0.005				<0.005
2/1/2022	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
8/2/2022	<0.005	<0.005	0.0014 (J)	<0.005	<0.005	<0.005
1/23/2023				<0.005		
1/24/2023	<0.005	<0.005	<0.005		<0.005	<0.005
8/8/2023	<0.005	<0.005	0.0019 (J)	<0.005	<0.005	<0.005

Time Series

Constituent: Selenium (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-45D (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016		<0.005	<0.005	<0.005		
10/26/2016		<0.005		<0.005		
11/7/2016			<0.005			
1/13/2017			0.0011 (J)			
1/27/2017		<0.005		<0.005		
5/25/2017		<0.005		<0.005		
6/3/2017			<0.005			
8/11/2017				<0.005		
10/2/2017		0.002 (J)	<0.005			
11/15/2017		<0.005	<0.005	<0.005		
6/5/2018		<0.005	<0.005	<0.005		
10/2/2018		<0.005		0.0014 (J)		
10/5/2018			<0.005			
8/22/2019		<0.005	<0.005			
8/23/2019				<0.005		
5/22/2020					<0.005	<0.005
6/16/2020					<0.005	<0.005
8/25/2020					<0.005	<0.005
8/26/2020		<0.005	<0.005			
8/27/2020				<0.005		
9/18/2020						<0.005
9/21/2020					<0.005	
9/25/2020	<0.005					
11/11/2020	<0.005					<0.005
11/12/2020					<0.005	
12/16/2020	<0.005				<0.005	<0.005
1/20/2021	<0.005				<0.005	<0.005
8/13/2021	<0.005					
8/16/2021		<0.005	<0.005	<0.005		
8/19/2021					<0.005	<0.005
2/1/2022	<0.005					
2/2/2022		<0.005	<0.005	<0.005		
2/3/2022					<0.005	<0.005
8/2/2022	<0.005					
8/4/2022		<0.005	<0.005	<0.005	<0.005	<0.005
1/24/2023	<0.005		<0.005	<0.005		
1/25/2023		<0.005			<0.005	<0.005
8/8/2023	<0.005					
8/10/2023		<0.005	<0.005		<0.005	
8/11/2023				<0.005		<0.005

Time Series

Constituent: Sulfate (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-122 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-43D (bg)	HGWA-44D (bg)
5/19/2016	66.9		48.6	42.3		
7/11/2016	41		45			
7/12/2016				44		
8/30/2016	36	49	42	40		
10/19/2016	46		44	43		
10/20/2016		49				
12/6/2016	59		44	43		
1/24/2017	46		46	48		
1/25/2017		48				
3/21/2017	63		46	45		
5/22/2017	77		48	46		
5/25/2017		48				
8/11/2017		47				
10/3/2017	42		47	48		
11/15/2017		49				
6/4/2018	71.8		47.8	46.6		
6/5/2018		48.9				
10/1/2018	49.1		48.1	48.6		
10/2/2018		48.6				
4/1/2019				50.4		
4/2/2019	84.3	39.6	48.7			
6/18/2019		44.5				
9/23/2019	70.2		47.2	43.9		
10/21/2019		45.6				
3/24/2020		25.9				
3/25/2020	85.9		46.3	50.5		
6/16/2020	88.2			49.5		
9/15/2020	47.3	41.4	51.5	44.7		
9/16/2020					43	43
11/10/2020					39	6.3
12/15/2020					38.8	6.7
1/19/2021					37.3	7.4
3/10/2021	49.6					<1
3/11/2021		40.7	52.9	50.4	38.6	
8/11/2021	48.9				30.5	
8/12/2021			47.4	38.6		
8/13/2021		42.1				56.1
2/1/2022	43.7	41.1	67.1	46	37.5	56.3
8/2/2022	58.1	41.5	86.9	43.5	37	13.2
1/23/2023				39.5		
1/24/2023	48.3	36.5	79.7		34.7	10.1
8/8/2023	67.7	34.9	89.9	35	25.6	1.3

Time Series

Constituent: Sulfate (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-45D (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016		290	280	72		
10/26/2016		280		71		
11/7/2016			300			
1/13/2017			270			
1/27/2017		290		74		
5/25/2017		280		73		
6/3/2017			270			
8/11/2017				71		
10/2/2017		300	330			
11/15/2017		300	280	70		
6/5/2018		273	241	74		
10/2/2018		328		80.7		
10/5/2018			271			
4/2/2019		256				
4/3/2019			230	75.2		
6/17/2019		243	219			
6/18/2019				75.3		
10/21/2019			238	78.5		
10/22/2019		266				
3/24/2020				74.6		
3/25/2020		226	116			
5/22/2020					345	56.1
6/15/2020		212				
6/16/2020					320	57.6
8/25/2020					353	62.8
9/18/2020						62.7
9/21/2020		225			352	
9/25/2020	6.8					
9/28/2020			182	86.2		
11/11/2020	11.2					62.3
11/12/2020					300	
12/16/2020	11.3				306	68.1
1/20/2021	14.2				335	66.6
3/12/2021	8.7	210			293	69.7
3/15/2021			177	74		
8/13/2021	8.1					
8/16/2021		211	158	74		
8/19/2021					264	64.4
2/1/2022	2.5					
2/2/2022		201	147	70.7		
2/3/2022					304	66.8
8/2/2022	2.1					
8/4/2022		230	162	73.1	331	68.3
1/24/2023	5.2		151	69.6		
1/25/2023		230			306	63.7
8/8/2023	2.2					
8/10/2023		195	138		290	
8/11/2023				67.6		60.5

Time Series

Constituent: Thallium (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-122 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-43D (bg)	HGWA-44D (bg)
5/19/2016	<0.001		<0.001	<0.001		
7/11/2016	<0.001		<0.001			
7/12/2016				<0.001		
8/30/2016	<0.001	<0.001	<0.001	<0.001		
10/19/2016	<0.001		<0.001	<0.001		
10/20/2016		<0.001				
12/6/2016	<0.001		<0.001	<0.001		
1/24/2017	<0.001		<0.001	<0.001		
1/25/2017		<0.001				
3/21/2017	<0.001		3E-05 (J)	<0.001		
5/22/2017	<0.001		<0.001	<0.001		
5/25/2017		<0.001				
8/11/2017		<0.001				
11/15/2017		<0.001				
4/2/2018	<0.001		<0.001			
4/3/2018				<0.001		
6/4/2018	<0.001		<0.001	<0.001		
6/5/2018		<0.001				
10/1/2018	<0.001		<0.001	<0.001		
10/2/2018		<0.001				
3/12/2019	<0.001		<0.001	<0.001		
4/1/2019				<0.001		
4/2/2019	<0.001		<0.001			
8/22/2019		<0.001				
9/23/2019	<0.001		<0.001	<0.001		
3/2/2020	<0.001		<0.001	<0.001		
3/25/2020	<0.001		<0.001	<0.001		
8/24/2020		<0.001				
8/25/2020			<0.001	<0.001		
8/28/2020	<0.001					
9/15/2020	<0.001		<0.001	<0.001		
9/16/2020					<0.001	<0.001
11/10/2020					<0.001	<0.001
12/15/2020					<0.001	<0.001
1/19/2021					<0.001	<0.001
8/11/2021	<0.001				<0.001	
8/12/2021			<0.001	<0.001		
8/13/2021		<0.001				<0.001
2/1/2022	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
8/2/2022	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1/23/2023				<0.001		
1/24/2023	<0.001	<0.001	<0.001		<0.001	<0.001
8/8/2023	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Time Series

Constituent: Thallium (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot
Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-45D (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016		<0.001	<0.001	<0.001		
10/26/2016		<0.001		<0.001		
11/7/2016			<0.001			
1/13/2017			<0.001			
1/27/2017		<0.001		<0.001		
5/25/2017		<0.001		<0.001		
6/3/2017			<0.001			
8/11/2017				<0.001		
10/2/2017		<0.001	<0.001			
11/15/2017		<0.001	<0.001	<0.001		
6/5/2018		<0.001	<0.001	<0.001		
10/2/2018		<0.001		<0.001		
10/5/2018			<0.001			
8/22/2019		<0.001	<0.001			
8/23/2019				<0.001		
5/22/2020					<0.001	<0.001
6/16/2020					<0.001	<0.001
8/25/2020					<0.001	<0.001
8/26/2020		<0.001	<0.001			
8/27/2020				<0.001		
9/18/2020						<0.001
9/21/2020					<0.001	
9/25/2020	<0.001					
11/11/2020	<0.001					<0.001
11/12/2020					<0.001	
12/16/2020	<0.001				<0.001	<0.001
1/20/2021	<0.001				<0.001	<0.001
8/13/2021	<0.001					
8/16/2021		<0.001	<0.001	<0.001		
8/19/2021					<0.001	<0.001
2/1/2022	<0.001					
2/2/2022		<0.001	<0.001	<0.001		
2/3/2022					<0.001	<0.001
8/2/2022	<0.001					
8/4/2022		<0.001	<0.001	<0.001	<0.001	<0.001
1/24/2023	<0.001		<0.001	<0.001		
1/25/2023		<0.001			<0.001	<0.001
8/8/2023	<0.001					
8/10/2023		<0.001	<0.001		<0.001	
8/11/2023				<0.001		<0.001

Time Series

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-122 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-43D (bg)	HGWA-44D (bg)
5/19/2016	421		143	267		
7/11/2016	363		125			
7/12/2016				249		
8/30/2016	330	280	168	254		
10/19/2016	380		176	357		
10/20/2016		265				
12/6/2016	377		145	285		
1/24/2017	342		129	300		
1/25/2017		371				
3/21/2017	340		103	288		
5/22/2017	338		92	263		
5/25/2017		237				
8/11/2017		253				
10/3/2017	343		127	300		
11/15/2017		261				
6/4/2018	415		140	266		
6/5/2018		276				
10/1/2018	354		135	291		
10/2/2018		256				
4/1/2019				284		
4/2/2019	452	814 (o)	133			
6/18/2019		233				
9/23/2019	442		129	268		
10/21/2019		296				
3/24/2020		278				
3/25/2020	496		138	284		
6/16/2020	632			448		
9/15/2020	265	267	124	258		
9/16/2020					272	270
11/10/2020					307	287
12/15/2020					289	295
1/19/2021					270	278
3/10/2021	348					289
3/11/2021		206	169	267	279	
8/11/2021	366				277	
8/12/2021			118	265		
8/13/2021		201				436
2/1/2022	270	203	156	350	156	444
8/2/2022	400	217	196	287	278	311
1/23/2023				293		
1/24/2023	369	246	164		271	363
8/8/2023	457	248	189	285	274	361

Time Series

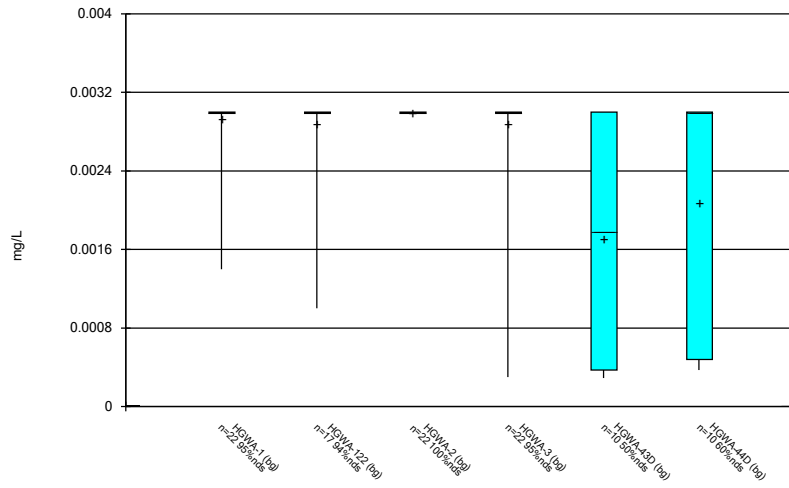
Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-45D (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016		700	876	379		
10/26/2016		795		409		
11/7/2016			1000			
1/13/2017			827			
1/27/2017		706		370		
5/25/2017		669		351		
6/3/2017			846			
8/11/2017				322		
10/2/2017		672	884			
11/15/2017		721	838	350		
6/5/2018		723	823	360		
10/2/2018		703		363		
10/5/2018			813			
4/2/2019		540				
4/3/2019			785	369		
6/17/2019			751			
10/21/2019			771	357		
10/22/2019		693				
3/24/2020				355		
3/25/2020		665	521			
5/22/2020					809	496
6/15/2020		685				
6/16/2020					665	508
8/25/2020					772	505
9/18/2020						452
9/21/2020		272			956	
9/25/2020	263					
9/28/2020			<10	176		
11/1/2020	276					468
11/12/2020					694	
12/16/2020	294				816	536
1/20/2021	289				726	472
3/12/2021	260	584			664	474
3/15/2021			614	340		
8/13/2021	272					
8/16/2021		632	626	352		
8/19/2021					732	488
2/1/2022	268					
2/2/2022		612	638	347		
2/3/2022					726	466
8/2/2022	261					
8/4/2022		632	640	334	706	510
1/24/2023	289		602	350		
1/25/2023		656			798	517
8/8/2023	261					
8/10/2023		661	642		760	
8/11/2023				361		535

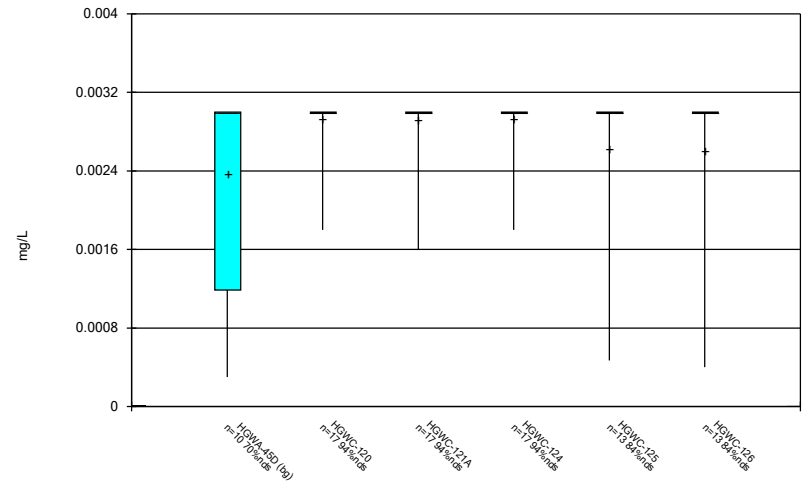
FIGURE B.

Box & Whiskers Plot



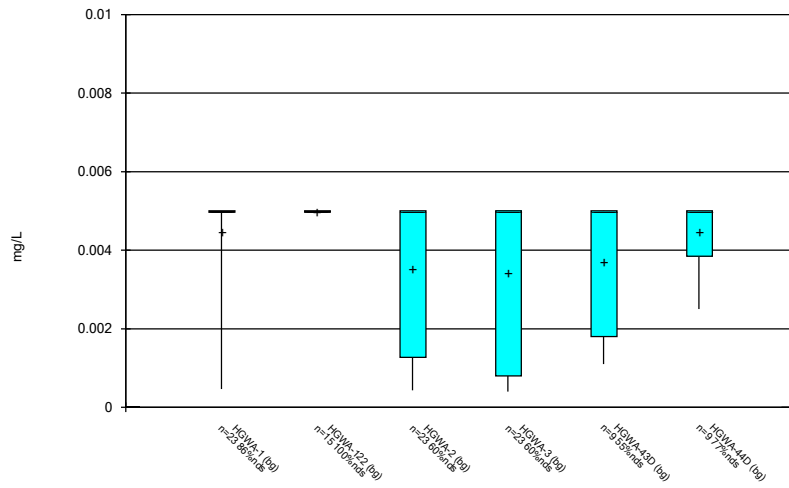
Constituent: Antimony Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot
Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



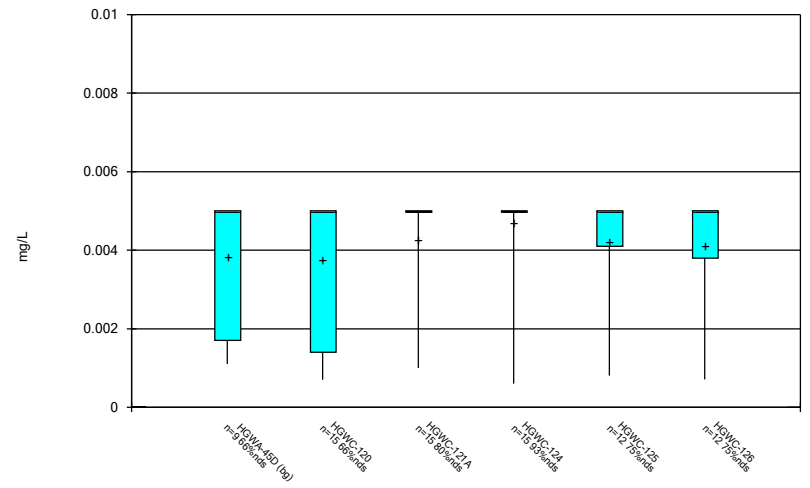
Constituent: Antimony Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot
Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



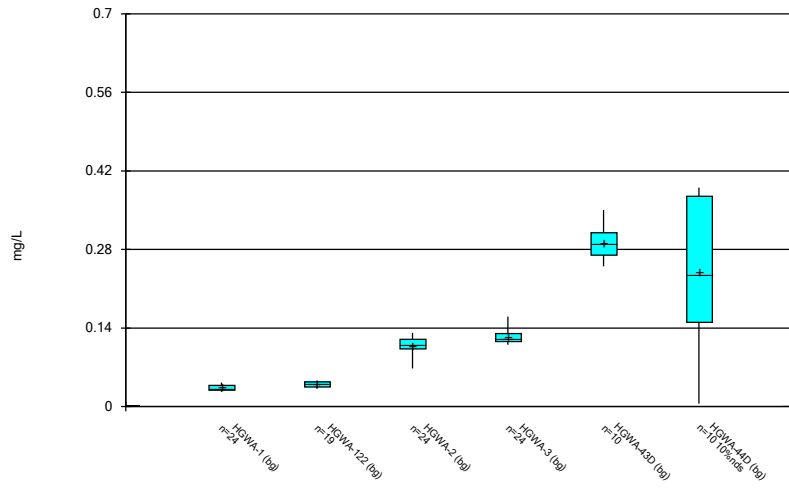
Constituent: Arsenic Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot
Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



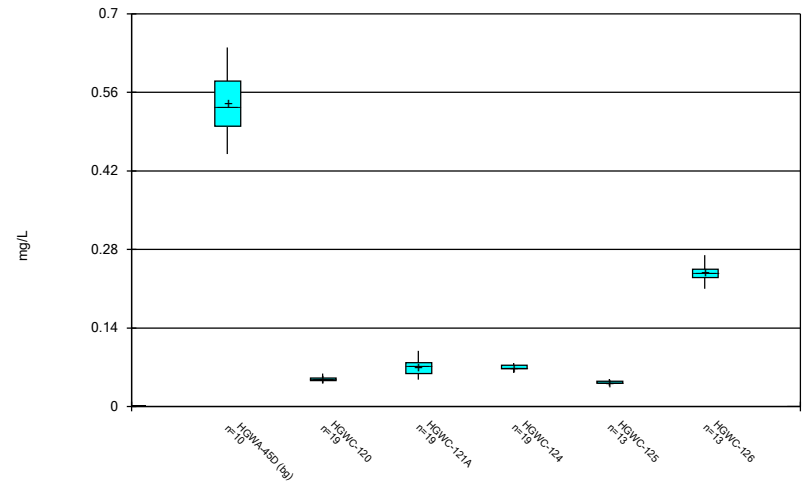
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Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



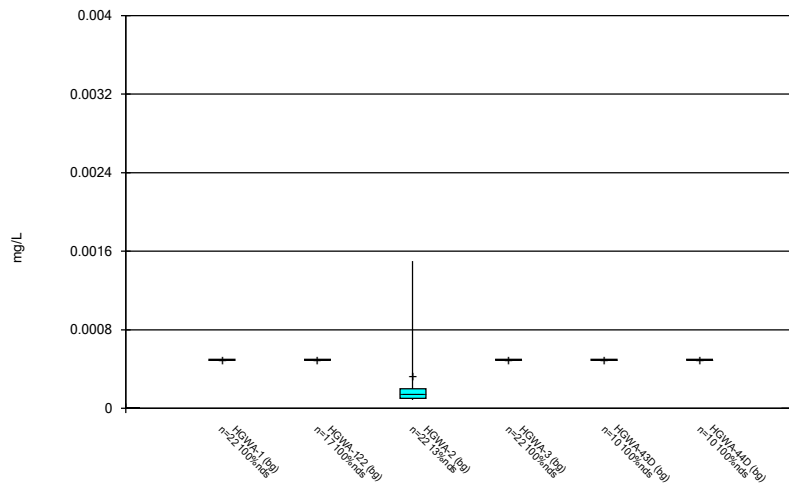
Constituent: Barium Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot
Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



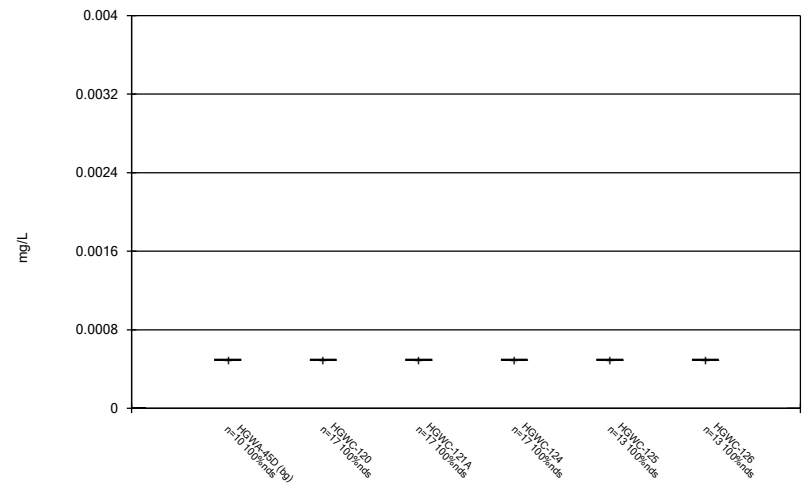
Constituent: Barium Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot
Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



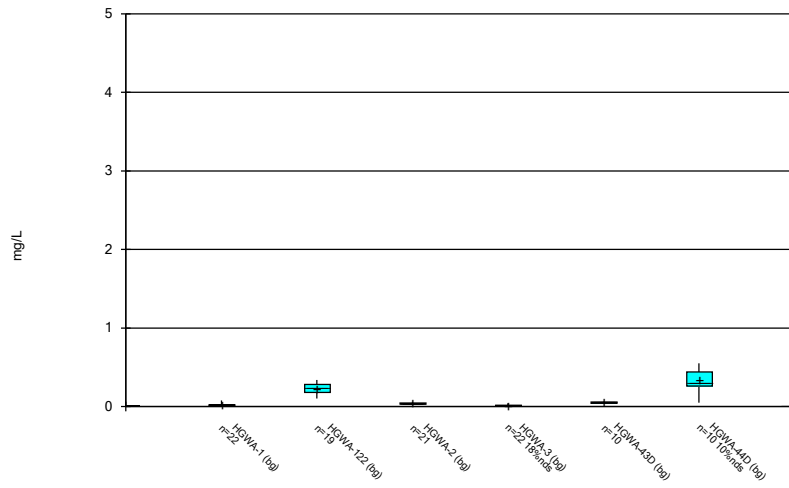
Constituent: Beryllium Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot
Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



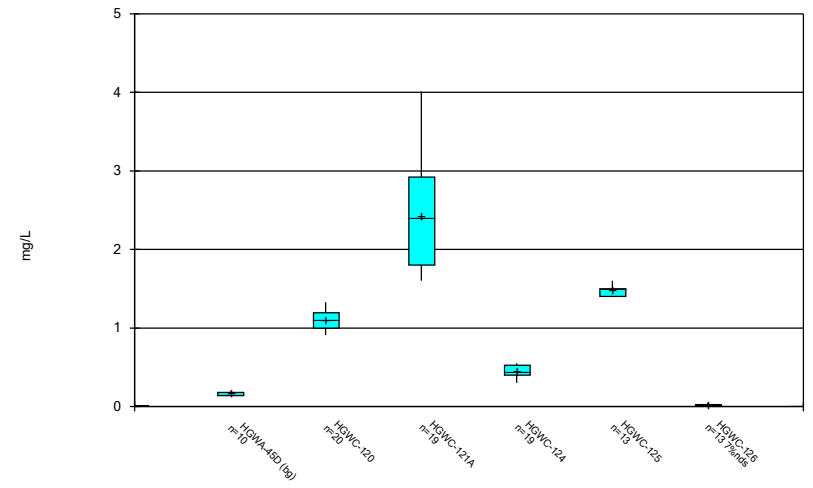
Constituent: Beryllium Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot
Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



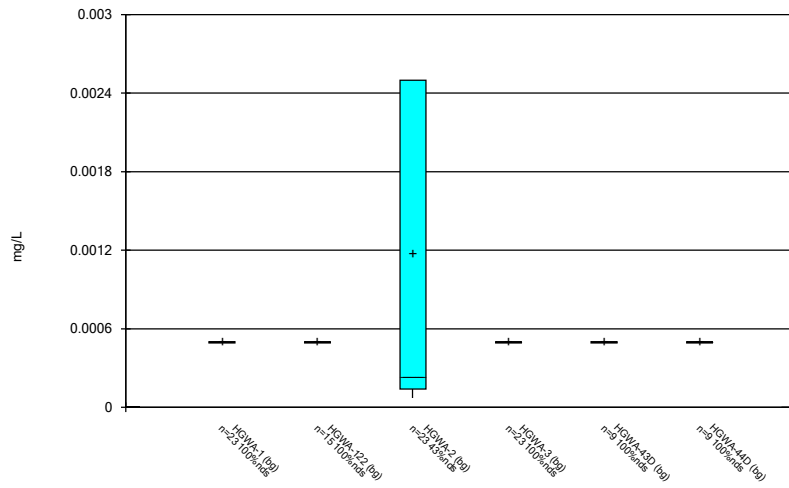
Constituent: Boron Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot
Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



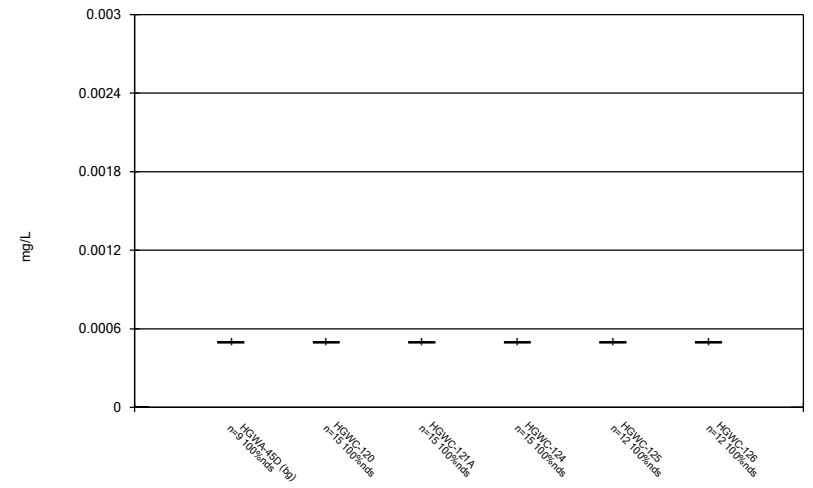
Constituent: Boron Analysis Run 10/25/2023 6:23 PM View: Time Series & Box Plot
Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



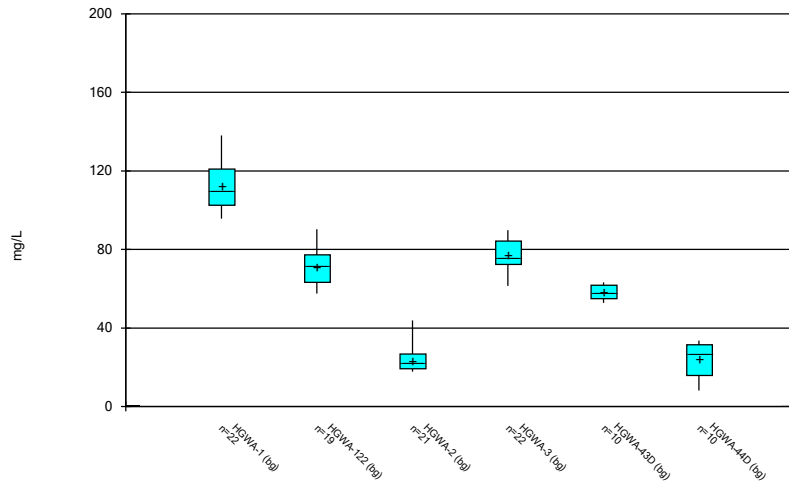
Constituent: Cadmium Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



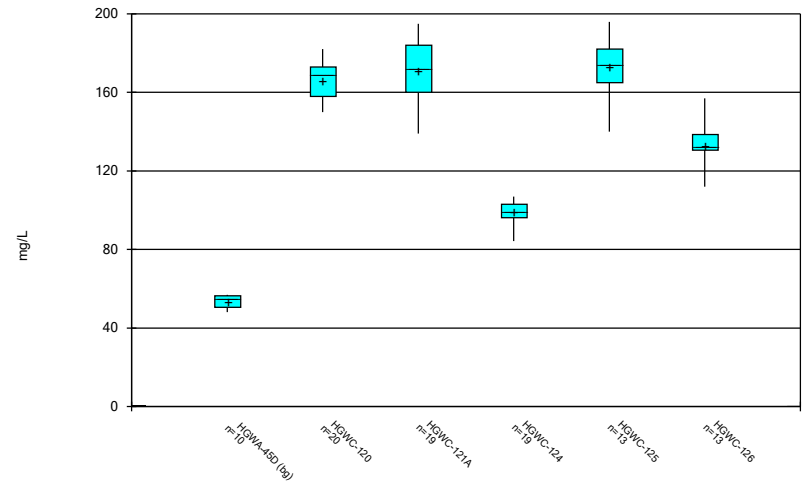
Constituent: Cadmium Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



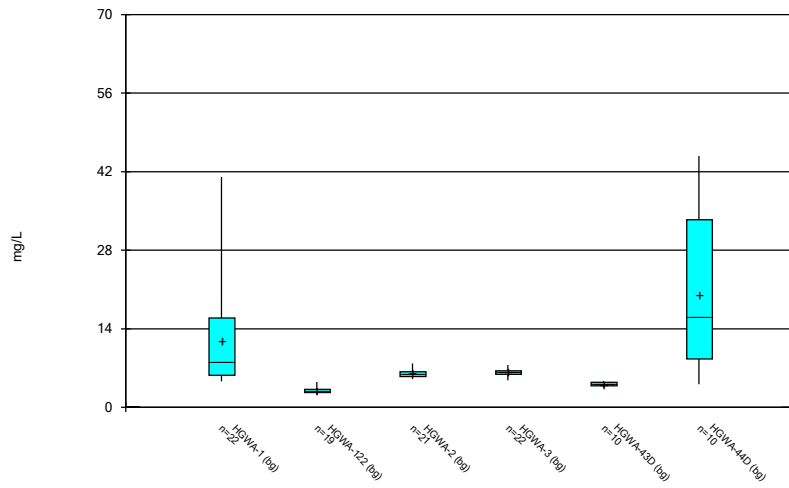
Constituent: Calcium Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



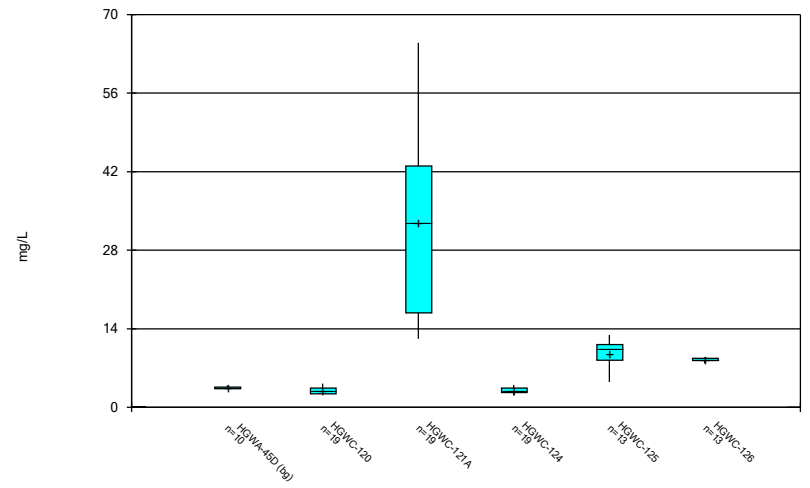
Constituent: Calcium Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



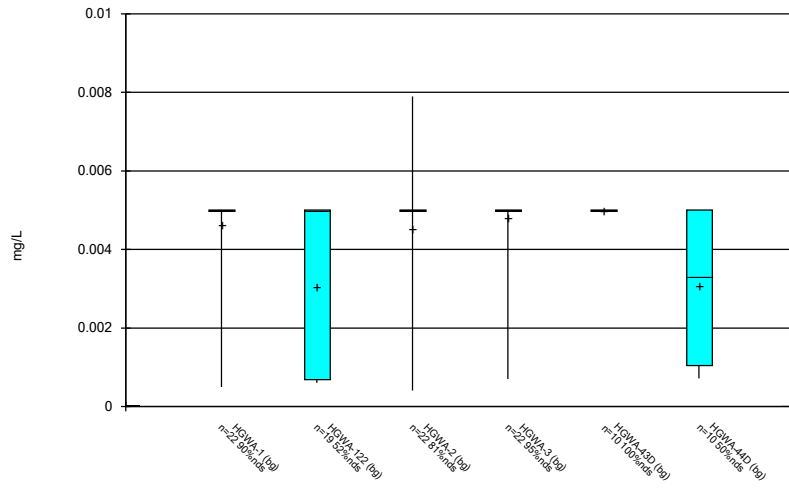
Constituent: Chloride Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



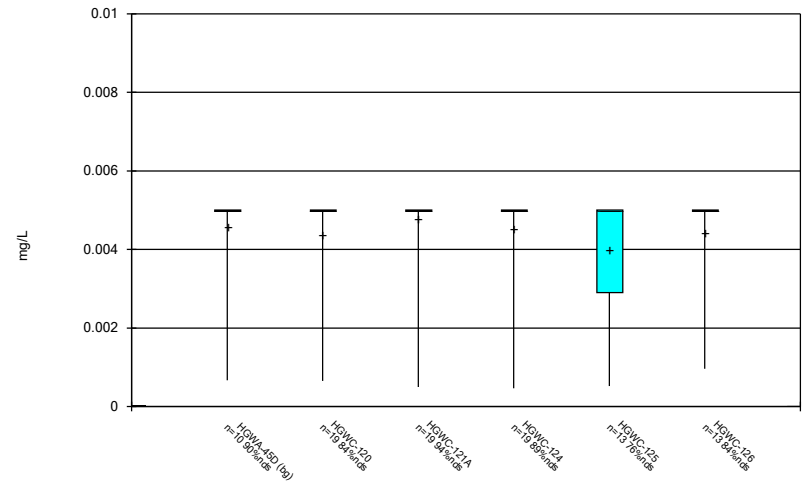
Constituent: Chloride Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



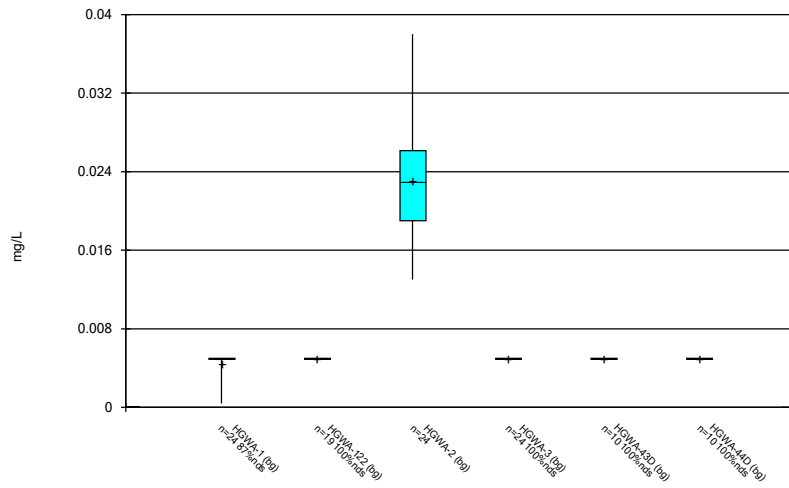
Constituent: Chromium Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



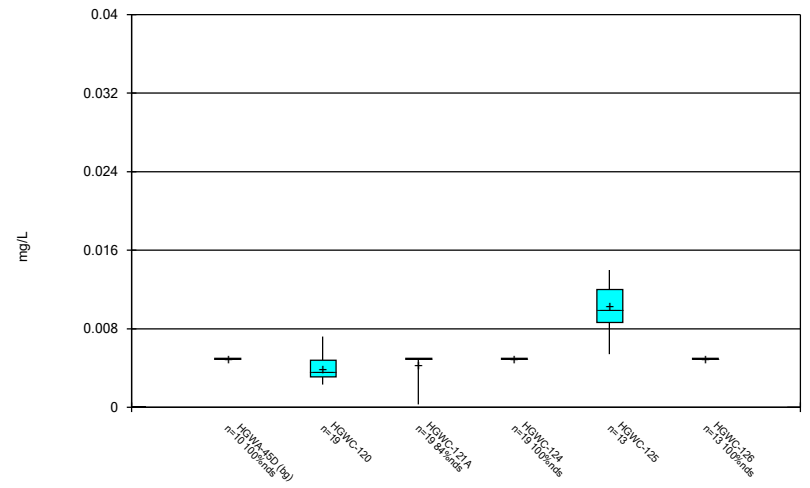
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Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



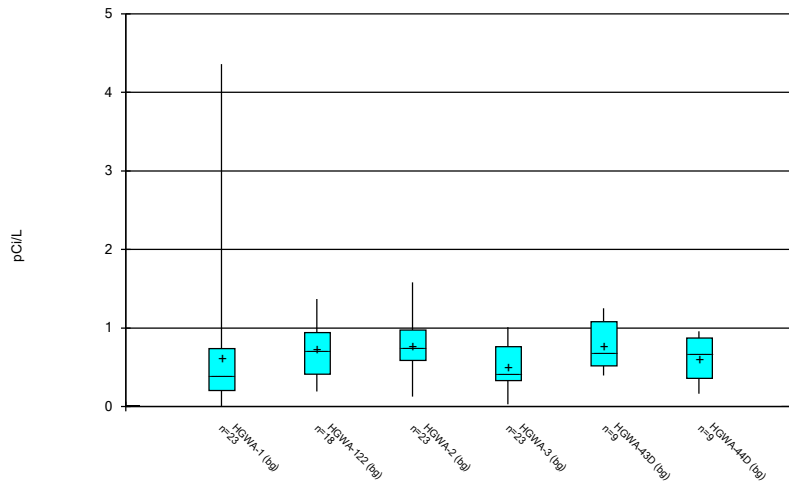
Constituent: Cobalt Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



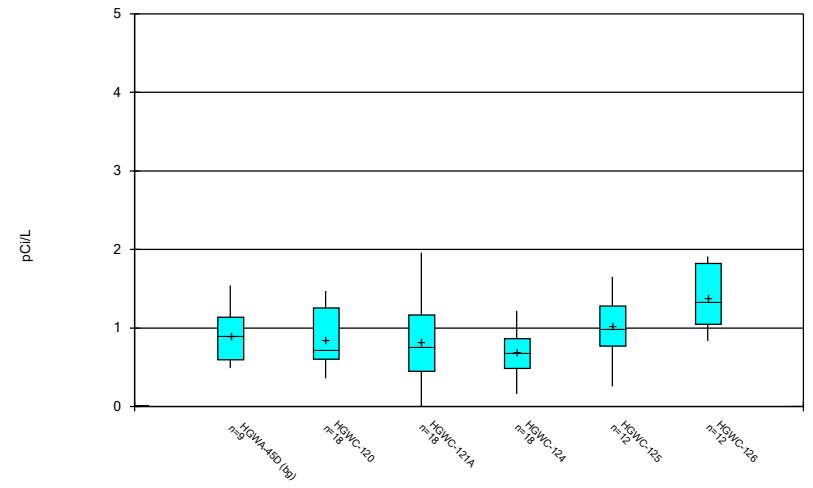
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Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



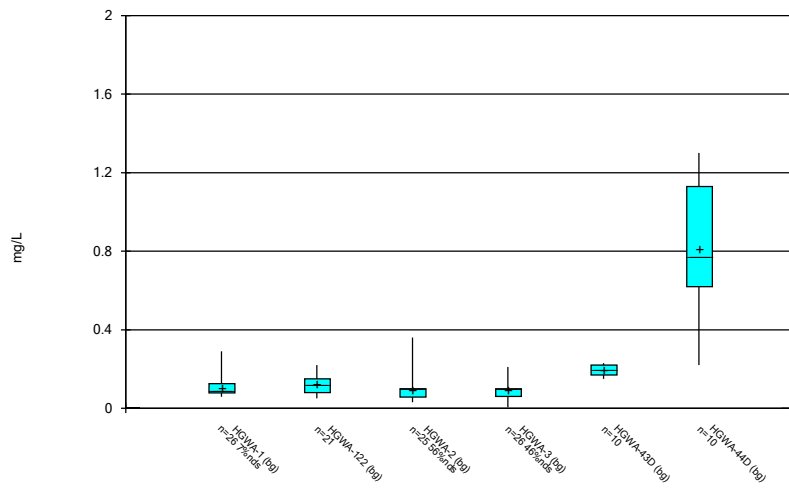
Constituent: Combined Radium 226 + 228 Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



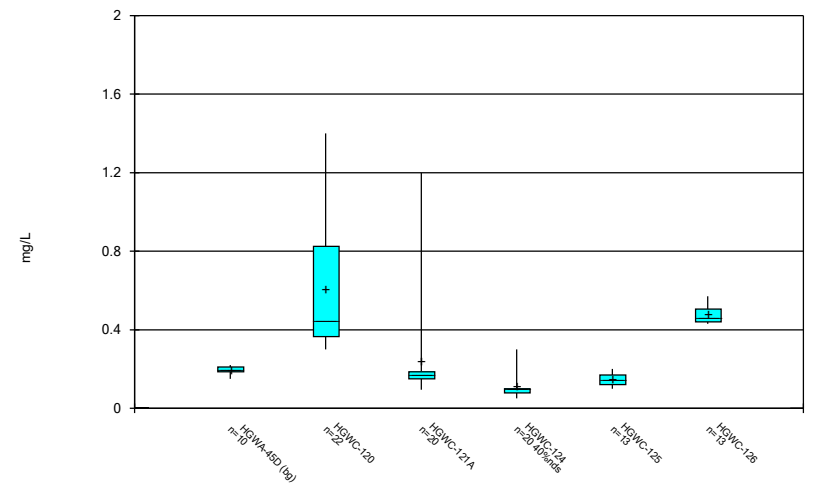
Constituent: Combined Radium 226 + 228 Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



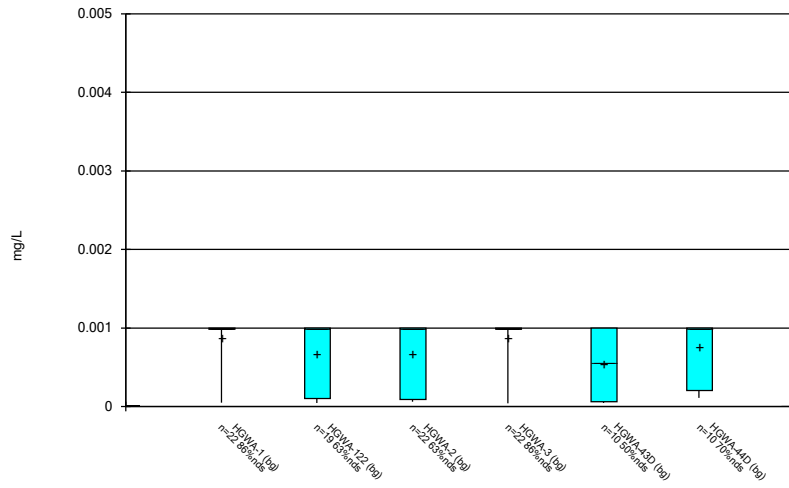
Constituent: Fluoride Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



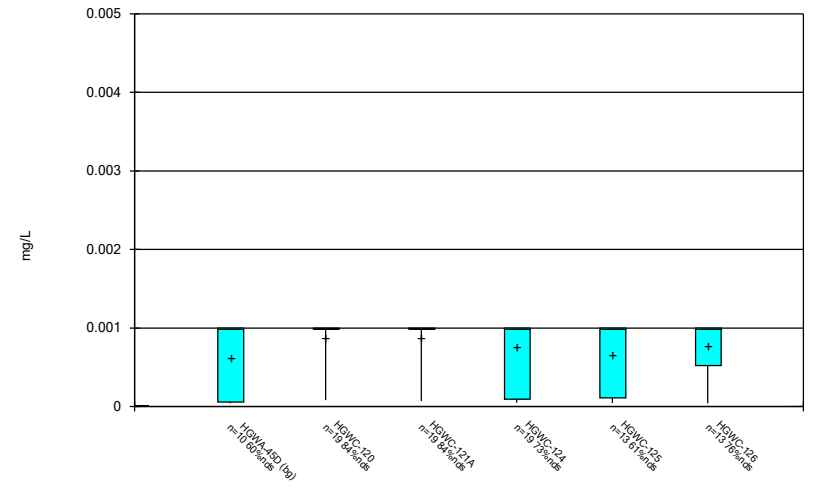
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Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



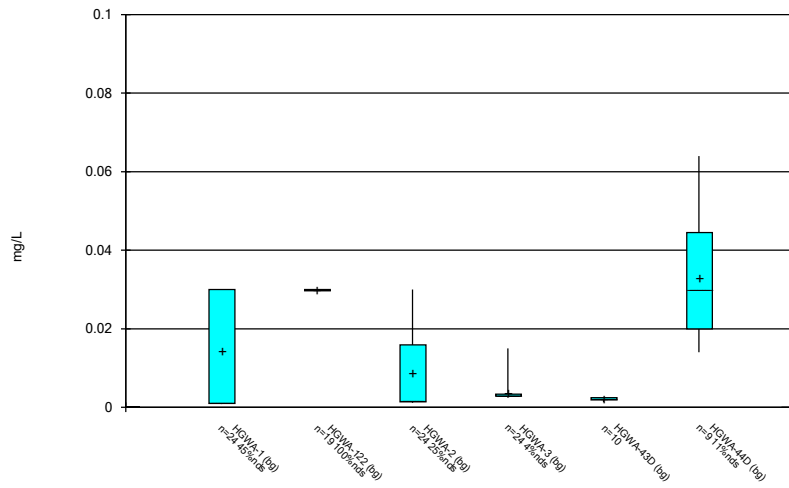
Constituent: Lead Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



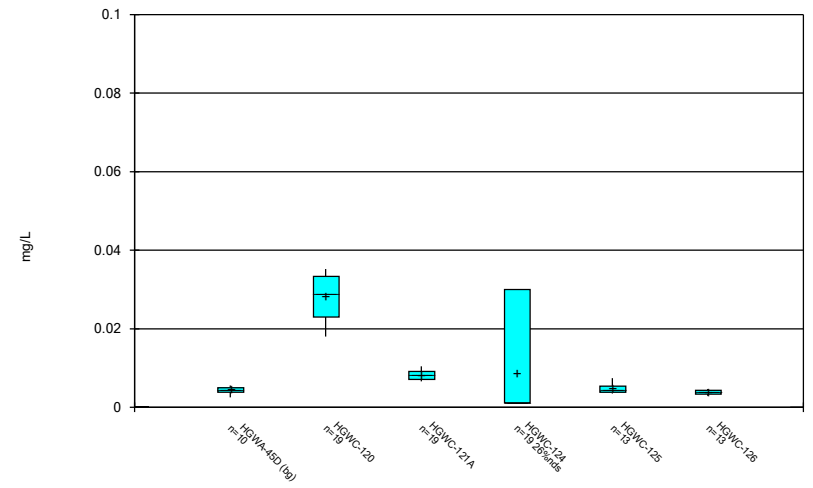
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 Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



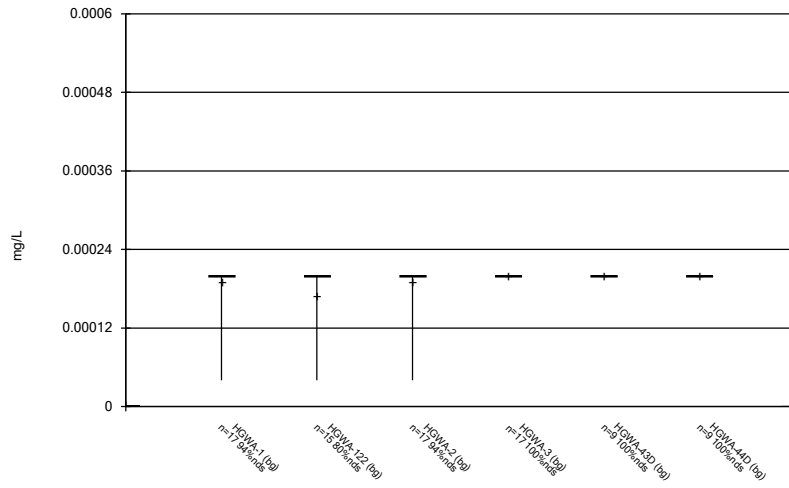
Constituent: Lithium Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



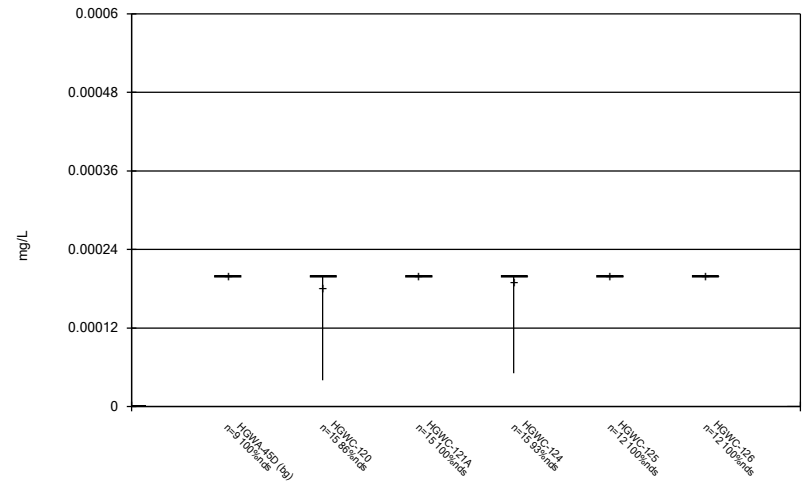
Constituent: Lithium Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



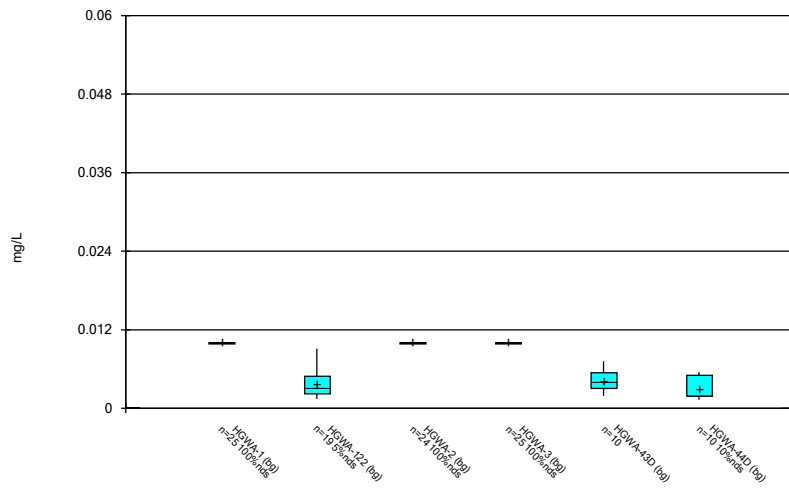
Constituent: Mercury Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



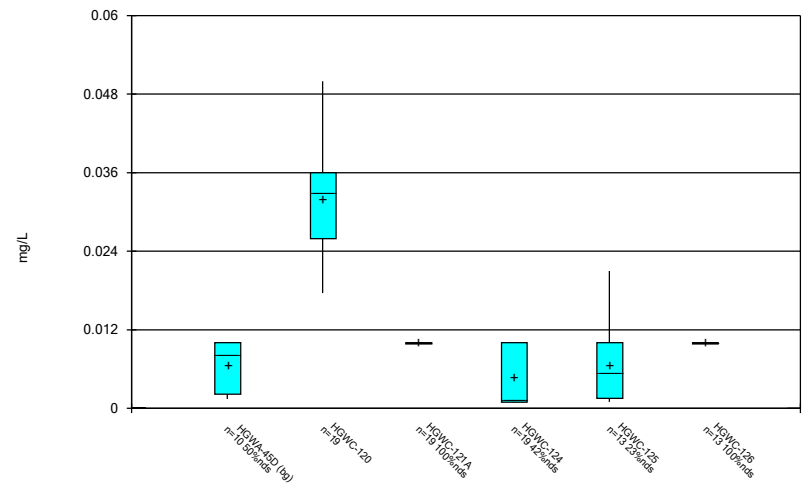
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Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



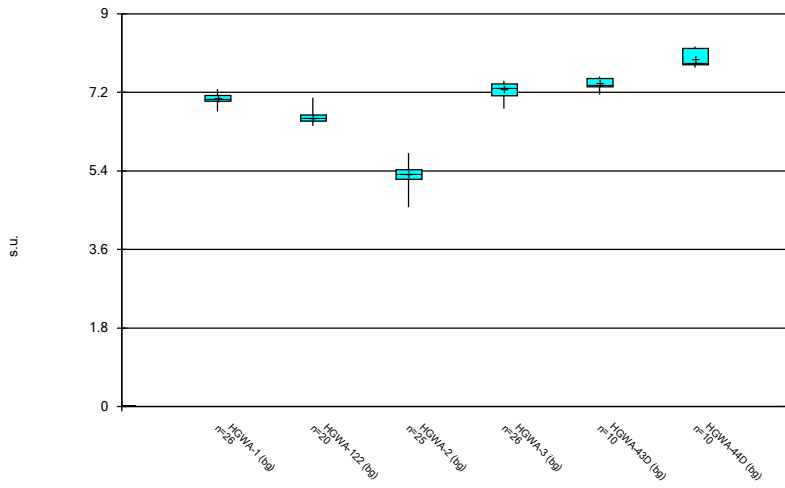
Constituent: Molybdenum Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



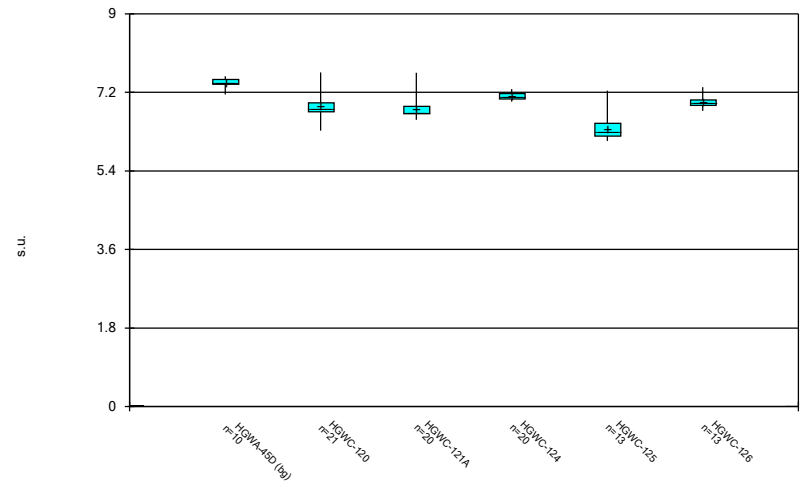
Constituent: Molybdenum Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



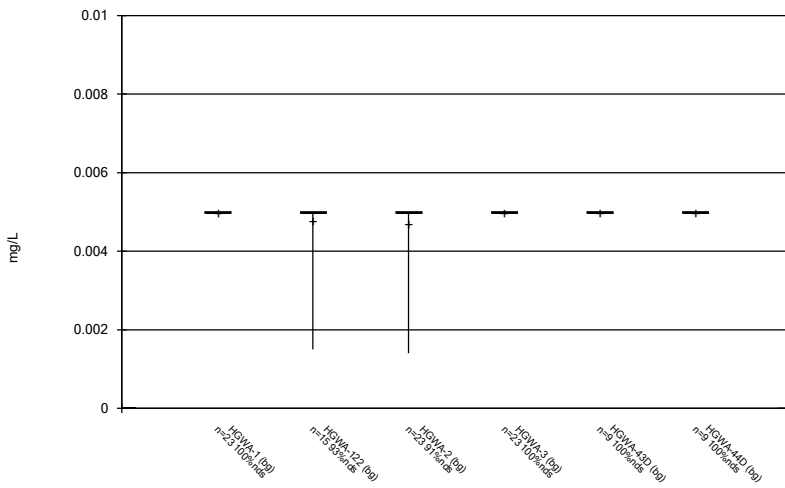
Constituent: pH Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



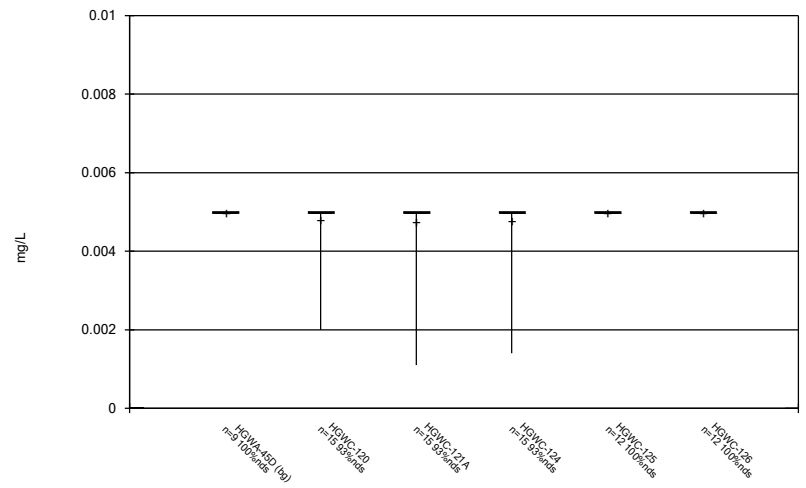
Constituent: pH Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



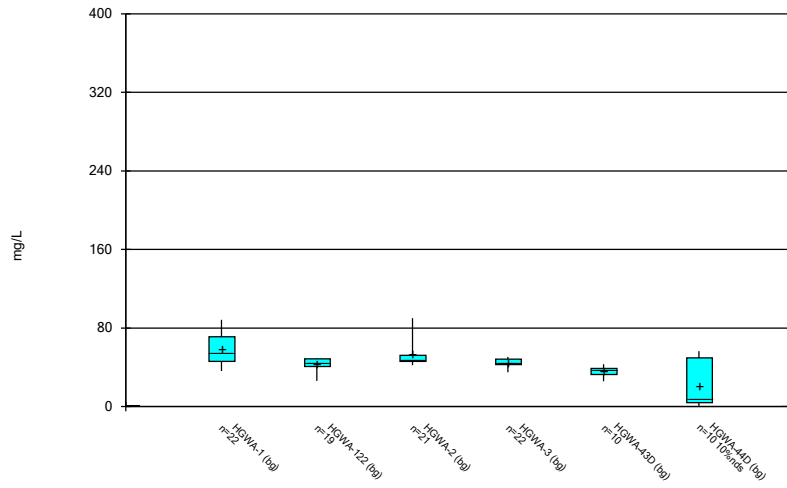
Constituent: Selenium Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



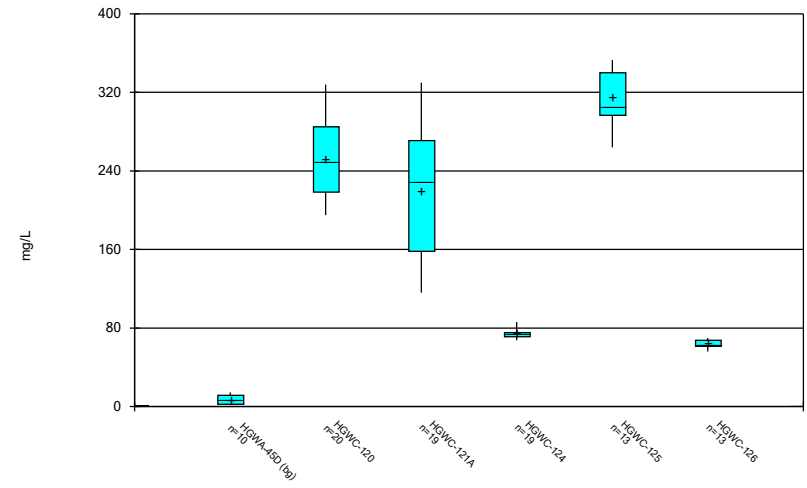
Constituent: Selenium Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



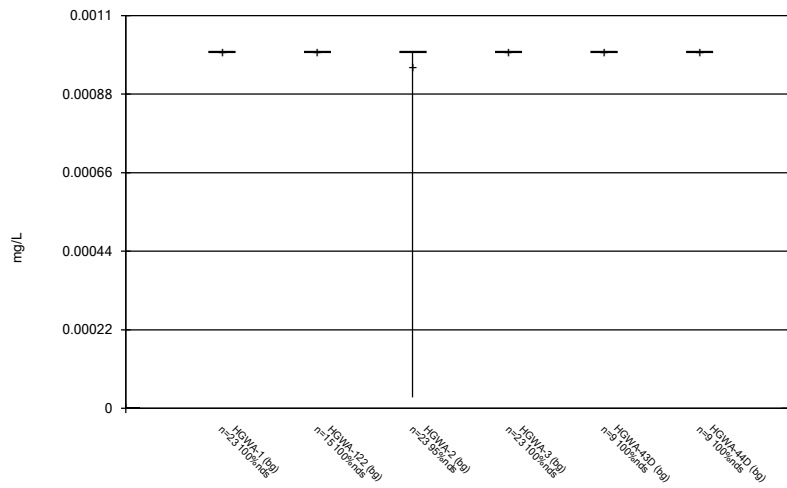
Constituent: Sulfate Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



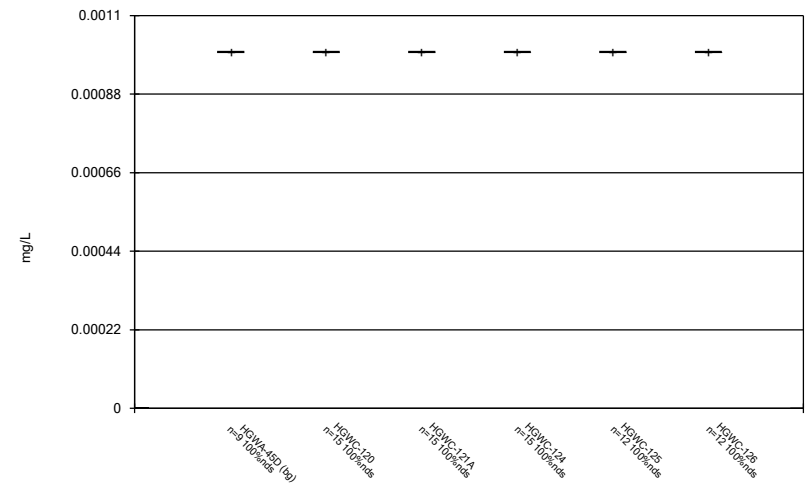
Constituent: Sulfate Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



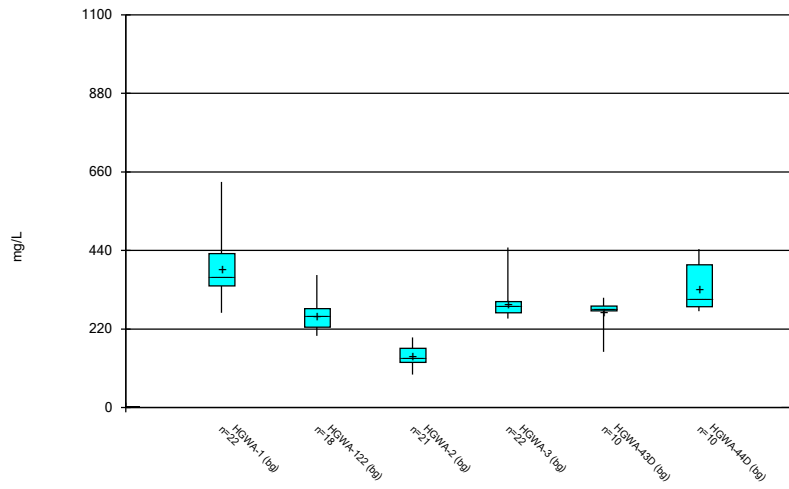
Constituent: Thallium Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



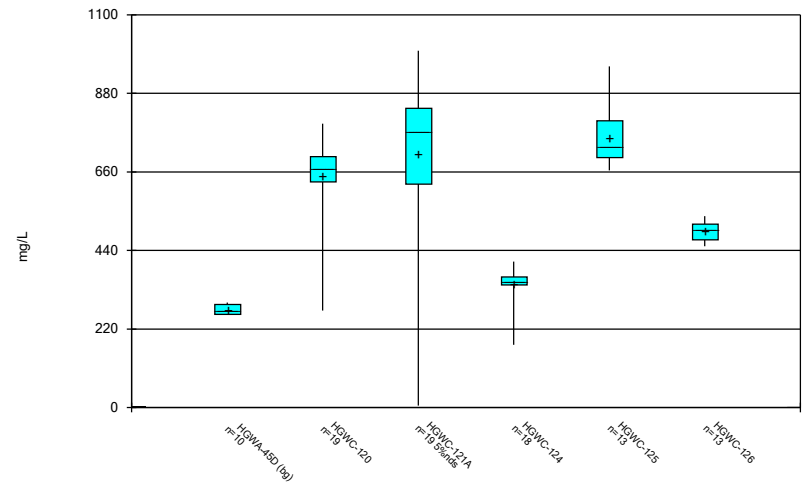
Constituent: Thallium Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



Constituent: Total Dissolved Solids Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
Plant Hammond Client: Southern Company Data: Hammond AP-3

Box & Whiskers Plot



Constituent: Total Dissolved Solids Analysis Run 10/25/2023 6:24 PM View: Time Series & Box Plot
Plant Hammond Client: Southern Company Data: Hammond AP-3

FIGURE C.

Outlier Summary

Plant Hammond Client: Southern Company Data: Hammond AP-3 Printed 10/27/2023, 7:14 AM

	HGWA-44D Lithium (mg/L)	HGWA-122 Total Dissolved Solids (mg/L)
4/2/2019		814 (o)
8/8/2023	0.092 (o)	

FIGURE D.

Appendix III Interwell Prediction Limits - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-3 Printed 10/19/2023, 1:41 PM

Constituent	Well	Upper Lim	Lower Lim	Date	Obsrv.	Sig.	Bg	NBg	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	HGWC-120	0.55	n/a	8/10/2023	1	Yes	114	n/a	n/a	4.386	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-121A	0.55	n/a	8/10/2023	1.7	Yes	114	n/a	n/a	4.386	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-125	0.55	n/a	8/10/2023	1.6	Yes	114	n/a	n/a	4.386	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-120	138	n/a	8/10/2023	171	Yes	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-121A	138	n/a	8/10/2023	149	Yes	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-125	138	n/a	8/10/2023	173	Yes	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-120	89.9	n/a	8/10/2023	195	Yes	114	n/a	n/a	0.8772	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-121A	89.9	n/a	8/10/2023	138	Yes	114	n/a	n/a	0.8772	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-125	89.9	n/a	8/10/2023	290	Yes	114	n/a	n/a	0.8772	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-120	632	n/a	8/10/2023	661	Yes	113	n/a	n/a	0	n/a	n/a	n/a	0.0001555	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-121A	632	n/a	8/10/2023	642	Yes	113	n/a	n/a	0	n/a	n/a	n/a	0.0001555	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-125	632	n/a	8/10/2023	760	Yes	113	n/a	n/a	0	n/a	n/a	n/a	0.0001555	NP Inter (normality) 1 of 2

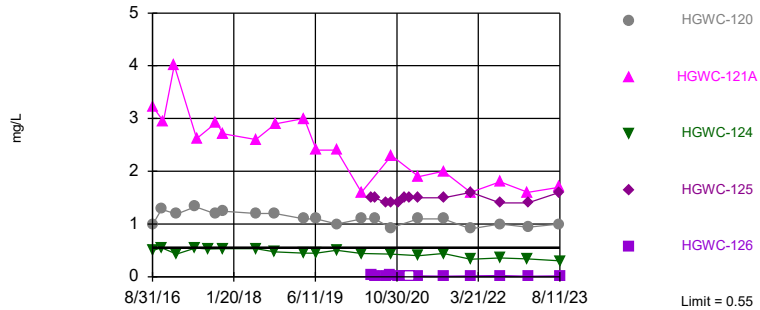
Appendix III Interwell Prediction Limits - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-3 Printed 10/19/2023, 1:41 PM

Constituent	Well	Upper Lim	Lower Lim	Date	Observ.	Sig.	Bg	NBg	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	HGWC-120	0.55	n/a	8/10/2023	1	Yes	114	n/a	n/a	4.386	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-121A	0.55	n/a	8/10/2023	1.7	Yes	114	n/a	n/a	4.386	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-124	0.55	n/a	8/11/2023	0.3	No	114	n/a	n/a	4.386	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-125	0.55	n/a	8/10/2023	1.6	Yes	114	n/a	n/a	4.386	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Boron (mg/L)	HGWC-126	0.55	n/a	8/11/2023	0.016J	No	114	n/a	n/a	4.386	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-120	138	n/a	8/10/2023	171	Yes	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-121A	138	n/a	8/10/2023	149	Yes	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-124	138	n/a	8/11/2023	97.8	No	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-125	138	n/a	8/10/2023	173	Yes	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-126	138	n/a	8/11/2023	131	No	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-120	44.8	n/a	8/10/2023	2.6	No	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-121A	44.8	n/a	8/10/2023	12.2	No	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-124	44.8	n/a	8/11/2023	2.1	No	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-125	44.8	n/a	8/10/2023	9	No	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-126	44.8	n/a	8/11/2023	8.1	No	114	n/a	n/a	0	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-120	1.3	n/a	8/10/2023	0.36	No	128	n/a	n/a	21.88	n/a	n/a	n/a	0.0001209	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-121A	1.3	n/a	8/10/2023	0.18	No	128	n/a	n/a	21.88	n/a	n/a	n/a	0.0001209	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-124	1.3	n/a	8/11/2023	0.1ND	No	128	n/a	n/a	21.88	n/a	n/a	n/a	0.0001209	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-125	1.3	n/a	8/10/2023	0.15	No	128	n/a	n/a	21.88	n/a	n/a	n/a	0.0001209	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-126	1.3	n/a	8/11/2023	0.49	No	128	n/a	n/a	21.88	n/a	n/a	n/a	0.0001209	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-120	8.25	4.57	8/10/2023	6.96	No	127	n/a	n/a	0	n/a	n/a	n/a	0.0002454	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-121A	8.25	4.57	8/10/2023	6.89	No	127	n/a	n/a	0	n/a	n/a	n/a	0.0002454	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-124	8.25	4.57	8/11/2023	7.2	No	127	n/a	n/a	0	n/a	n/a	n/a	0.0002454	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-125	8.25	4.57	8/10/2023	6.29	No	127	n/a	n/a	0	n/a	n/a	n/a	0.0002454	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-126	8.25	4.57	8/11/2023	6.95	No	127	n/a	n/a	0	n/a	n/a	n/a	0.0002454	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-120	89.9	n/a	8/10/2023	195	Yes	114	n/a	n/a	0.8772	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-121A	89.9	n/a	8/10/2023	138	Yes	114	n/a	n/a	0.8772	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-124	89.9	n/a	8/11/2023	67.6	No	114	n/a	n/a	0.8772	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-125	89.9	n/a	8/10/2023	290	Yes	114	n/a	n/a	0.8772	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-126	89.9	n/a	8/11/2023	60.5	No	114	n/a	n/a	0.8772	n/a	n/a	n/a	0.0001526	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-120	632	n/a	8/10/2023	661	Yes	113	n/a	n/a	0	n/a	n/a	n/a	0.0001555	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-121A	632	n/a	8/10/2023	642	Yes	113	n/a	n/a	0	n/a	n/a	n/a	0.0001555	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-124	632	n/a	8/11/2023	361	No	113	n/a	n/a	0	n/a	n/a	n/a	0.0001555	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-125	632	n/a	8/10/2023	760	Yes	113	n/a	n/a	0	n/a	n/a	n/a	0.0001555	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-126	632	n/a	8/11/2023	535	No	113	n/a	n/a	0	n/a	n/a	n/a	0.0001555	NP Inter (normality) 1 of 2

Exceeds Limit: HGWC-120, HGWC-121A,
HGWC-125

Prediction Limit
Interwell Non-parametric

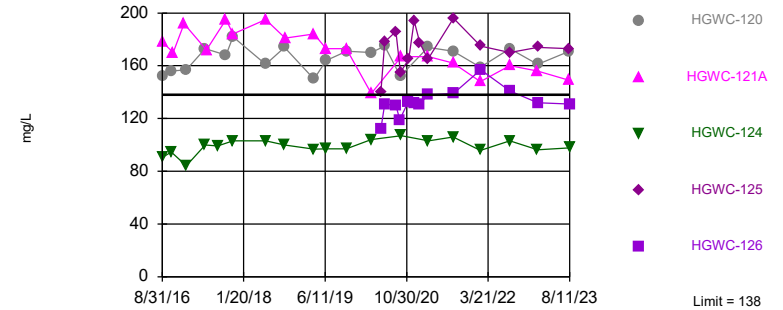


Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 114 background values. 4.386% NDs. Annual per-constituent alpha = 0.001525. Individual comparison alpha = 0.0001526 (1 of 2). Comparing 5 points to limit.

Constituent: Boron Analysis Run 10/19/2023 1:39 PM View: Interwell PL
Plant Hammond Client: Southern Company Data: Hammond AP-3

Exceeds Limit: HGWC-120, HGWC-121A,
HGWC-125

Prediction Limit
Interwell Non-parametric

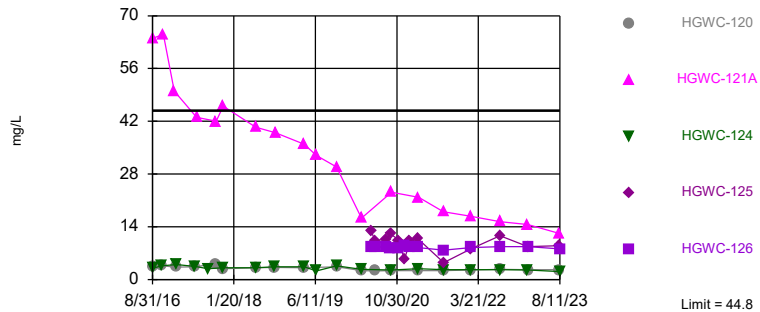


Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 114 background values. Annual per-constituent alpha = 0.001525. Individual comparison alpha = 0.0001526 (1 of 2). Comparing 5 points to limit.

Constituent: Calcium Analysis Run 10/19/2023 1:39 PM View: Interwell PL
Plant Hammond Client: Southern Company Data: Hammond AP-3

Within Limit

Prediction Limit
Interwell Non-parametric

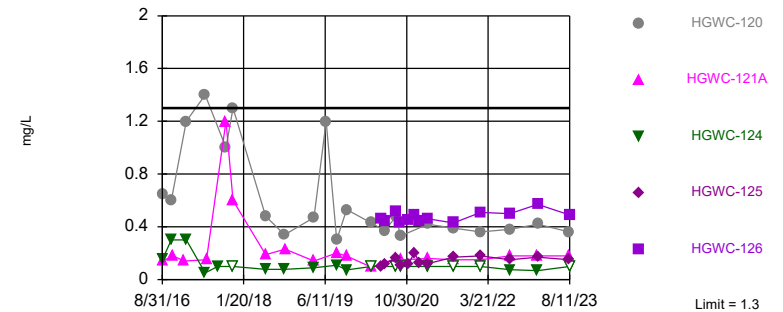


Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 114 background values. Annual per-constituent alpha = 0.001525. Individual comparison alpha = 0.0001526 (1 of 2). Comparing 5 points to limit.

Constituent: Chloride Analysis Run 10/19/2023 1:39 PM View: Interwell PL
Plant Hammond Client: Southern Company Data: Hammond AP-3

Within Limit

Prediction Limit
Interwell Non-parametric

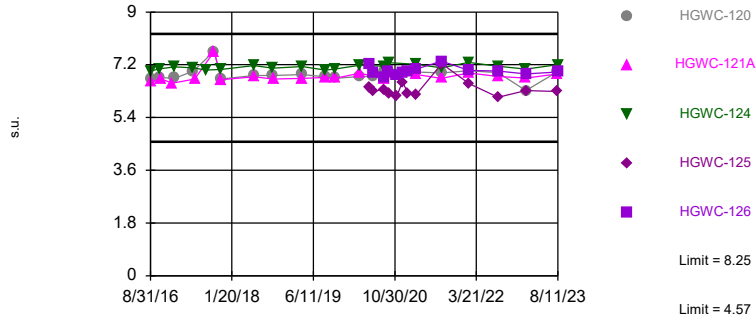


Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 128 background values. 21.88% NDs. Annual per-constituent alpha = 0.001209. Individual comparison alpha = 0.0001209 (1 of 2). Comparing 5 points to limit.

Constituent: Fluoride Analysis Run 10/19/2023 1:39 PM View: Interwell PL
Plant Hammond Client: Southern Company Data: Hammond AP-3

Within Limits

Prediction Limit
Interwell Non-parametric

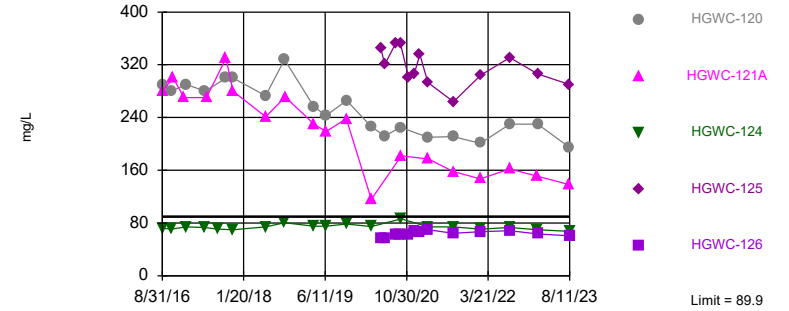


Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 127 background values. Annual per-constituent alpha = 0.002452. Individual comparison alpha = 0.0002454 (1 of 2). Comparing 5 points to limit.

Constituent: pH Analysis Run 10/19/2023 1:39 PM View: Interwell PL
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Exceeds Limit: HGWC-120, HGWC-121A, HGWC-125

Prediction Limit
Interwell Non-parametric

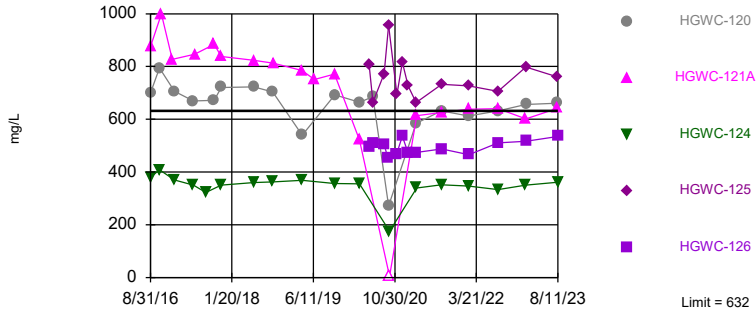


Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 114 background values. 0.8772% NDs. Annual per-constituent alpha = 0.001525. Individual comparison alpha = 0.0001526 (1 of 2). Comparing 5 points to limit.

Constituent: Sulfate Analysis Run 10/19/2023 1:39 PM View: Interwell PL
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Exceeds Limit: HGWC-120, HGWC-121A, HGWC-125

Prediction Limit
Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 113 background values. Annual per-constituent alpha = 0.001554. Individual comparison alpha = 0.0001555 (1 of 2). Comparing 5 points to limit.

Constituent: Total Dissolved Solids Analysis Run 10/19/2023 1:39 PM View: Interwell PL
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 10/19/2023 1:41 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-122 (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-126	HGWC-125
5/19/2016	0.0214 (J)	0.0321 (J)	<0.04						
7/11/2016	0.0142 (J)	0.0337 (J)							
7/12/2016			0.0074 (J)						
8/30/2016	0.0074 (J)	0.0173 (J)	<0.04	0.277					
8/31/2016					0.981	3.23	0.494		
10/19/2016	0.0224 (J)	0.0341 (J)	0.0085 (J)						
10/20/2016				0.336					
10/26/2016					1.28		0.55		
11/7/2016						2.95			
12/6/2016	0.0211 (J)	0.0326 (J)	0.0085 (J)						
1/13/2017						4.01			
1/24/2017	0.0165 (J)	0.0365 (J)	0.01 (J)						
1/25/2017				0.274					
1/27/2017					1.19		0.428		
3/21/2017	0.0187 (J)	0.0349 (J)	0.0079 (J)						
5/22/2017	0.0782	0.0475	0.0131 (J)						
5/25/2017				0.298	1.33		0.544		
6/3/2017						2.62			
8/11/2017				0.285			0.524		
10/2/2017					1.19	2.92			
10/3/2017	0.0198 (J)	0.0386 (J)	0.0097 (J)						
11/15/2017				0.322	1.24	2.71	0.531		
6/4/2018	0.02 (J)	0.036 (J)	0.017 (J)						
6/5/2018				0.24	1.2	2.6	0.53		
10/1/2018	0.013 (J)	0.035 (J)	0.0061 (J)						
10/2/2018				0.28	1.2		0.47		
10/5/2018						2.9			
4/1/2019			0.0066 (J)						
4/2/2019	0.016 (J)	0.034 (J)		0.18	1.1				
4/3/2019						3	0.45		
6/17/2019					1.1	2.4			
6/18/2019				0.25			0.45		
9/23/2019	0.021 (J)	0.04 (J)	0.0081 (J)						
10/21/2019				0.25		2.4	0.5		
10/22/2019					1				
3/24/2020				0.1			0.44		
3/25/2020	0.025 (J)	0.039 (J)	0.0096 (J)		1.1	1.6			
5/22/2020								0.026 (J)	1.5
6/15/2020					1.1				
6/16/2020	0.021 (J)		0.01 (J)				0.023 (J)	1.5	
8/25/2020							0.016 (J)	1.4	
9/15/2020	0.017 (J)	0.044 (J)	0.0071 (J)	0.22					
9/16/2020									
9/18/2020							0.041 (J)		
9/21/2020					0.93				1.4
9/25/2020									
9/28/2020						2.3	0.43		
11/10/2020									
11/11/2020							0.009 (J)		
11/12/2020									1.4
12/15/2020									
12/16/2020							0.011 (J)		1.5

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 10/19/2023 1:41 PM View: Interwell PL
 Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-122 (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-126	HGWC-125
1/19/2021									
1/20/2021								<0.04	1.5
3/10/2021	0.015 (J)								
3/11/2021		0.056	0.015 (J)	0.2					
3/12/2021					1.1			0.016 (J)	1.5
3/15/2021						1.9	0.4		
8/11/2021	0.02 (J)								
8/12/2021		0.044	<0.04						
8/13/2021				0.19					
8/16/2021					1.1	2	0.44		
8/19/2021								0.011 (J)	1.5
2/1/2022	0.016 (J)	0.056	0.011 (J)	0.17					
2/2/2022					0.91	1.6	0.33		
2/3/2022								0.016 (J)	1.6
8/2/2022	0.012 (J)	0.047	<0.04	0.18					
8/4/2022					1	1.8	0.36	0.023 (J)	1.4
1/23/2023			0.012 (J)						
1/24/2023	0.015 (J)	0.046		0.17		1.6	0.34		
1/25/2023					0.94			0.014 (J)	1.4
8/8/2023	0.023 (J)	0.06	0.011 (J)	0.18					
8/10/2023					1	1.7			1.6
8/11/2023							0.3	0.016 (J)	

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 10/19/2023 1:41 PM View: Interwell PL
Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-43D (bg)	HGWA-44D (bg)	HGWA-45D (bg)
5/19/2016			
7/11/2016			
7/12/2016			
8/30/2016			
8/31/2016			
10/19/2016			
10/20/2016			
10/26/2016			
11/7/2016			
12/6/2016			
1/13/2017			
1/24/2017			
1/25/2017			
1/27/2017			
3/21/2017			
5/22/2017			
5/25/2017			
6/3/2017			
8/11/2017			
10/2/2017			
10/3/2017			
11/15/2017			
6/4/2018			
6/5/2018			
10/1/2018			
10/2/2018			
10/5/2018			
4/1/2019			
4/2/2019			
4/3/2019			
6/17/2019			
6/18/2019			
9/23/2019			
10/21/2019			
10/22/2019			
3/24/2020			
3/25/2020			
5/22/2020			
6/15/2020			
6/16/2020			
8/25/2020			
9/15/2020			
9/16/2020	0.061 (J)	0.23	
9/18/2020			
9/21/2020			
9/25/2020			0.16
9/28/2020			
11/10/2020	0.057 (J)	0.29	
11/11/2020			0.17
11/12/2020			
12/15/2020	0.052 (J)	0.31	
12/16/2020			0.16

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 10/19/2023 1:41 PM View: Interwell PL
Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-43D (bg)	HGWA-44D (bg)	HGWA-45D (bg)
1/19/2021	0.049 (J)	<0.04	
1/20/2021			0.19
3/10/2021		0.39	
3/11/2021	0.06		
3/12/2021			0.19
3/15/2021			
8/11/2021	0.042		
8/12/2021			
8/13/2021		0.31	0.15
8/16/2021			
8/19/2021			
2/1/2022	0.05	0.44	0.14
2/2/2022			
2/3/2022			
8/2/2022	0.043	0.31	0.14
8/4/2022			
1/23/2023			
1/24/2023	0.037 (J)	0.44	0.14
1/25/2023			
8/8/2023	0.038 (J)	0.55	0.15
8/10/2023			
8/11/2023			

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 10/19/2023 1:41 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-122 (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-126	HGWC-125
5/19/2016	138	22.9	76.2						
7/11/2016	97.2	22.3							
7/12/2016			61.5						
8/30/2016	97.5	26.4	65.1	71.3					
8/31/2016					152	178	90.4		
10/19/2016	99.2	21.7	73.2						
10/20/2016				90.3					
10/26/2016					156		94.5		
11/7/2016						170			
12/6/2016	105	18.2	74.9						
1/13/2017						192			
1/24/2017	95.7	18.5	69.6						
1/25/2017				77.3					
1/27/2017					157		84.2		
3/21/2017	106	18.6	75.7						
5/22/2017	107	17.8	71.5						
5/25/2017				69.9	173		100		
6/3/2017						172			
8/11/2017				79.5			99.1		
10/2/2017					168	195			
10/3/2017	102	20.2	76.3						
11/15/2017				72.8	182	184	103		
6/4/2018	124	19.1	73.4						
6/5/2018				71.4	161	195	103		
10/1/2018	108	20.5 (J)	80.9						
10/2/2018				66.6	174		100		
10/5/2018						181			
4/1/2019			80.5						
4/2/2019	132	22.5 (J)		60.9	150				
4/3/2019						184	96.7		
6/17/2019					164	173			
6/18/2019				75			97.1		
9/23/2019	118	19.5	71						
10/21/2019				80.8		173	96.9		
10/22/2019					171				
3/24/2020				81.2			104		
3/25/2020	127	23	89.8		170	139			
5/22/2020								112	140
6/15/2020					175				
6/16/2020	130		85.1				131	178	
8/25/2020							130	186	
9/15/2020	103	21.1	73.1	75.8					
9/16/2020									
9/18/2020							119		
9/21/2020					152				155
9/25/2020									
9/28/2020						167	107		
11/10/2020									
11/11/2020							133		
11/12/2020									165
12/15/2020									
12/16/2020							132		194

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 10/19/2023 1:41 PM View: Interwell PL
Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-122 (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-126	HGWC-125
1/19/2021									
1/20/2021								131	177 (M1)
3/10/2021	111								
3/11/2021		43.8	83.8	60.4 (M1)					
3/12/2021					174			138	165
3/15/2021						167	103		
8/11/2021	113								
8/12/2021		21.9	84						
8/13/2021				62.9					
8/16/2021					171	162	106		
8/19/2021								139	196
2/1/2022	106	27.2	85.1	57.5					
2/2/2022					159	148	95.9		
2/3/2022								157	175
8/2/2022	117	31.2	84.6	69.5					
8/4/2022					173	160	103	141	170
1/23/2023			85						
1/24/2023	117	29.4		63.3		156	96.2		
1/25/2023					161			132	174
8/8/2023	118	30.7	78.3	64.4					
8/10/2023					171	149			173
8/11/2023							97.8	131	

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 10/19/2023 1:41 PM View: Interwell PL
Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-43D (bg)	HGWA-44D (bg)	HGWA-45D (bg)
5/19/2016			
7/11/2016			
7/12/2016			
8/30/2016			
8/31/2016			
10/19/2016			
10/20/2016			
10/26/2016			
11/7/2016			
12/6/2016			
1/13/2017			
1/24/2017			
1/25/2017			
1/27/2017			
3/21/2017			
5/22/2017			
5/25/2017			
6/3/2017			
8/11/2017			
10/2/2017			
10/3/2017			
11/15/2017			
6/4/2018			
6/5/2018			
10/1/2018			
10/2/2018			
10/5/2018			
4/1/2019			
4/2/2019			
4/3/2019			
6/17/2019			
6/18/2019			
9/23/2019			
10/21/2019			
10/22/2019			
3/24/2020			
3/25/2020			
5/22/2020			
6/15/2020			
6/16/2020			
8/25/2020			
9/15/2020			
9/16/2020	56	30	
9/18/2020			
9/21/2020			
9/25/2020			56.8
9/28/2020			
11/10/2020	63.3	33.6	
11/11/2020			54.9
11/12/2020			
12/15/2020	62.6	28.7	
12/16/2020			56.4

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 10/19/2023 1:41 PM View: Interwell PL
Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-43D (bg)	HGWA-44D (bg)	HGWA-45D (bg)
1/19/2021	60.1	33	
1/20/2021			55
3/10/2021		18.3	
3/11/2021	59.6		
3/12/2021			56.5
3/15/2021			
8/11/2021	61		
8/12/2021			
8/13/2021		28.9	53
8/16/2021			
8/19/2021			
2/1/2022	55.9	24.8	51.3
2/2/2022			
2/3/2022			
8/2/2022	54.1	20.9	49.9
8/4/2022			
1/23/2023			
1/24/2023	56.6	13.2	53.9
1/25/2023			
8/8/2023	52.8	8.1	48.1
8/10/2023			
8/11/2023			

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 10/19/2023 1:41 PM View: Interwell PL
Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-122 (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-126	HGWC-125
1/19/2021									
1/20/2021								8.5	10.2
3/10/2021	7.4								
3/11/2021		5.1	5.9	2.3					
3/12/2021					2.4			8.5	10.8
3/15/2021						21.8	2.9		
8/11/2021	9.6								
8/12/2021		5.2	4.8						
8/13/2021				2.6					
8/16/2021					2.4	18	2.6		
8/19/2021								7.8	4.5
2/1/2022	7.5	7	5.7	2.2					
2/2/2022					2.5	16.8	2.6		
2/3/2022								8.5	8.1
8/2/2022	14.1	7.8	5.9	2.7					
8/4/2022					2.7	15.4	2.6	8.7	11.6
1/23/2023			5.6						
1/24/2023	9	7.1		2.4		14.6	2.5		
1/25/2023					2.6			8.7	8.7
8/8/2023	26	6.6	5.3	2.2					
8/10/2023					2.6	12.2			9
8/11/2023							2.1	8.1	

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 10/19/2023 1:41 PM View: Interwell PL
Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-44D (bg)	HGWA-43D (bg)	HGWA-45D (bg)
5/19/2016			
7/11/2016			
7/12/2016			
8/30/2016			
8/31/2016			
10/19/2016			
10/20/2016			
10/26/2016			
11/7/2016			
12/6/2016			
1/13/2017			
1/24/2017			
1/25/2017			
1/27/2017			
3/21/2017			
5/22/2017			
5/25/2017			
6/3/2017			
8/11/2017			
10/2/2017			
10/3/2017			
11/15/2017			
6/4/2018			
6/5/2018			
10/1/2018			
10/2/2018			
10/5/2018			
4/1/2019			
4/2/2019			
4/3/2019			
6/17/2019			
6/18/2019			
9/23/2019			
10/21/2019			
10/22/2019			
3/24/2020			
3/25/2020			
5/22/2020			
6/15/2020			
6/16/2020			
8/25/2020			
9/15/2020			
9/16/2020	4.1	4.1	
9/18/2020			
9/21/2020			
9/25/2020			3.6
9/28/2020			
11/10/2020	7.8	4.4	
11/11/2020			3.3
11/12/2020			
12/15/2020	9.4	4.7	
12/16/2020			3.4

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 10/19/2023 1:41 PM View: Interwell PL
Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-44D (bg)	HGWA-43D (bg)	HGWA-45D (bg)
1/19/2021	9.5	4.1	
1/20/2021			3.5
3/10/2021	12.3		
3/11/2021		4.5	
3/12/2021			3.3
3/15/2021			
8/11/2021		3.5	
8/12/2021			
8/13/2021	39.9		3.3
8/16/2021			
8/19/2021			
2/1/2022	44.8	4.1	3.5
2/2/2022			
2/3/2022			
8/2/2022	19.8	4.3	3.9
8/4/2022			
1/23/2023			
1/24/2023	24.9	4.3	3.5
1/25/2023			
8/8/2023	27	3.5	3.6
8/10/2023			
8/11/2023			

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 10/19/2023 1:41 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-3 (bg)	HGWA-2 (bg)	HGWA-122 (bg)	HGWC-121A	HGWC-124	HGWC-120	HGWC-125	HGWC-126
5/19/2016	0.105 (J)	0.0513 (J)	0.0303 (J)						
7/11/2016	0.16 (J)		0.05 (J)						
7/12/2016		0.12 (J)							
8/30/2016	0.09 (J)	0.09 (J)	0.06 (J)	0.19 (J)					
8/31/2016					0.14 (J)	0.15 (J)	0.65		
10/19/2016	0.1 (J)	0.1 (J)	0.04 (J)						
10/20/2016				0.13 (J)					
10/26/2016						0.3	0.6		
11/7/2016					0.18 (J)				
12/6/2016	0.11 (J)	0.21 (J)	0.36						
1/13/2017					0.14 (J)				
1/24/2017	0.09 (J)	0.06 (J)	<0.1						
1/25/2017				0.22 (J)					
1/27/2017						0.3	1.2		
3/21/2017	0.13 (J)	0.005 (J)	<0.1						
5/22/2017	0.12 (J)	0.05 (J)	<0.1						
5/25/2017				0.12 (J)		0.05 (J)	1.4		
6/3/2017					0.15 (J)				
8/11/2017				0.12 (J)		0.1 (J)			
10/2/2017					1.2		1		
10/3/2017	0.13 (J)	0.13 (J)	<0.1						
11/15/2017				0.05 (J)	0.6	<0.1	1.3		
4/2/2018	<0.1		<0.1						
4/3/2018		<0.1							
6/4/2018	0.074 (J)	<0.1	<0.1						
6/5/2018				0.15 (J)	0.19 (J)	0.078 (J)	0.48		
10/1/2018	<0.1	<0.1	<0.1						
10/2/2018				0.22 (J)		0.078 (J)	0.34		
10/5/2018					0.23 (J)				
3/12/2019	0.29 (J)	0.072 (J)	0.038 (J)						
4/1/2019		0.029 (J)							
4/2/2019	0.1 (J)		0.071 (J)	0.2 (J)			0.47		
4/3/2019					0.14 (J)	0.089 (J)			
6/17/2019							1.2		
6/18/2019				0.14 (J)					
8/22/2019				0.12 (J)	0.2 (J)		0.3 (J)		
8/23/2019						0.11 (J)			
9/23/2019	0.078 (J)	<0.1	<0.1						
10/21/2019				0.15 (J)	0.18 (J)	0.073 (J)			
10/22/2019							0.53		
3/2/2020	0.076 (J)	<0.1	<0.1						
3/24/2020				0.085 (J)		<0.1			
3/25/2020	0.098 (J)	<0.1	<0.1		0.095 (J)		0.43		
5/22/2020								0.1 (J)	0.46
6/15/2020							0.37		
6/16/2020	0.071 (J)	<0.1						0.12	0.44
8/24/2020				0.075 (J)					
8/25/2020		<0.1	<0.1					0.16	0.52
8/26/2020					0.16		0.48		
8/27/2020						<0.1			
8/28/2020	0.08 (J)								
9/15/2020	0.082 (J)	<0.1	<0.1	0.096 (J)					

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 10/19/2023 1:41 PM View: Interwell PL
 Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-3 (bg)	HGWA-2 (bg)	HGWA-122 (bg)	HGWC-121A	HGWC-124	HGWC-120	HGWC-125	HGWC-126
9/16/2020									
9/18/2020									0.43
9/21/2020							0.33	0.11	
9/25/2020									
9/28/2020					0.15	<0.1			
11/10/2020									
11/11/2020									0.45
11/12/2020								0.12	
12/15/2020									
12/16/2020								0.2	0.49
1/19/2021									
1/20/2021								0.13	0.44
3/10/2021	0.079 (J)								
3/11/2021		<0.1	0.1	0.059 (J)					
3/12/2021							0.42	0.12	0.46
3/15/2021					0.16	<0.1			
8/11/2021	0.058 (J)								
8/12/2021		<0.1	<0.1						
8/13/2021				0.065 (J)					
8/16/2021					0.15	<0.1	0.39		
8/19/2021								0.17	0.43
2/1/2022	0.064 (J)	<0.1	<0.1	0.062 (J)					
2/2/2022					0.15	<0.1	0.36		
2/3/2022								0.18	0.51
8/2/2022	0.09 (J)	0.067 (J)	0.053 (J)	0.1					
8/4/2022					0.18	0.074 (J)	0.38	0.15	0.5
1/23/2023		0.061 (J)							
1/24/2023	0.089 (J)		0.053 (J)	0.13	0.18	0.068 (J)			
1/25/2023							0.42	0.17	0.57
8/8/2023	0.088 (J)	0.055 (J)	0.07 (J)	0.091 (J)					
8/10/2023					0.18		0.36	0.15	
8/11/2023						<0.1			0.49

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 10/19/2023 1:41 PM View: Interwell PL
Plant Hammond Client: Southern Company Data: Hammond AP-3

HGWA-44D (bg) HGWA-43D (bg) HGWA-45D (bg)

5/19/2016
7/11/2016
7/12/2016
8/30/2016
8/31/2016
10/19/2016
10/20/2016
10/26/2016
11/7/2016
12/6/2016
1/13/2017
1/24/2017
1/25/2017
1/27/2017
3/21/2017
5/22/2017
5/25/2017
6/3/2017
8/11/2017
10/2/2017
10/3/2017
11/15/2017
4/2/2018
4/3/2018
6/4/2018
6/5/2018
10/1/2018
10/2/2018
10/5/2018
3/12/2019
4/1/2019
4/2/2019
4/3/2019
6/17/2019
6/18/2019
8/22/2019
8/23/2019
9/23/2019
10/21/2019
10/22/2019
3/2/2020
3/24/2020
3/25/2020
5/22/2020
6/15/2020
6/16/2020
8/24/2020
8/25/2020
8/26/2020
8/27/2020
8/28/2020
9/15/2020

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 10/19/2023 1:41 PM View: Interwell PL
Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-44D (bg)	HGWA-43D (bg)	HGWA-45D (bg)
9/16/2020	0.22	0.22	
9/18/2020			
9/21/2020			
9/25/2020			0.21
9/28/2020			
11/10/2020	0.59	0.19	
11/11/2020			0.19
11/12/2020			
12/15/2020	0.67	0.21	
12/16/2020			0.18
1/19/2021	0.74	0.16	
1/20/2021			0.22
3/10/2021	0.65		
3/11/2021		0.2	
3/12/2021			0.2
3/15/2021			
8/11/2021		0.15	
8/12/2021			
8/13/2021	0.87		0.2
8/16/2021			
8/19/2021			
2/1/2022	0.96	0.19	0.15
2/2/2022			
2/3/2022			
8/2/2022	0.8	0.22	0.21
8/4/2022			
1/23/2023			
1/24/2023	1.3	0.23	0.19
1/25/2023			
8/8/2023	1.3	0.18	0.19
8/10/2023			
8/11/2023			

Prediction Limit

Constituent: pH (s.u.) Analysis Run 10/19/2023 1:41 PM View: Interwell PL
 Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-3 (bg)	HGWA-2 (bg)	HGWA-122 (bg)	HGWC-121A	HGWC-124	HGWC-120	HGWC-125	HGWC-126
9/21/2020							6.98	6.22	
9/25/2020									
9/28/2020					6.93	7.27			
11/10/2020									
11/11/2020									6.86
11/12/2020								6.13	
12/15/2020									
12/16/2020								6.61	6.93
1/19/2021									
1/20/2021								6.23	6.99
3/10/2021	6.95								
3/11/2021		7.33	5.8	6.65					
3/12/2021							6.95	6.18	7.05
3/15/2021					6.87	7.22			
8/11/2021	6.98								
8/12/2021		7.31	5.05						
8/13/2021				6.56					
8/16/2021					6.74	7.09	6.92		
8/19/2021								7.24	7.32
2/1/2022	7.19	7.45	5.24	6.57					
2/2/2022					6.92	7.28	7		
2/3/2022								6.56	7.01
8/2/2022	7.03	7.02	4.57	6.67					
8/4/2022					6.8	7.15	6.93	6.09	6.99
1/23/2023		7.32							
1/24/2023	6.76		5.22	6.43	6.75	7.05			
1/25/2023							6.32	6.32	6.89
8/8/2023	7.05	7.42	5.01	6.67					
8/10/2023					6.89		6.96	6.29	
8/11/2023						7.2			6.95

Prediction Limit

Constituent: pH (s.u.) Analysis Run 10/19/2023 1:41 PM View: Interwell PL
Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-43D (bg)	HGWA-44D (bg)	HGWA-45D (bg)
5/19/2016			
7/11/2016			
7/12/2016			
8/30/2016			
8/31/2016			
10/19/2016			
10/20/2016			
10/27/2016			
11/7/2016			
12/6/2016			
1/13/2017			
1/24/2017			
1/25/2017			
1/27/2017			
3/21/2017			
5/22/2017			
5/25/2017			
6/3/2017			
8/11/2017			
10/2/2017			
10/3/2017			
11/15/2017			
4/2/2018			
4/3/2018			
6/4/2018			
6/5/2018			
10/1/2018			
10/2/2018			
10/5/2018			
3/12/2019			
4/1/2019			
4/2/2019			
4/3/2019			
8/22/2019			
8/23/2019			
9/23/2019			
10/21/2019			
10/22/2019			
3/2/2020			
3/24/2020			
3/25/2020			
5/22/2020			
6/15/2020			
6/16/2020			
8/24/2020			
8/25/2020			
8/26/2020			
8/27/2020			
8/28/2020			
9/15/2020			
9/16/2020	7.52	7.83	
9/18/2020			

Prediction Limit

Constituent: pH (s.u.) Analysis Run 10/19/2023 1:41 PM View: Interwell PL
Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-43D (bg)	HGWA-44D (bg)	HGWA-45D (bg)
9/21/2020			
9/25/2020			7.57
9/28/2020			
11/10/2020	7.27	7.84	
11/11/2020			7.4
11/12/2020			
12/15/2020	7.39	7.87	
12/16/2020			7.39
1/19/2021	7.39	7.86	
1/20/2021			7.47
3/10/2021		7.92	
3/11/2021	7.46		
3/12/2021			7.52
3/15/2021			
8/11/2021	7.4		
8/12/2021			
8/13/2021		7.77	7.42
8/16/2021			
8/19/2021			
2/1/2022	7.52	8.25	7.45
2/2/2022			
2/3/2022			
8/2/2022	7.15	7.9	7.39
8/4/2022			
1/23/2023			
1/24/2023	7.56	8.22	7.15
1/25/2023			
8/8/2023	7.39	8.2	7.39
8/10/2023			
8/11/2023			

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/19/2023 1:41 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-122 (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-126	HGWC-125
5/19/2016	66.9	48.6	42.3						
7/11/2016	41	45							
7/12/2016			44						
8/30/2016	36	42	40	49					
8/31/2016					290	280	72		
10/19/2016	46	44	43						
10/20/2016				49					
10/26/2016					280		71		
11/7/2016						300			
12/6/2016	59	44	43						
1/13/2017						270			
1/24/2017	46	46	48						
1/25/2017				48					
1/27/2017					290		74		
3/21/2017	63	46	45						
5/22/2017	77	48	46						
5/25/2017				48	280		73		
6/3/2017						270			
8/11/2017				47			71		
10/2/2017					300	330			
10/3/2017	42	47	48						
11/15/2017				49	300	280	70		
6/4/2018	71.8	47.8	46.6						
6/5/2018				48.9	273	241	74		
10/1/2018	49.1	48.1	48.6						
10/2/2018				48.6	328		80.7		
10/5/2018						271			
4/1/2019			50.4						
4/2/2019	84.3	48.7		39.6	256				
4/3/2019						230	75.2		
6/17/2019					243	219			
6/18/2019				44.5			75.3		
9/23/2019	70.2	47.2	43.9						
10/21/2019				45.6		238	78.5		
10/22/2019					266				
3/24/2020				25.9			74.6		
3/25/2020	85.9	46.3	50.5		226	116			
5/22/2020								56.1	345
6/15/2020					212				
6/16/2020	88.2		49.5				57.6	320	
8/25/2020							62.8	353	
9/15/2020	47.3	51.5	44.7	41.4					
9/16/2020									
9/18/2020							62.7		
9/21/2020					225				352
9/25/2020									
9/28/2020						182	86.2		
11/10/2020									
11/11/2020							62.3		
11/12/2020									300
12/15/2020									
12/16/2020							68.1		306

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/19/2023 1:41 PM View: Interwell PL
Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-122 (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-126	HGWC-125
1/19/2021									
1/20/2021								66.6	335
3/10/2021	49.6								
3/11/2021		52.9	50.4	40.7					
3/12/2021					210			69.7	293
3/15/2021						177	74		
8/11/2021	48.9								
8/12/2021		47.4	38.6						
8/13/2021				42.1					
8/16/2021					211	158	74		
8/19/2021								64.4	264
2/1/2022	43.7	67.1	46	41.1					
2/2/2022					201	147	70.7		
2/3/2022								66.8	304
8/2/2022	58.1	86.9	43.5	41.5					
8/4/2022					230	162	73.1	68.3	331
1/23/2023			39.5						
1/24/2023	48.3	79.7		36.5		151	69.6		
1/25/2023					230			63.7	306
8/8/2023	67.7	89.9	35	34.9					
8/10/2023					195	138			290
8/11/2023							67.6	60.5	

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/19/2023 1:41 PM View: Interwell PL
Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-43D (bg)	HGWA-44D (bg)	HGWA-45D (bg)
5/19/2016			
7/11/2016			
7/12/2016			
8/30/2016			
8/31/2016			
10/19/2016			
10/20/2016			
10/26/2016			
11/7/2016			
12/6/2016			
1/13/2017			
1/24/2017			
1/25/2017			
1/27/2017			
3/21/2017			
5/22/2017			
5/25/2017			
6/3/2017			
8/11/2017			
10/2/2017			
10/3/2017			
11/15/2017			
6/4/2018			
6/5/2018			
10/1/2018			
10/2/2018			
10/5/2018			
4/1/2019			
4/2/2019			
4/3/2019			
6/17/2019			
6/18/2019			
9/23/2019			
10/21/2019			
10/22/2019			
3/24/2020			
3/25/2020			
5/22/2020			
6/15/2020			
6/16/2020			
8/25/2020			
9/15/2020			
9/16/2020	43	43	
9/18/2020			
9/21/2020			
9/25/2020			6.8
9/28/2020			
11/10/2020	39	6.3	
11/11/2020			11.2
11/12/2020			
12/15/2020	38.8	6.7	
12/16/2020			11.3

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/19/2023 1:41 PM View: Interwell PL
Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-43D (bg)	HGWA-44D (bg)	HGWA-45D (bg)
1/19/2021	37.3	7.4	
1/20/2021			14.2
3/10/2021		<1	
3/11/2021	38.6		
3/12/2021			8.7
3/15/2021			
8/11/2021	30.5		
8/12/2021			
8/13/2021		56.1	8.1
8/16/2021			
8/19/2021			
2/1/2022	37.5	56.3	2.5
2/2/2022			
2/3/2022			
8/2/2022	37	13.2	2.1
8/4/2022			
1/23/2023			
1/24/2023	34.7	10.1	5.2
1/25/2023			
8/8/2023	25.6	1.3	2.2
8/10/2023			
8/11/2023			

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/19/2023 1:41 PM View: Interwell PL

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-122 (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
5/19/2016	421	143	267						
7/11/2016	363	125							
7/12/2016			249						
8/30/2016	330	168	254	280					
8/31/2016					700	876	379		
10/19/2016	380	176	357						
10/20/2016				265					
10/26/2016					795		409		
11/7/2016						1000			
12/6/2016	377	145	285						
1/13/2017						827			
1/24/2017	342	129	300						
1/25/2017				371					
1/27/2017					706		370		
3/21/2017	340	103	288						
5/22/2017	338	92	263						
5/25/2017				237	669		351		
6/3/2017						846			
8/11/2017				253			322		
10/2/2017					672	884			
10/3/2017	343	127	300						
11/15/2017				261	721	838	350		
6/4/2018	415	140	266						
6/5/2018				276	723	823	360		
10/1/2018	354	135	291						
10/2/2018				256	703		363		
10/5/2018						813			
4/1/2019			284						
4/2/2019	452	133		814 (o)	540				
4/3/2019						785	369		
6/17/2019						751			
6/18/2019				233					
9/23/2019	442	129	268						
10/21/2019				296		771	357		
10/22/2019					693				
3/24/2020				278			355		
3/25/2020	496	138	284		665	521			
5/22/2020								809	496
6/15/2020					685				
6/16/2020	632		448				665		508
8/25/2020							772		505
9/15/2020	265	124	258	267					
9/16/2020									
9/18/2020									452
9/21/2020					272			956	
9/25/2020									
9/28/2020						<10	176		
11/10/2020									
11/11/2020									468
11/12/2020							694		
12/15/2020									
12/16/2020							816		536

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/19/2023 1:41 PM View: Interwell PL
Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWA-122 (bg)	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
1/19/2021									
1/20/2021								726	472
3/10/2021	348								
3/11/2021		169	267	206					
3/12/2021					584			664	474
3/15/2021						614	340		
8/11/2021	366								
8/12/2021		118	265						
8/13/2021				201					
8/16/2021					632	626	352		
8/19/2021								732	488
2/1/2022	270	156	350	203					
2/2/2022					612	638	347		
2/3/2022								726	466
8/2/2022	400	196	287	217					
8/4/2022					632	640	334	706	510
1/23/2023			293						
1/24/2023	369	164		246		602	350		
1/25/2023					656			798	517
8/8/2023	457	189	285	248					
8/10/2023					661	642		760	
8/11/2023							361		535

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/19/2023 1:41 PM View: Interwell PL
Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-44D (bg)	HGWA-43D (bg)	HGWA-45D (bg)
5/19/2016			
7/11/2016			
7/12/2016			
8/30/2016			
8/31/2016			
10/19/2016			
10/20/2016			
10/26/2016			
11/7/2016			
12/6/2016			
1/13/2017			
1/24/2017			
1/25/2017			
1/27/2017			
3/21/2017			
5/22/2017			
5/25/2017			
6/3/2017			
8/11/2017			
10/2/2017			
10/3/2017			
11/15/2017			
6/4/2018			
6/5/2018			
10/1/2018			
10/2/2018			
10/5/2018			
4/1/2019			
4/2/2019			
4/3/2019			
6/17/2019			
6/18/2019			
9/23/2019			
10/21/2019			
10/22/2019			
3/24/2020			
3/25/2020			
5/22/2020			
6/15/2020			
6/16/2020			
8/25/2020			
9/15/2020			
9/16/2020	270	272	
9/18/2020			
9/21/2020			
9/25/2020			263
9/28/2020			
11/10/2020	287	307	
11/11/2020			276
11/12/2020			
12/15/2020	295	289	
12/16/2020			294

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/19/2023 1:41 PM View: Interwell PL
Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWA-44D (bg)	HGWA-43D (bg)	HGWA-45D (bg)
1/19/2021	278	270	
1/20/2021			289
3/10/2021	289		
3/11/2021		279	
3/12/2021			260
3/15/2021			
8/11/2021		277	
8/12/2021			
8/13/2021	436		272
8/16/2021			
8/19/2021			
2/1/2022	444	156	268
2/2/2022			
2/3/2022			
8/2/2022	311	278	261
8/4/2022			
1/23/2023			
1/24/2023	363	271	289
1/25/2023			
8/8/2023	361	274	261
8/10/2023			
8/11/2023			

FIGURE E.

Appendix III Trend Tests - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-3 Printed 10/19/2023, 1:43 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	HGWA-122 (bg)	-0.0212	-108	-74	Yes	19	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWA-2 (bg)	0.002577	142	87	Yes	21	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWA-43D (bg)	-0.007982	-31	-30	Yes	10	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWC-120	-0.04139	-96	-81	Yes	20	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWC-121A	-0.2349	-123	-74	Yes	19	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-3 (bg)	1.995	116	92	Yes	22	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-44D (bg)	-7.57	-31	-30	Yes	10	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWC-121A	-5.757	-95	-74	Yes	19	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-122 (bg)	-1.842	-107	-74	Yes	19	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-2 (bg)	2.095	138	87	Yes	21	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-43D (bg)	-3.197	-35	-30	Yes	10	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-120	-15.29	-122	-81	Yes	20	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-121A	-24.32	-125	-74	Yes	19	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWC-121A	-45.43	-111	-74	Yes	19	5.263	n/a	n/a	0.01	NP

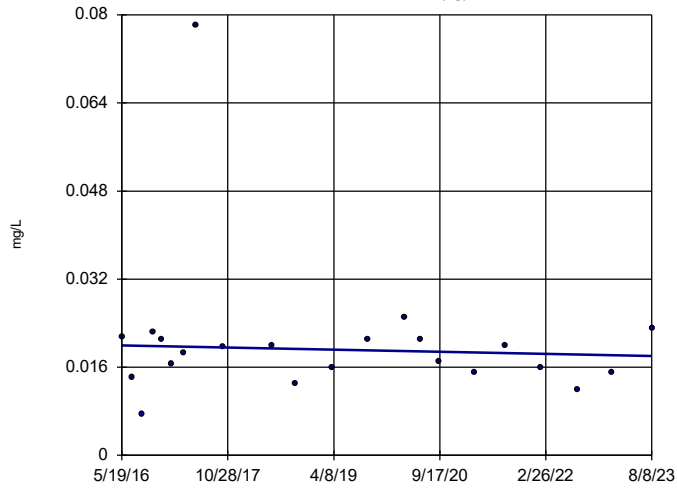
Appendix III Trend Tests - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-3 Printed 10/19/2023, 1:43 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	HGWA-1 (bg)	-0.0002605	-21	-92	No	22	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWA-122 (bg)	-0.0212	-108	-74	Yes	19	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWA-2 (bg)	0.002577	142	87	Yes	21	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWA-3 (bg)	0.0003424	32	92	No	22	18.18	n/a	n/a	0.01	NP
Boron (mg/L)	HGWA-43D (bg)	-0.007982	-31	-30	Yes	10	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWA-44D (bg)	0.09068	29	30	No	10	10	n/a	n/a	0.01	NP
Boron (mg/L)	HGWA-45D (bg)	-0.01031	-19	-30	No	10	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWC-120	-0.04139	-96	-81	Yes	20	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWC-121A	-0.2349	-123	-74	Yes	19	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWC-125	0	12	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-1 (bg)	2.19	78	92	No	22	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-122 (bg)	-2.333	-57	-74	No	19	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-2 (bg)	1.082	82	87	No	21	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-3 (bg)	1.995	116	92	Yes	22	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-43D (bg)	-3.038	-25	-30	No	10	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-44D (bg)	-7.57	-31	-30	Yes	10	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-45D (bg)	-2.901	-29	-30	No	10	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWC-120	0.8032	33	81	No	20	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWC-121A	-5.757	-95	-74	Yes	19	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWC-125	2.959	7	43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-1 (bg)	1.304	38	92	No	22	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-122 (bg)	-1.842	-107	-74	Yes	19	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-2 (bg)	2.095	138	87	Yes	21	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-3 (bg)	0.1933	13	92	No	22	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-43D (bg)	-3.197	-35	-30	Yes	10	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-44D (bg)	0.3314	1	30	No	10	10	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-45D (bg)	-2.97	-23	-30	No	10	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-120	-15.29	-122	-81	Yes	20	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-121A	-24.32	-125	-74	Yes	19	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-125	-16.05	-33	-43	No	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-1 (bg)	4.498	33	92	No	22	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-122 (bg)	-8.295	-55	-68	No	18	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-2 (bg)	3.534	35	87	No	21	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-3 (bg)	1.304	29	92	No	22	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-43D (bg)	-4.269	-13	-30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-44D (bg)	32.23	25	30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-45D (bg)	-4.62	-9	-30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWC-120	-12.98	-74	-74	No	19	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWC-121A	-45.43	-111	-74	Yes	19	5.263	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWC-125	-4.08	-5	-43	No	13	0	n/a	n/a	0.01	NP

Sen's Slope Estimator

HGWA-1 (bg)

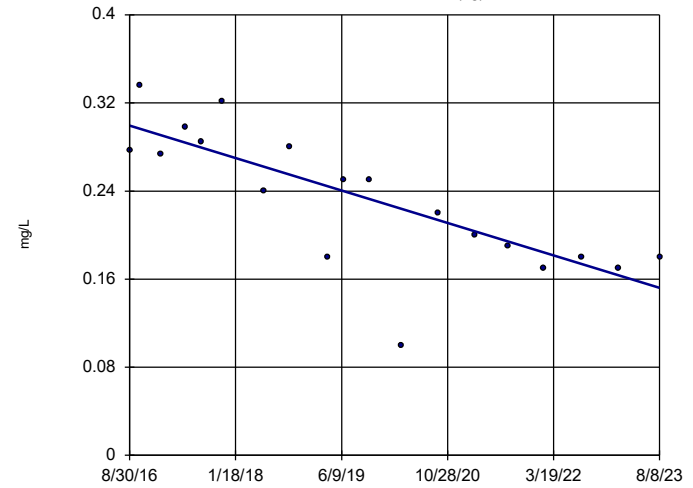


n = 22
 Slope = -0.002605 units per year.
 Mann-Kendall statistic = -21
 critical = -92
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/19/2023 1:42 PM View: Trend Test
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

HGWA-122 (bg)

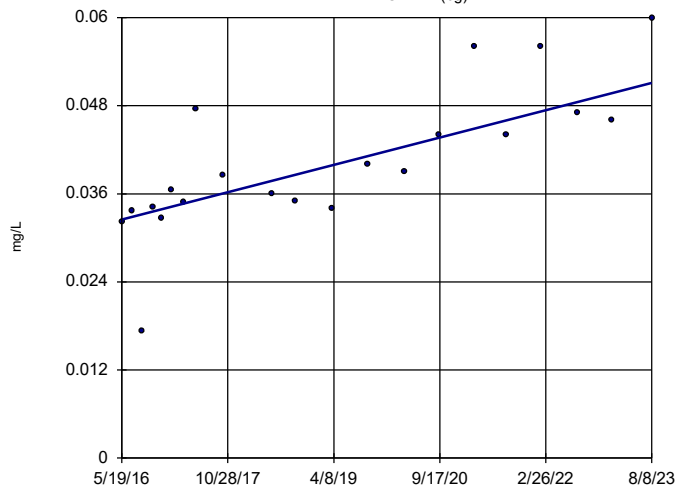


n = 19
 Slope = -0.0212 units per year.
 Mann-Kendall statistic = -108
 critical = -74
 Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/19/2023 1:42 PM View: Trend Test
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

HGWA-2 (bg)



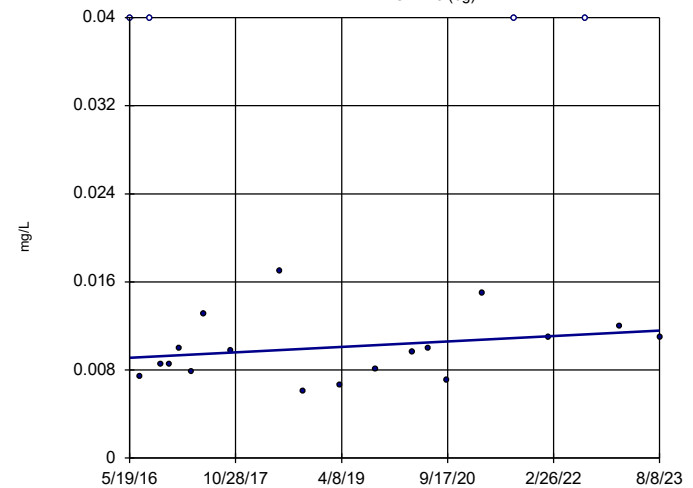
n = 21
 Slope = 0.002577 units per year.
 Mann-Kendall statistic = 142
 critical = 87
 Increasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/19/2023 1:42 PM View: Trend Test
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Hollow symbols indicate censored values.

Sen's Slope Estimator

HGWA-3 (bg)

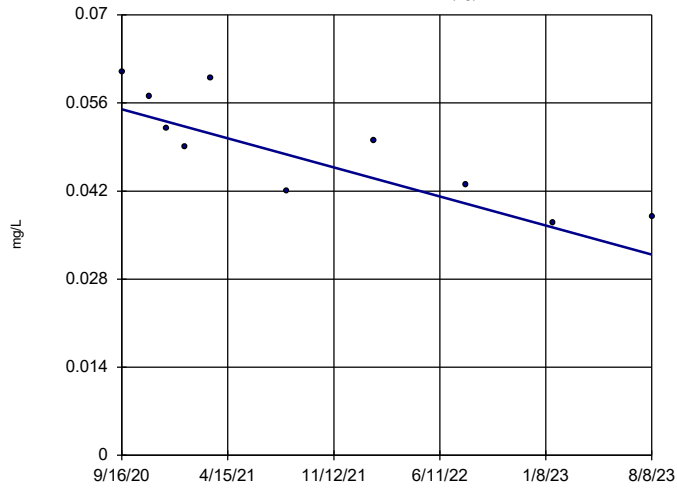


n = 22
 Slope = 0.0003424 units per year.
 Mann-Kendall statistic = 32
 critical = 92
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 10/19/2023 1:42 PM View: Trend Test
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

HGWA-43D (bg)



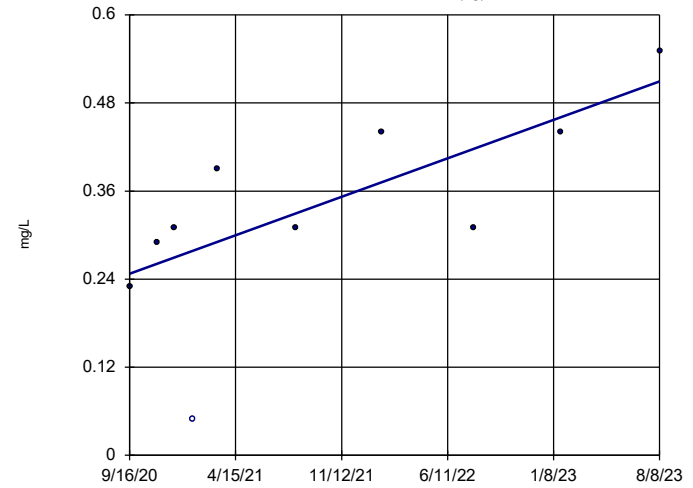
n = 10
 Slope = -0.007982
 units per year.
 Mann-Kendall
 statistic = -31
 critical = -30
 Decreasing trend
 significant at 99%
 confidence level
 (α = 0.005 per
 tail).

Constituent: Boron Analysis Run 10/19/2023 1:42 PM View: Trend Test
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Hollow symbols indicate censored values.

Sen's Slope Estimator

HGWA-44D (bg)

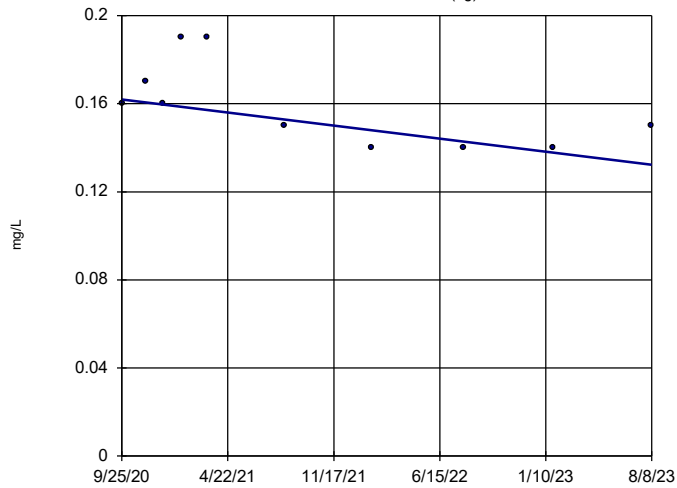


n = 10
 Slope = 0.09068
 units per year.
 Mann-Kendall
 statistic = 29
 critical = 30
 Trend not sig-
 nificant at 99%
 confidence level
 (α = 0.005 per
 tail).

Constituent: Boron Analysis Run 10/19/2023 1:42 PM View: Trend Test
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

HGWA-45D (bg)

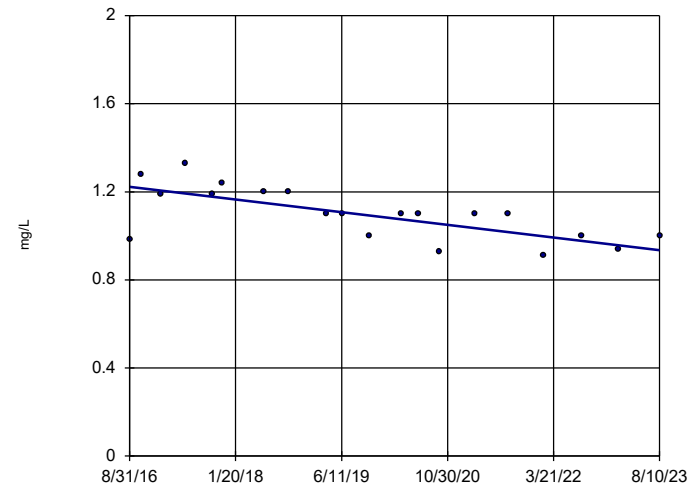


n = 10
 Slope = -0.01031
 units per year.
 Mann-Kendall
 statistic = -19
 critical = -30
 Trend not sig-
 nificant at 99%
 confidence level
 (α = 0.005 per
 tail).

Constituent: Boron Analysis Run 10/19/2023 1:42 PM View: Trend Test
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

HGWC-120

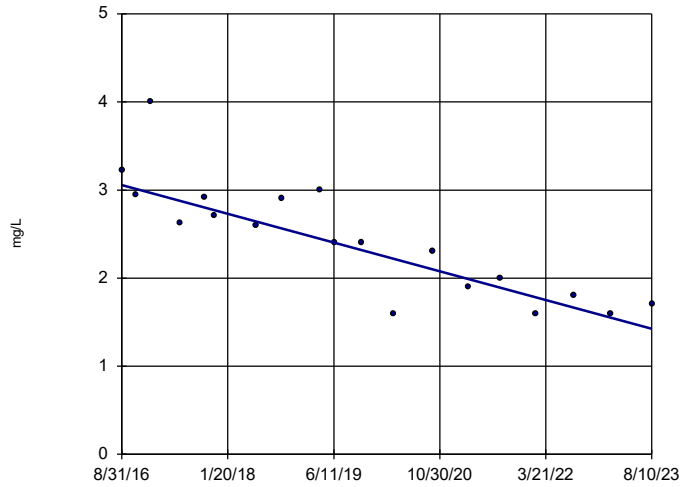


n = 20
 Slope = -0.04139
 units per year.
 Mann-Kendall
 statistic = -96
 critical = -81
 Decreasing trend
 significant at 99%
 confidence level
 (α = 0.005 per
 tail).

Constituent: Boron Analysis Run 10/19/2023 1:42 PM View: Trend Test
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

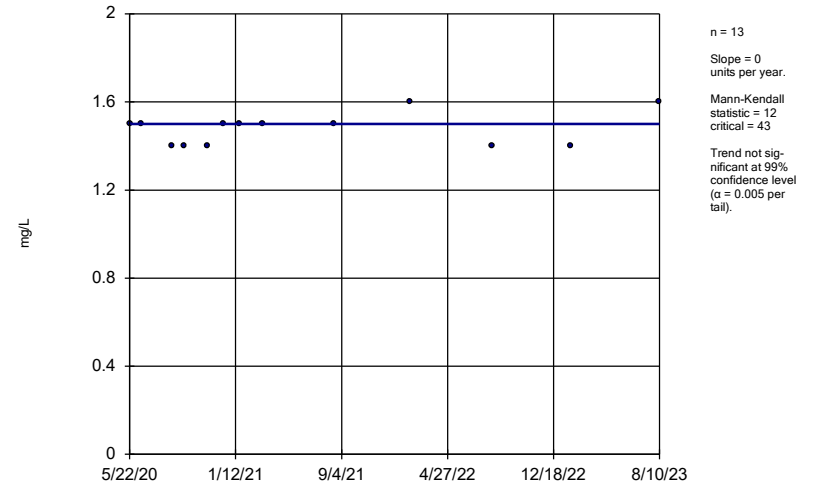
HGWC-121A



Constituent: Boron Analysis Run 10/19/2023 1:42 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

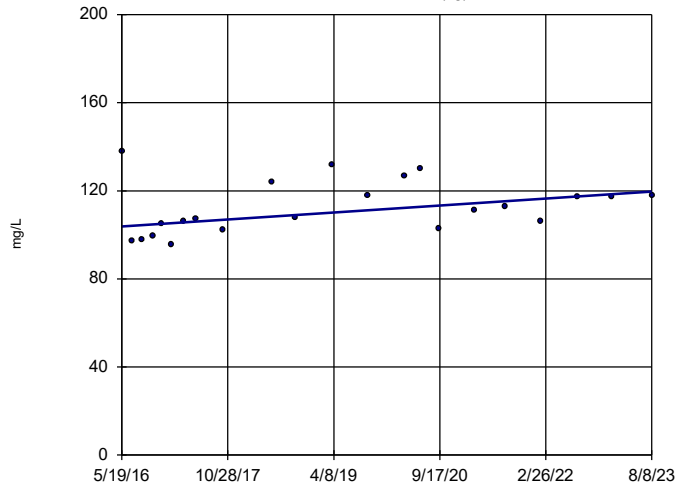
HGWC-125



Constituent: Boron Analysis Run 10/19/2023 1:42 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

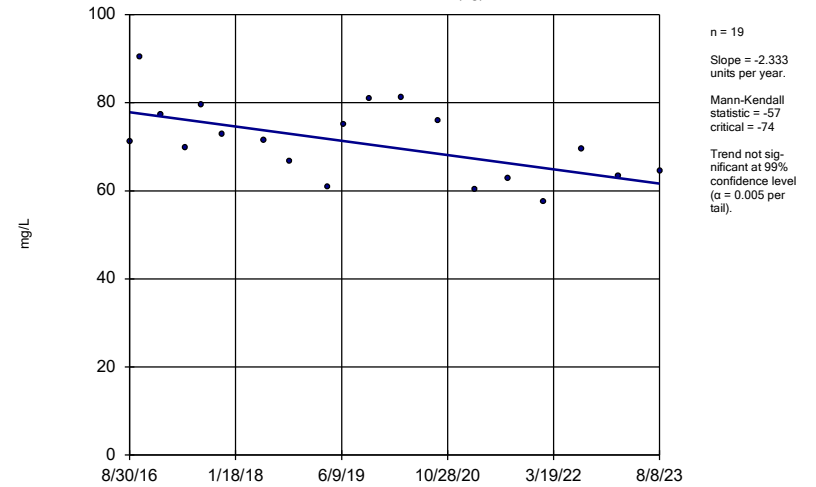
HGWA-1 (bg)



Constituent: Calcium Analysis Run 10/19/2023 1:42 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

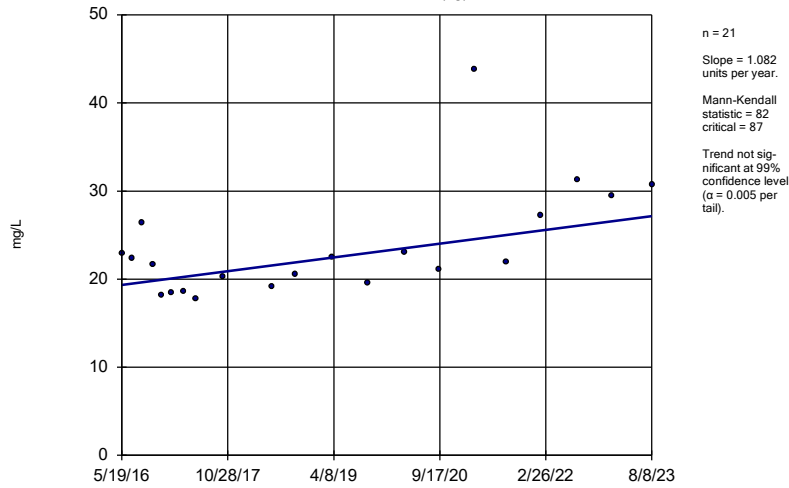
HGWA-122 (bg)



Constituent: Calcium Analysis Run 10/19/2023 1:42 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

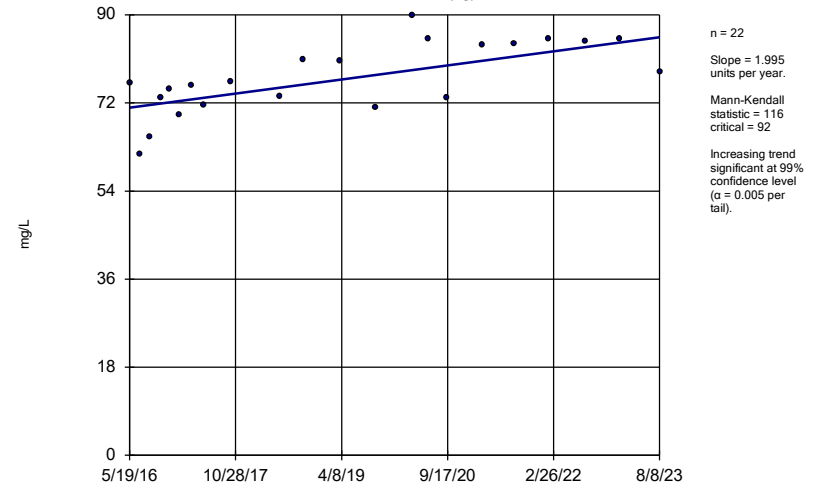
HGWA-2 (bg)



Constituent: Calcium Analysis Run 10/19/2023 1:42 PM View: Trend Test
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

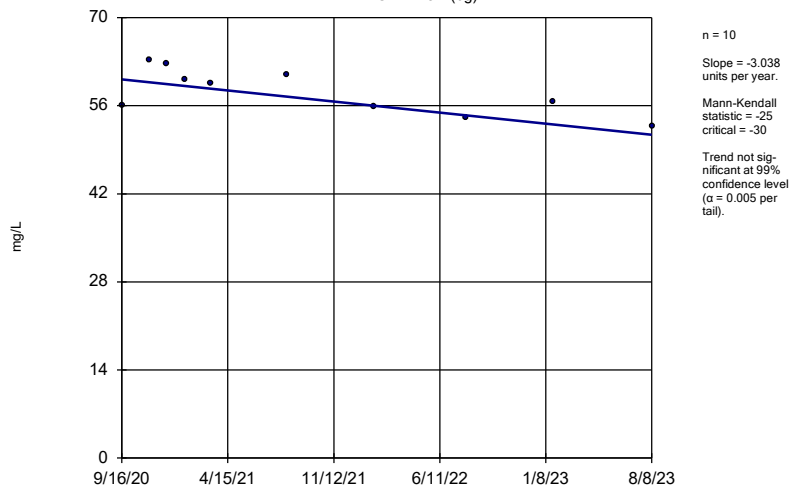
HGWA-3 (bg)



Constituent: Calcium Analysis Run 10/19/2023 1:42 PM View: Trend Test
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

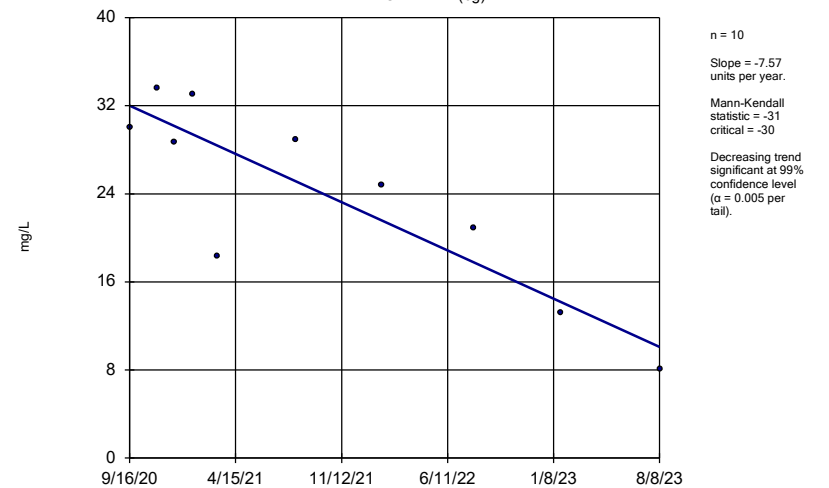
HGWA-43D (bg)



Constituent: Calcium Analysis Run 10/19/2023 1:42 PM View: Trend Test
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

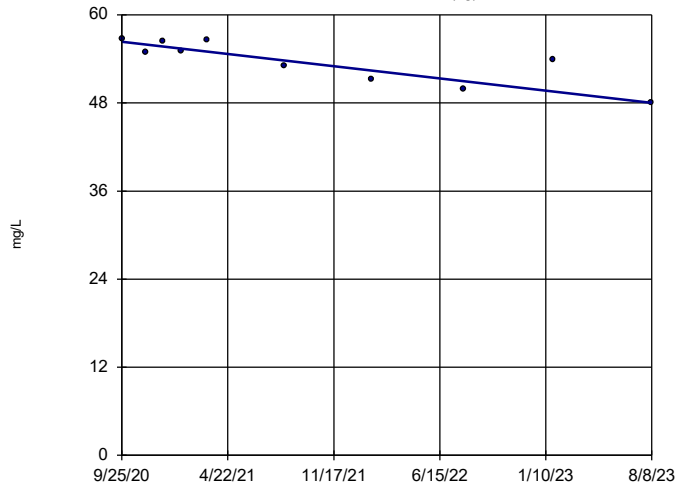
HGWA-44D (bg)



Constituent: Calcium Analysis Run 10/19/2023 1:42 PM View: Trend Test
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

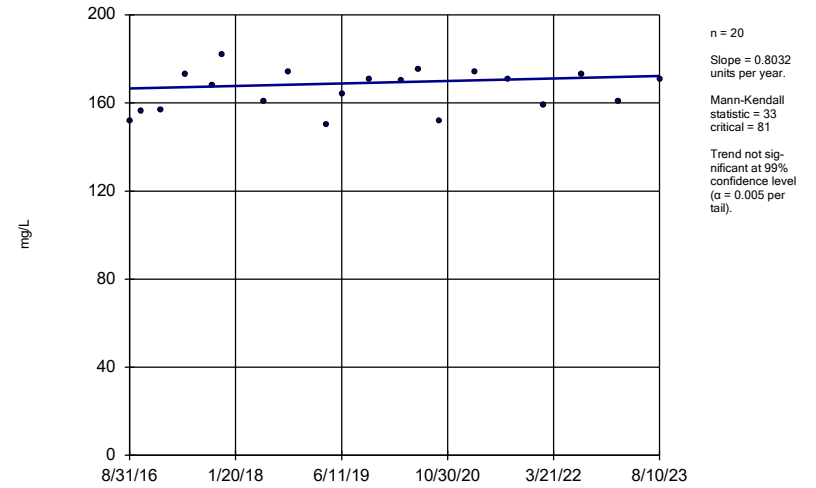
HGWA-45D (bg)



Constituent: Calcium Analysis Run 10/19/2023 1:42 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

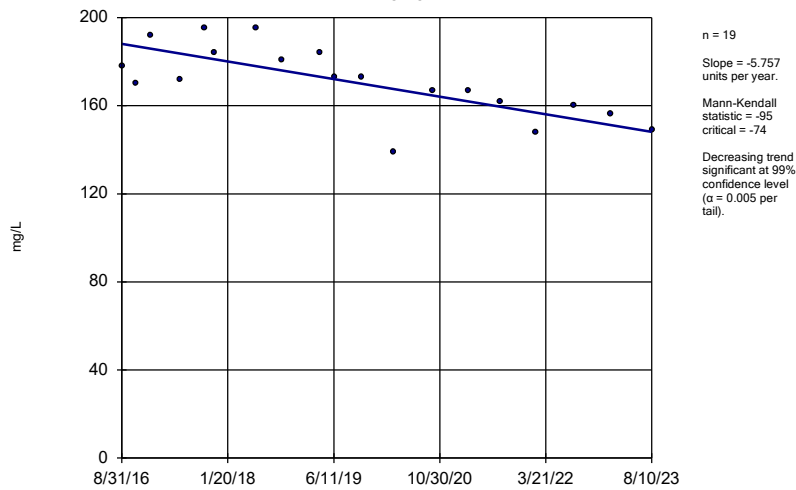
HGWC-120



Constituent: Calcium Analysis Run 10/19/2023 1:42 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

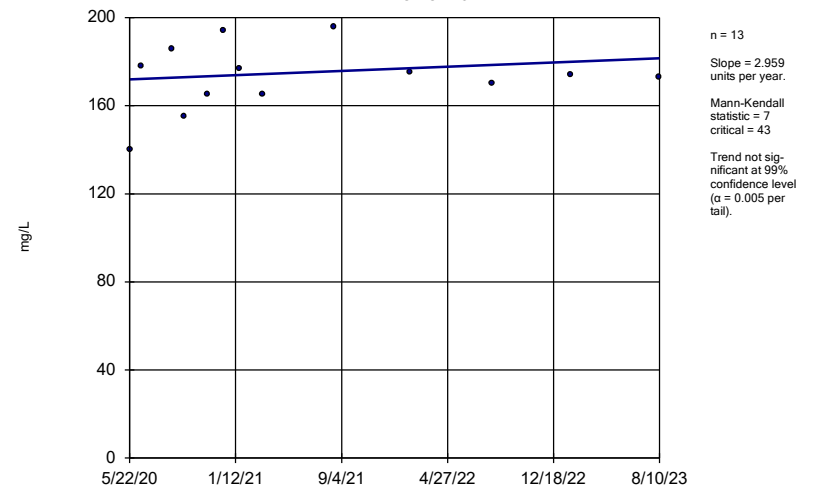
HGWC-121A



Constituent: Calcium Analysis Run 10/19/2023 1:42 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

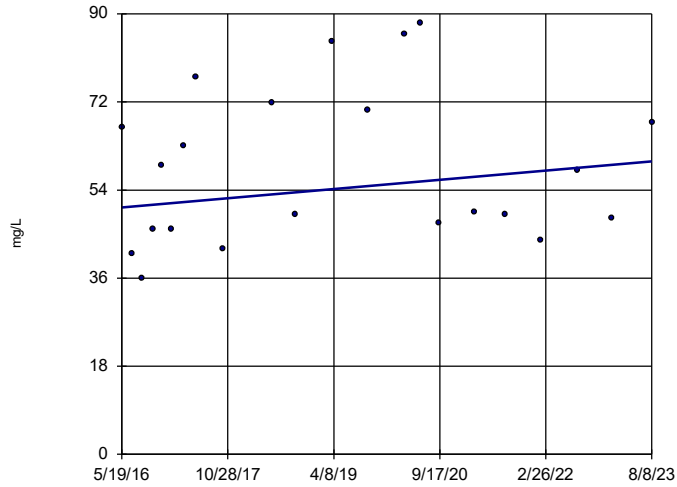
HGWC-125



Constituent: Calcium Analysis Run 10/19/2023 1:42 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

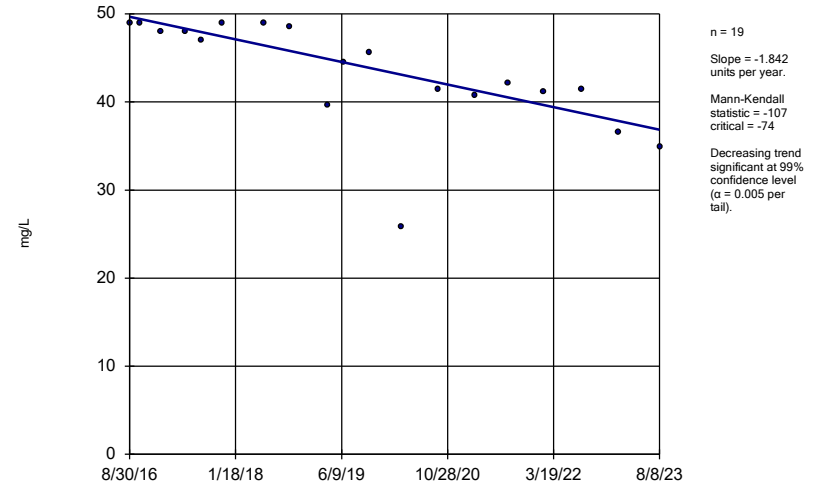
HGWA-1 (bg)



Constituent: Sulfate Analysis Run 10/19/2023 1:42 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

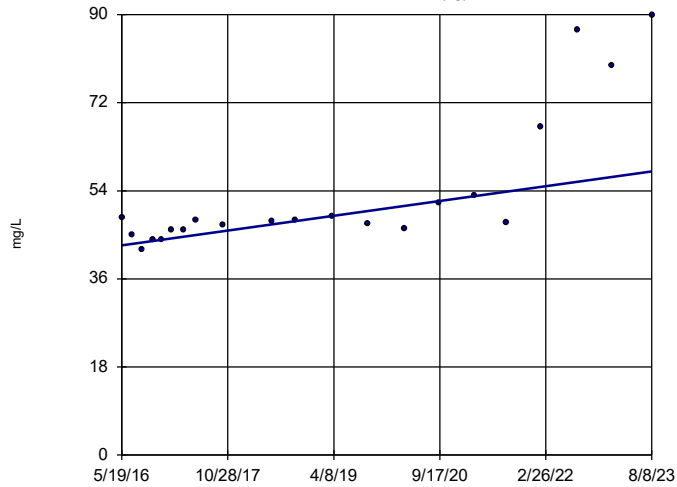
HGWA-122 (bg)



Constituent: Sulfate Analysis Run 10/19/2023 1:42 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

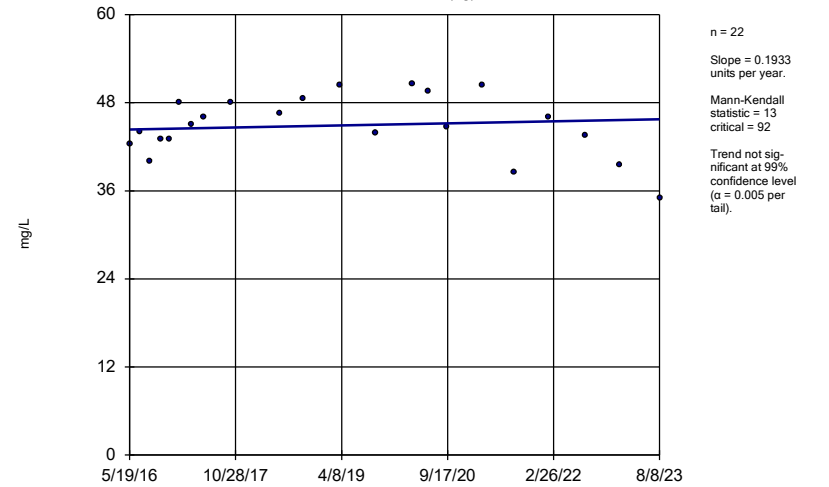
HGWA-2 (bg)



Constituent: Sulfate Analysis Run 10/19/2023 1:42 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

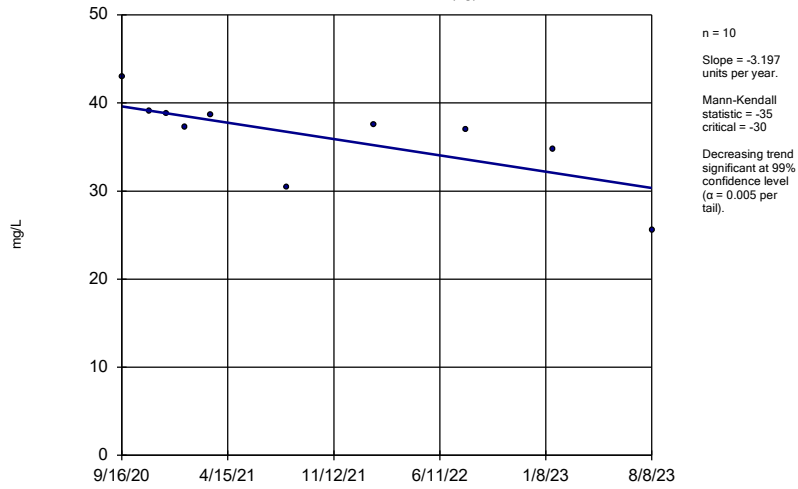
HGWA-3 (bg)



Constituent: Sulfate Analysis Run 10/19/2023 1:42 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

HGWA-43D (bg)

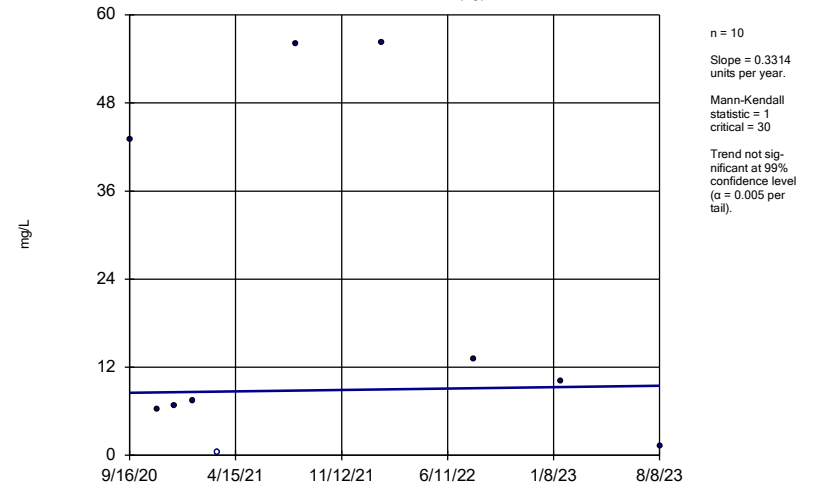


Constituent: Sulfate Analysis Run 10/19/2023 1:42 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-3

Hollow symbols indicate censored values.

Sen's Slope Estimator

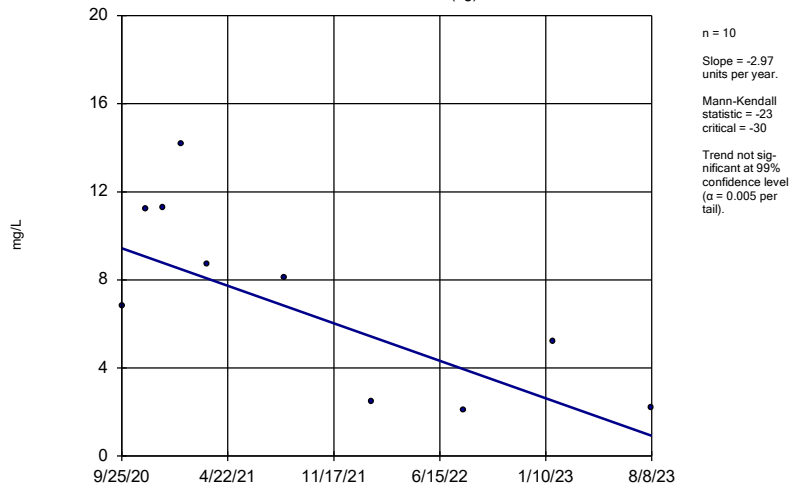
HGWA-44D (bg)



Constituent: Sulfate Analysis Run 10/19/2023 1:42 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

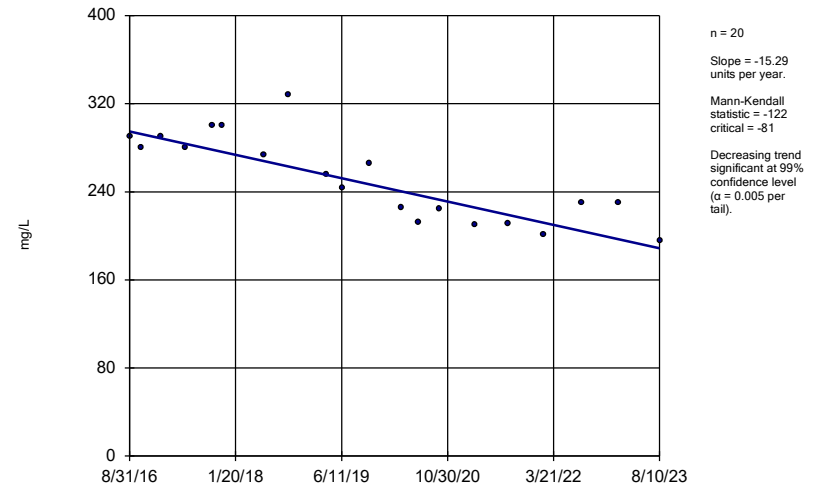
HGWA-45D (bg)



Constituent: Sulfate Analysis Run 10/19/2023 1:42 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

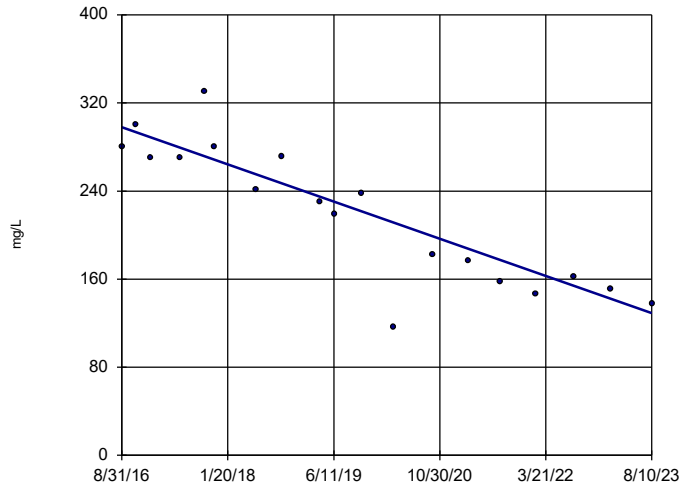
HGWC-120



Constituent: Sulfate Analysis Run 10/19/2023 1:42 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

HGWC-121A

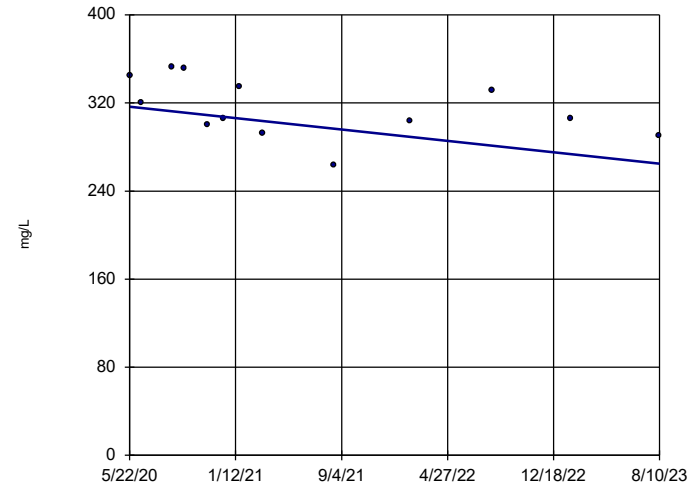


n = 19
 Slope = -24.32
 units per year.
 Mann-Kendall
 statistic = -125
 critical = -74
 Decreasing trend
 significant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: Sulfate Analysis Run 10/19/2023 1:42 PM View: Trend Test
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

HGWC-125

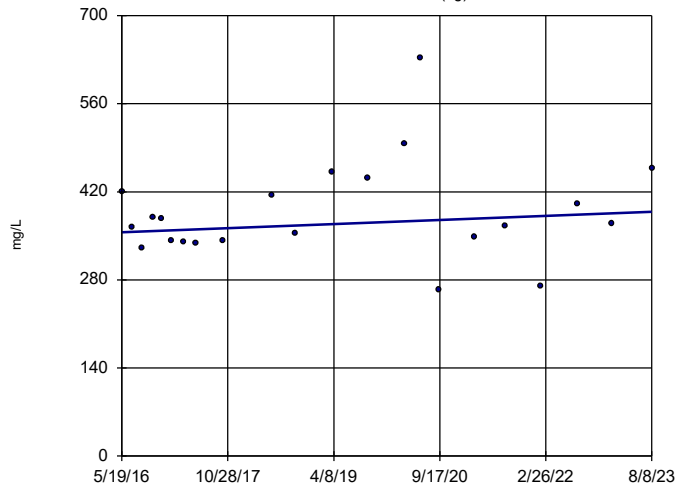


n = 13
 Slope = -16.05
 units per year.
 Mann-Kendall
 statistic = -33
 critical = -43
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: Sulfate Analysis Run 10/19/2023 1:42 PM View: Trend Test
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

HGWA-1 (bg)

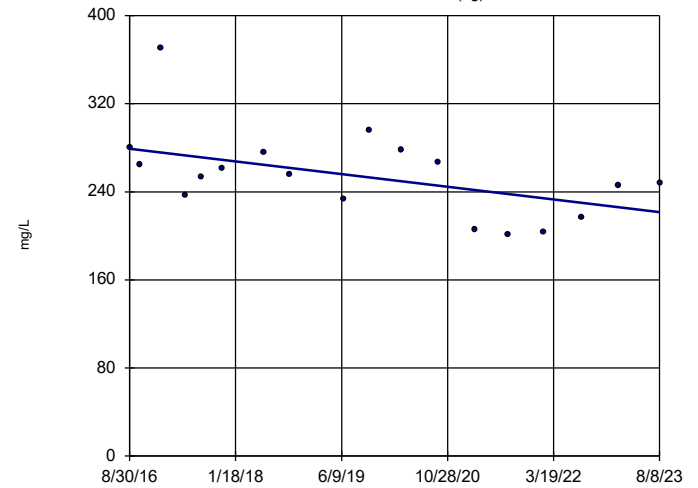


n = 22
 Slope = 4.498
 units per year.
 Mann-Kendall
 statistic = 33
 critical = 92
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: Total Dissolved Solids Analysis Run 10/19/2023 1:42 PM View: Trend Test
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

HGWA-122 (bg)

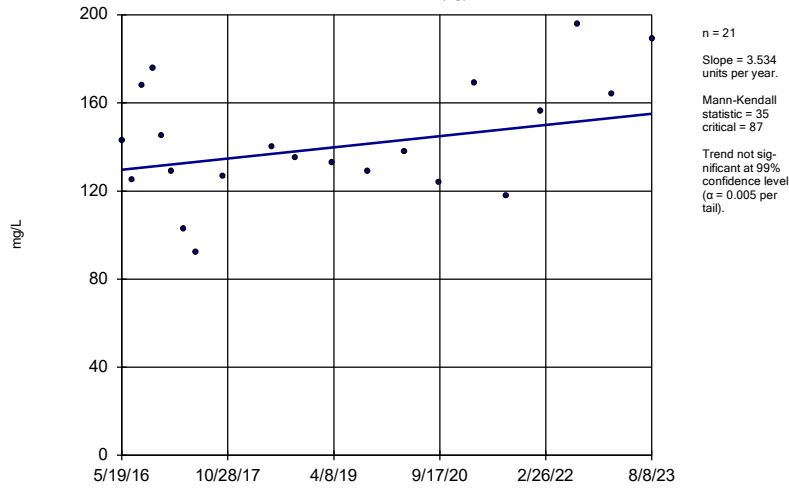


n = 18
 Slope = -8.295
 units per year.
 Mann-Kendall
 statistic = -55
 critical = -68
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: Total Dissolved Solids Analysis Run 10/19/2023 1:42 PM View: Trend Test
 Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

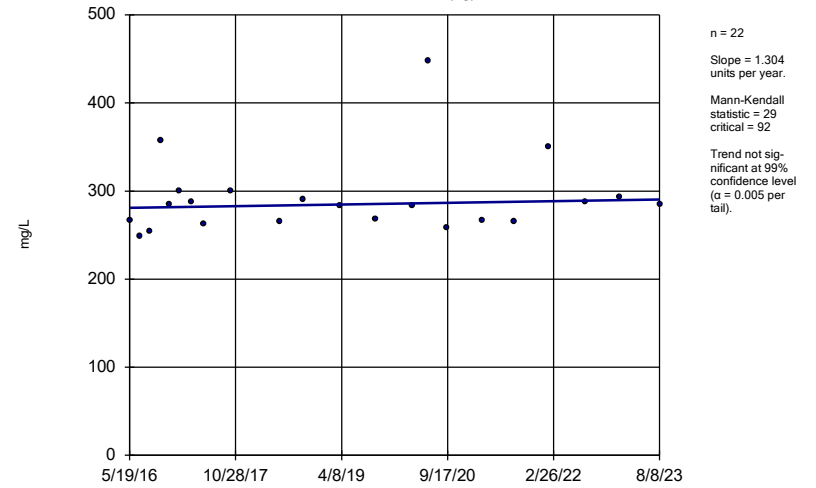
HGWA-2 (bg)



Constituent: Total Dissolved Solids Analysis Run 10/19/2023 1:42 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

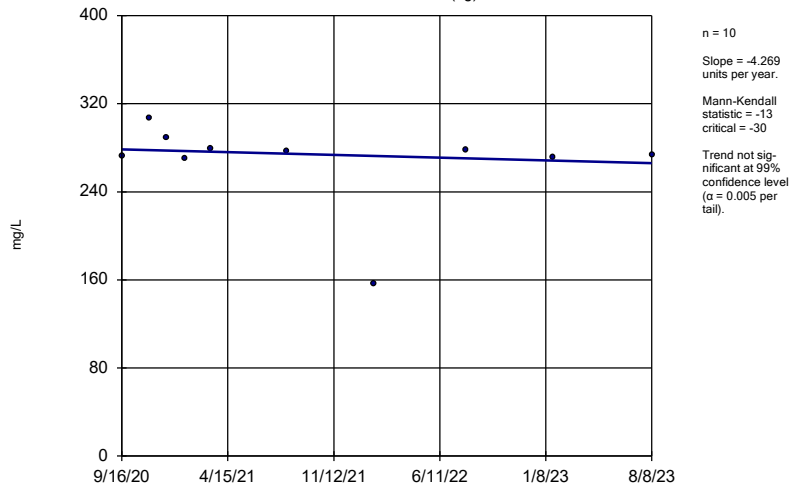
HGWA-3 (bg)



Constituent: Total Dissolved Solids Analysis Run 10/19/2023 1:42 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

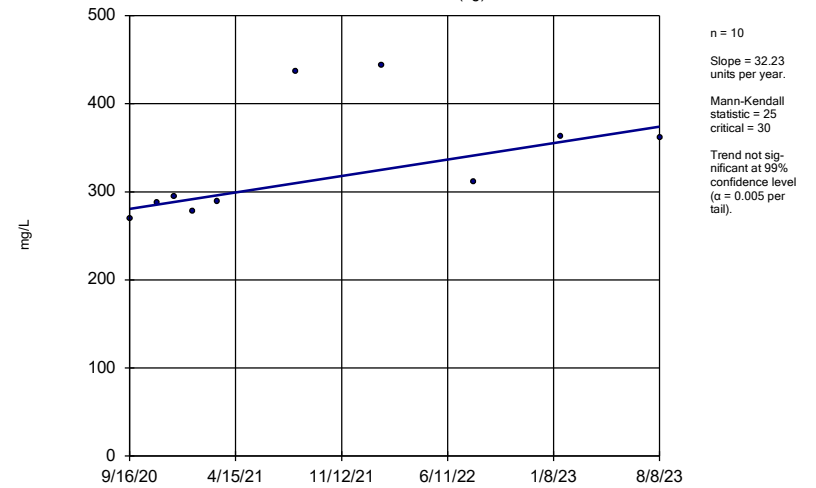
HGWA-43D (bg)



Constituent: Total Dissolved Solids Analysis Run 10/19/2023 1:42 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

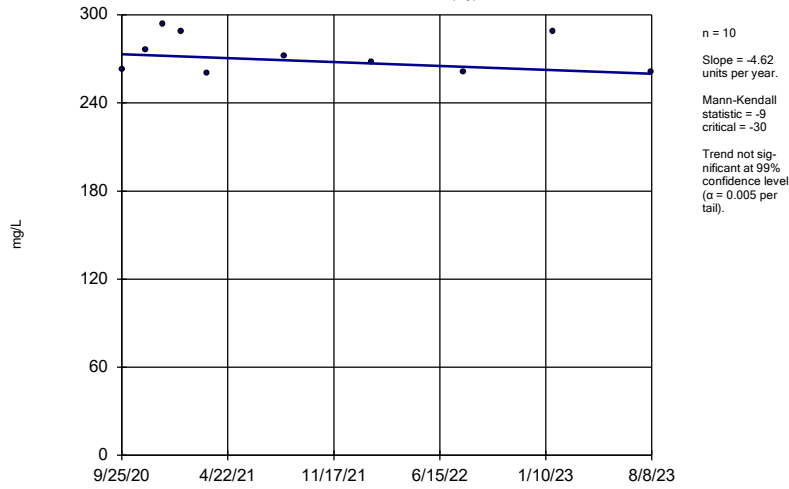
HGWA-44D (bg)



Constituent: Total Dissolved Solids Analysis Run 10/19/2023 1:42 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

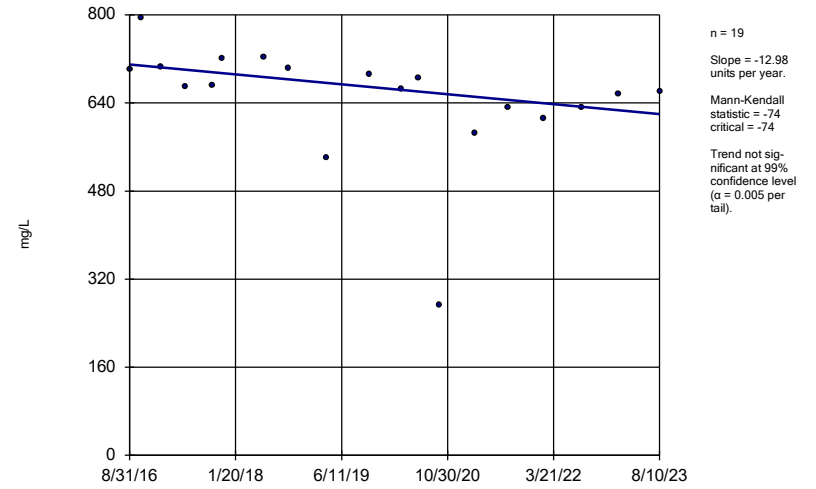
HGWA-45D (bg)



Constituent: Total Dissolved Solids Analysis Run 10/19/2023 1:42 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

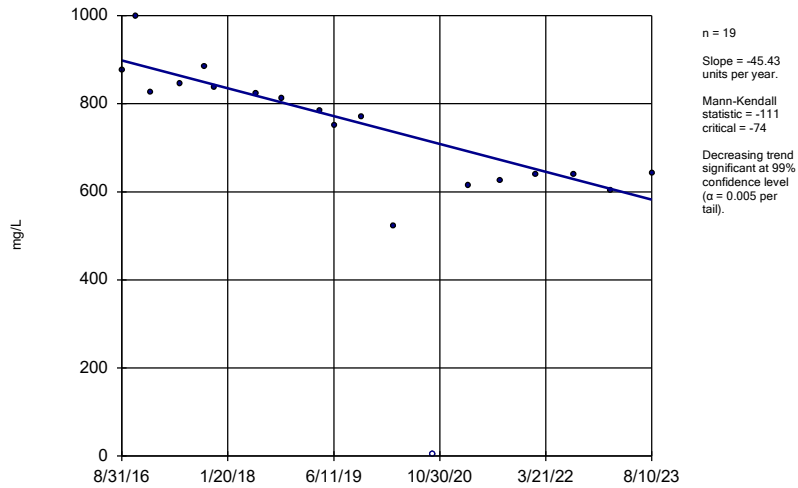
HGWC-120



Constituent: Total Dissolved Solids Analysis Run 10/19/2023 1:42 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

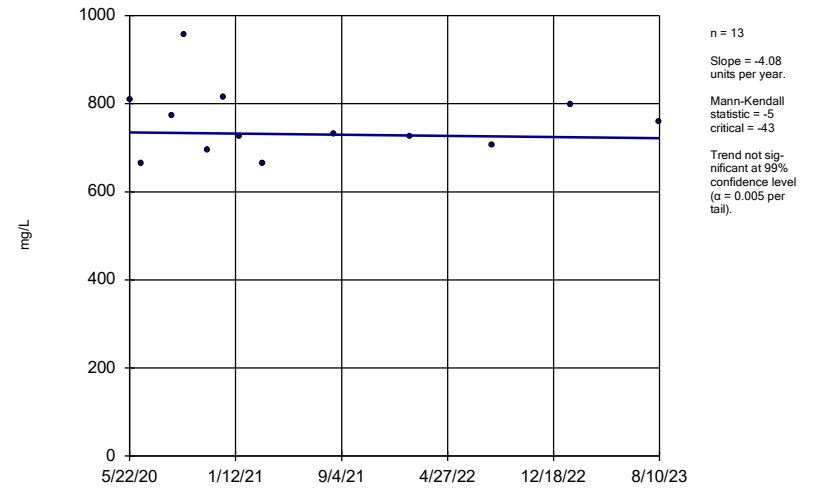
HGWC-121A



Constituent: Total Dissolved Solids Analysis Run 10/19/2023 1:42 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-3

Sen's Slope Estimator

HGWC-125



Constituent: Total Dissolved Solids Analysis Run 10/19/2023 1:42 PM View: Trend Test
Plant Hammond Client: Southern Company Data: Hammond AP-3

FIGURE F.

Upper Tolerance Limit Summary Table

Plant Hammond Client: Southern Company Data: Hammond AP-3 Printed 10/25/2023, 6:25 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	113	86.73	n/a	n/a	0.003039	NP Inter(NDs)
Arsenic (mg/L)	0.005	n/a	n/a	n/a	111	72.97	n/a	n/a	0.003368	NP Inter(NDs)
Barium (mg/L)	0.64	n/a	n/a	n/a	121	0.8264	n/a	n/a	0.002016	NP Inter(normality)
Beryllium (mg/L)	0.0005	n/a	n/a	n/a	113	83.19	n/a	n/a	0.003039	NP Inter(NDs)
Cadmium (mg/L)	0.0005	n/a	n/a	n/a	111	88.29	n/a	n/a	0.003368	NP Inter(NDs)
Chromium (mg/L)	0.0079	n/a	n/a	n/a	115	80.87	n/a	n/a	0.002743	NP Inter(NDs)
Cobalt (mg/L)	0.038	n/a	n/a	n/a	121	77.69	n/a	n/a	0.002016	NP Inter(NDs)
Combined Radium 226 + 228 (pCi/L)	1.615	n/a	n/a	n/a	114	0	None	sqrt(x)	0.05	Inter
Fluoride (mg/L)	1.3	n/a	n/a	n/a	128	21.88	n/a	n/a	0.001408	NP Inter(normality)
Lead (mg/L)	0.001	n/a	n/a	n/a	115	71.3	n/a	n/a	0.002743	NP Inter(NDs)
Lithium (mg/L)	0.064	n/a	n/a	n/a	120	31.67	n/a	n/a	0.002122	NP Inter(normality)
Mercury (mg/L)	0.0002	n/a	n/a	n/a	93	94.62	n/a	n/a	0.008478	NP Inter(NDs)
Molybdenum (mg/L)	0.01	n/a	n/a	n/a	123	65.85	n/a	n/a	0.00182	NP Inter(NDs)
Selenium (mg/L)	0.005	n/a	n/a	n/a	111	97.3	n/a	n/a	0.003368	NP Inter(NDs)
Thallium (mg/L)	0.001	n/a	n/a	n/a	111	99.1	n/a	n/a	0.003368	NP Inter(NDs)

FIGURE G.

PLANT HAMMOND AP-3 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		0.64	2
Beryllium, Total (mg/L)	0.004		0.0005	0.004
Cadmium, Total (mg/L)	0.005		0.0005	0.005
Chromium, Total (mg/L)	0.1		0.0079	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.038	0.038
Combined Radium, Total (pCi/L)	5		1.62	5
Fluoride, Total (mg/L)	4		1.3	4
Lead, Total (mg/L)	n/a	0.015	0.001	0.015
Lithium, Total (mg/L)	n/a	0.040	0.064	0.064
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

**Grey cell indicates background is higher than MCL or CCR-Rule*

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residuals*

**GWPS = Groundwater Protection Standard*

FIGURE H.

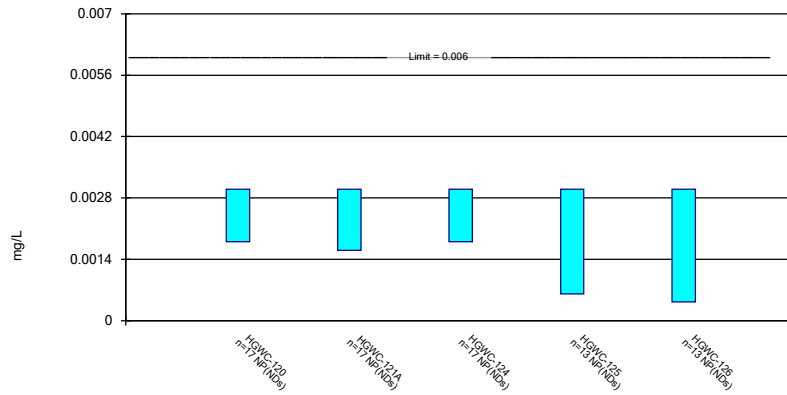
Confidence Intervals - All Results (No Significant)

Plant Hammond Client: Southern Company Data: Hammond AP-3 Printed 10/26/2023, 11:14 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	HGWC-120	0.003	0.0018	0.006	No	17	94.12	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-121A	0.003	0.0016	0.006	No	17	94.12	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-124	0.003	0.0018	0.006	No	17	94.12	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-125	0.003	0.00061	0.006	No	13	84.62	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-126	0.003	0.00043	0.006	No	13	84.62	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-120	0.005	0.0014	0.01	No	15	66.67	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-121A	0.005	0.0014	0.01	No	15	80	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-124	0.005	0.0006	0.01	No	15	93.33	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-125	0.005	0.0014	0.01	No	12	75	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-126	0.005	0.00091	0.01	No	12	75	None	No	0.01	NP (NDs)
Barium (mg/L)	HGWC-120	0.05137	0.04663	2	No	19	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-121A	0.07825	0.06265	2	No	19	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-124	0.07221	0.06677	2	No	19	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-125	0.04552	0.04048	2	No	13	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-126	0.2525	0.2275	2	No	13	0	None	No	0.01	Param.
Chromium (mg/L)	HGWC-120	0.005	0.0015	0.1	No	19	84.21	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-121A	0.005	0.0005	0.1	No	19	94.74	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-124	0.005	0.00051	0.1	No	19	89.47	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-125	0.005	0.00058	0.1	No	13	76.92	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-126	0.005	0.0014	0.1	No	13	84.62	None	No	0.01	NP (NDs)
Cobalt (mg/L)	HGWC-120	0.004651	0.003159	0.038	No	19	0	None	No	0.01	Param.
Cobalt (mg/L)	HGWC-121A	0.005	0.0005	0.038	No	19	84.21	None	No	0.01	NP (NDs)
Cobalt (mg/L)	HGWC-125	0.01233	0.008206	0.038	No	13	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-120	1.058	0.6576	5	No	18	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-121A	1.11	0.515	5	No	18	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-124	0.8578	0.5463	5	No	18	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-125	1.344	0.7048	5	No	12	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-126	1.692	1.073	5	No	12	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-120	0.65	0.37	4	No	22	0	None	No	0.01	NP (normality)
Fluoride (mg/L)	HGWC-121A	0.19	0.15	4	No	20	0	None	No	0.01	NP (normality)
Fluoride (mg/L)	HGWC-124	0.11	0.078	4	No	20	40	None	No	0.01	NP (normality)
Fluoride (mg/L)	HGWC-125	0.1673	0.122	4	No	13	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-126	0.5072	0.4451	4	No	13	0	None	No	0.01	Param.
Lead (mg/L)	HGWC-120	0.001	0.0002	0.015	No	19	84.21	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-121A	0.001	0.00036	0.015	No	19	84.21	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-124	0.001	0.00008	0.015	No	19	73.68	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-125	0.001	0.000047	0.015	No	13	61.54	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-126	0.001	0.000045	0.015	No	13	76.92	None	No	0.01	NP (NDs)
Lithium (mg/L)	HGWC-120	0.0337	0.023	0.064	No	19	0	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-121A	0.008798	0.007518	0.064	No	19	0	None	No	0.01	Param.
Lithium (mg/L)	HGWC-124	0.03	0.001	0.064	No	19	26.32	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-125	0.005518	0.003882	0.064	No	13	0	None	No	0.01	Param.
Lithium (mg/L)	HGWC-126	0.004187	0.003367	0.064	No	13	0	None	No	0.01	Param.
Mercury (mg/L)	HGWC-120	0.0002	0.00007	0.002	No	15	86.67	None	No	0.01	NP (NDs)
Mercury (mg/L)	HGWC-124	0.0002	0.000051	0.002	No	15	93.33	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	HGWC-120	0.03689	0.02719	0.1	No	19	0	None	No	0.01	Param.
Molybdenum (mg/L)	HGWC-124	0.01	0.00092	0.1	No	19	42.11	None	No	0.01	NP (normality)
Molybdenum (mg/L)	HGWC-125	0.007728	0.001411	0.1	No	13	23.08	Kaplan-Meier	sqrt(x)	0.01	Param.
Selenium (mg/L)	HGWC-120	0.005	0.002	0.05	No	15	93.33	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-121A	0.005	0.0011	0.05	No	15	93.33	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-124	0.005	0.0014	0.05	No	15	93.33	None	No	0.01	NP (NDs)

Non-Parametric Confidence Interval

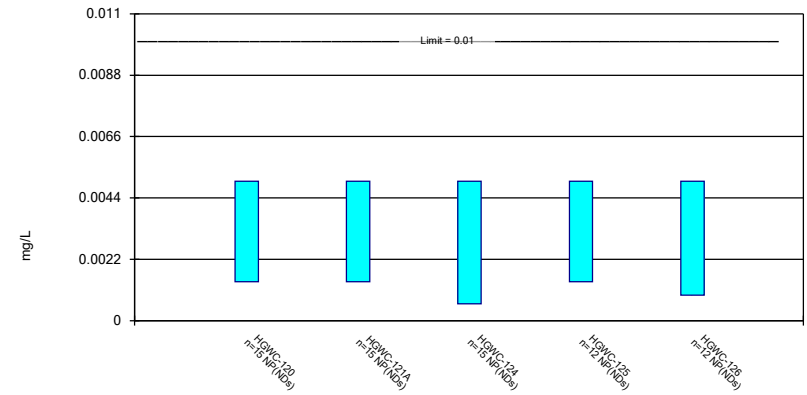
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Antimony Analysis Run 10/26/2023 11:13 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-3

Non-Parametric Confidence Interval

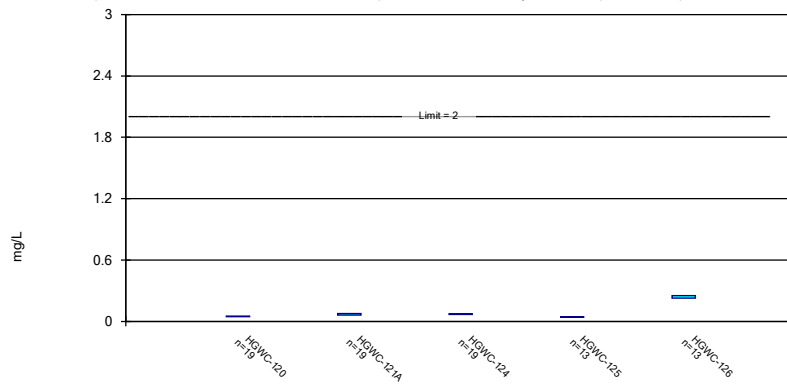
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Arsenic Analysis Run 10/26/2023 11:13 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-3

Parametric Confidence Interval

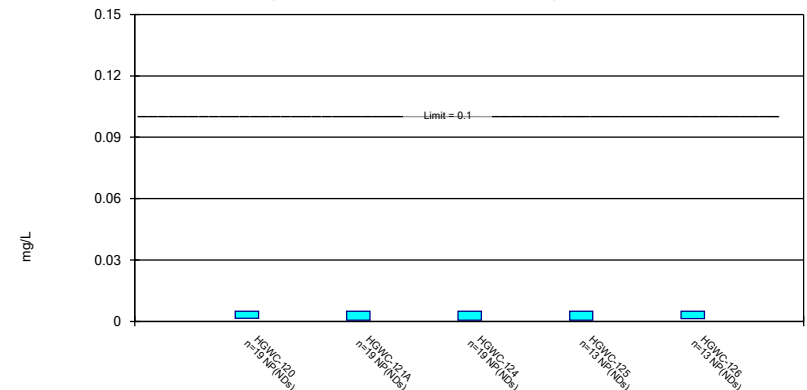
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 10/26/2023 11:13 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-3

Non-Parametric Confidence Interval

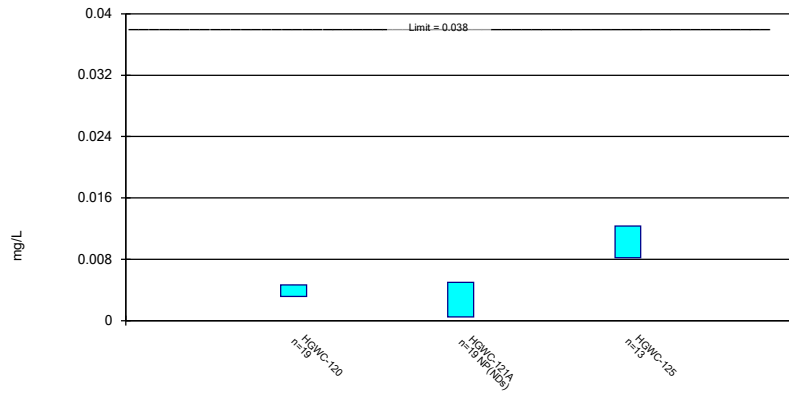
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Chromium Analysis Run 10/26/2023 11:13 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-3

Parametric and Non-Parametric (NP) Confidence Interval

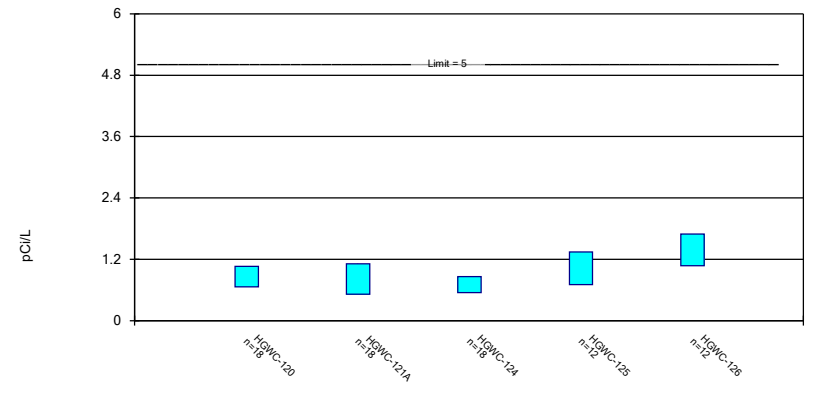
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt Analysis Run 10/26/2023 11:13 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-3

Parametric Confidence Interval

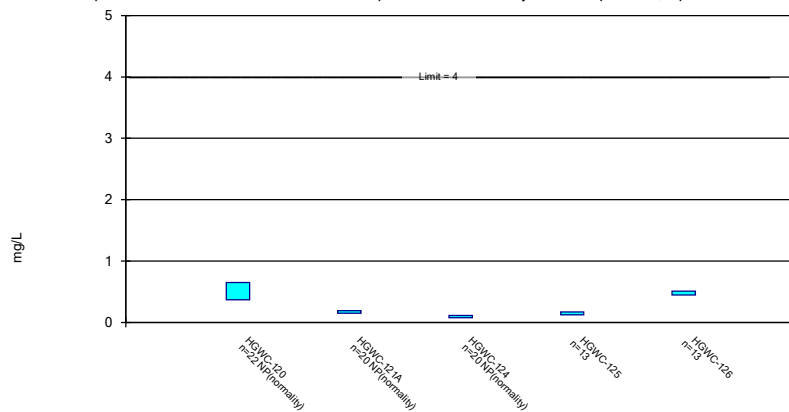
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 10/26/2023 11:13 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-3

Parametric and Non-Parametric (NP) Confidence Interval

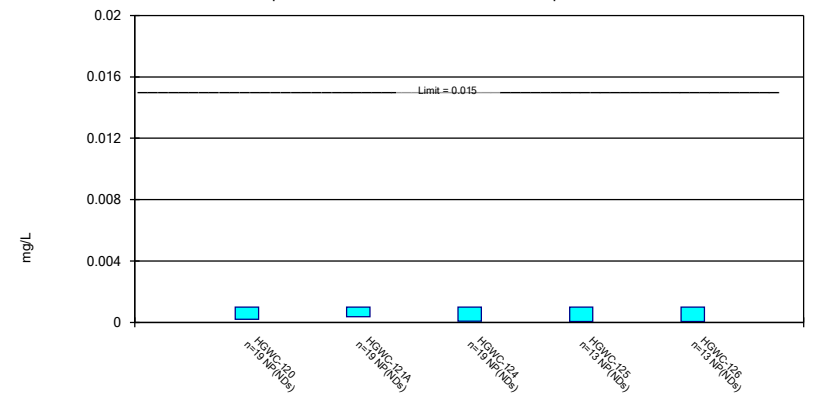
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 10/26/2023 11:13 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-3

Non-Parametric Confidence Interval

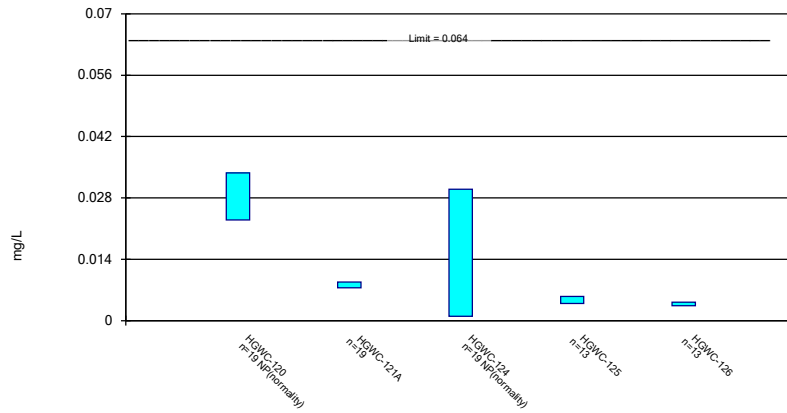
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Lead Analysis Run 10/26/2023 11:13 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-3

Parametric and Non-Parametric (NP) Confidence Interval

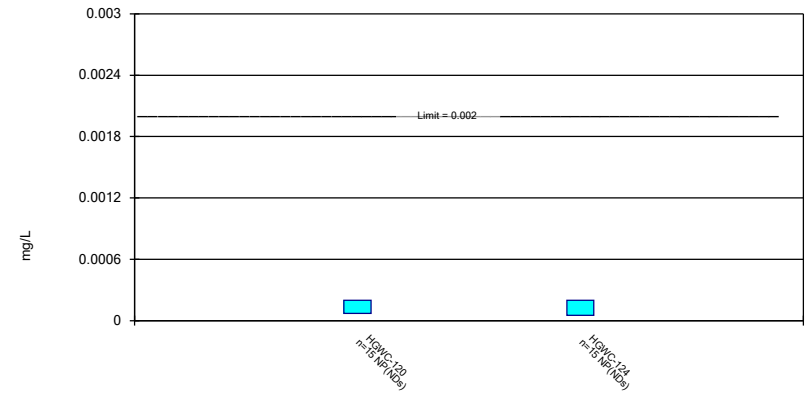
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 10/26/2023 11:13 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-3

Non-Parametric Confidence Interval

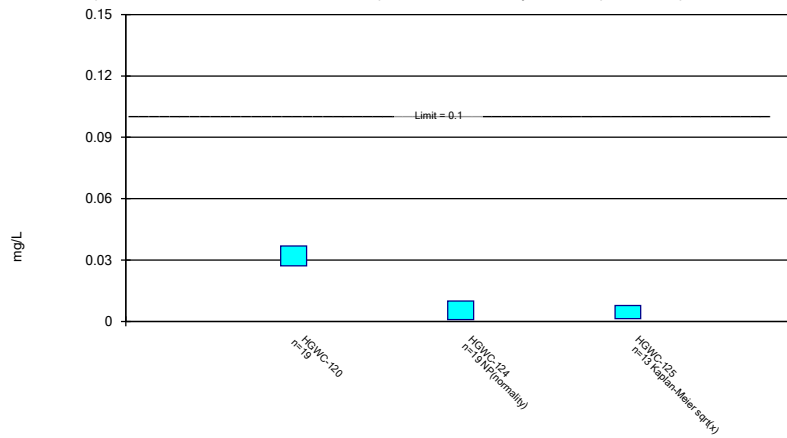
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Mercury Analysis Run 10/26/2023 11:13 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-3

Parametric and Non-Parametric (NP) Confidence Interval

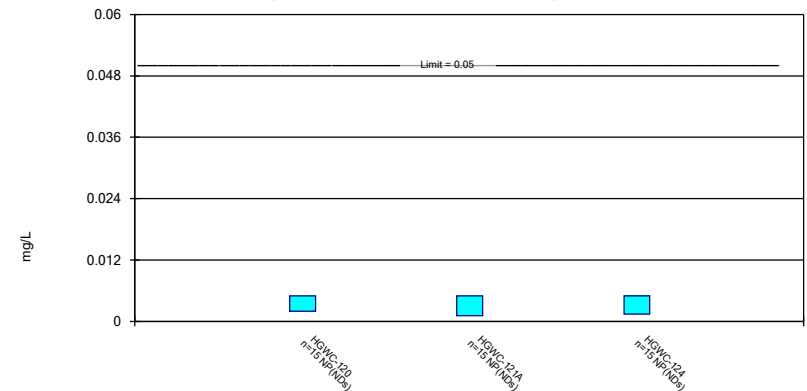
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum Analysis Run 10/26/2023 11:13 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-3

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Selenium Analysis Run 10/26/2023 11:13 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-3

Confidence Interval

Constituent: Antimony (mg/L) Analysis Run 10/26/2023 11:14 AM View: Confidence Interval
 Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016	<0.003	<0.003	<0.003		
10/26/2016	<0.003		<0.003		
11/7/2016		<0.003			
1/13/2017		<0.003			
1/27/2017	<0.003		<0.003		
5/25/2017	<0.003		<0.003		
6/3/2017		<0.003			
8/11/2017			<0.003		
10/2/2017	<0.003	<0.003			
11/15/2017	<0.003	<0.003	<0.003		
6/5/2018	<0.003	<0.003	<0.003		
10/2/2018	<0.003		<0.003		
10/5/2018		<0.003			
8/22/2019	<0.003	<0.003			
8/23/2019			<0.003		
5/22/2020				0.00047 (J)	<0.003
6/16/2020				<0.003	<0.003
8/25/2020				<0.003	<0.003
8/26/2020	<0.003	<0.003			
8/27/2020			<0.003		
9/18/2020					<0.003
9/21/2020	<0.003			<0.003	
9/28/2020		<0.003	<0.003		
11/11/2020					0.0004 (J)
11/12/2020				<0.003	
12/16/2020				<0.003	<0.003
1/20/2021				<0.003	<0.003
3/12/2021	0.0018 (J)			0.00061 (J)	0.00043 (J)
3/15/2021		<0.003	<0.003		
8/16/2021	<0.003	<0.003	<0.003		
8/19/2021				<0.003	<0.003
2/2/2022	<0.003	<0.003	<0.003		
2/3/2022				<0.003	<0.003
8/4/2022	<0.003	0.0016 (J)	<0.003	<0.003	<0.003
1/24/2023		<0.003	0.0018 (J)		
1/25/2023	<0.003			<0.003	<0.003
8/10/2023	<0.003	<0.003		<0.003	
8/11/2023			<0.003		<0.003
Mean	0.002929	0.002918	0.002929	0.002622	0.002602
Std. Dev.	0.000291	0.0003395	0.000291	0.0009243	0.0009708
Upper Lim.	0.003	0.003	0.003	0.003	0.003
Lower Lim.	0.0018	0.0016	0.0018	0.00061	0.00043

Confidence Interval

Constituent: Arsenic (mg/L) Analysis Run 10/26/2023 11:14 AM View: Confidence Interval
 Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016	<0.005	<0.005	<0.005		
10/26/2016	<0.005		<0.005		
11/7/2016		<0.005			
1/13/2017		<0.005			
1/27/2017	<0.005		<0.005		
5/25/2017	0.0014 (J)		0.0006 (J)		
6/3/2017		0.001 (J)			
8/11/2017			<0.005		
10/2/2017	0.0007 (J)	<0.005			
11/15/2017	<0.005	<0.005	<0.005		
6/5/2018	0.001 (J)	0.0014 (J)	<0.005		
10/2/2018	<0.005		<0.005		
10/5/2018		<0.005			
8/22/2019	<0.005	<0.005			
8/23/2019			<0.005		
5/22/2020				0.00081 (J)	0.00071 (J)
6/16/2020				0.0014 (J)	0.00091 (J)
8/25/2020				<0.005	<0.005
8/26/2020	<0.005	<0.005			
8/27/2020			<0.005		
9/18/2020					<0.005
9/21/2020				<0.005	
11/11/2020					<0.005
11/12/2020				<0.005	
12/16/2020				<0.005	<0.005
1/20/2021				<0.005	<0.005
8/16/2021	0.0015 (J)	0.0014 (J)	<0.005		
8/19/2021				<0.005	<0.005
2/2/2022	0.0014 (J)	<0.005	<0.005		
2/3/2022				0.0032 (J)	0.0026 (J)
8/4/2022	<0.005	<0.005	<0.005	<0.005	<0.005
1/24/2023		<0.005	<0.005		
1/25/2023	<0.005			<0.005	<0.005
8/10/2023	<0.005	<0.005		<0.005	
8/11/2023			<0.005		<0.005
Mean	0.003733	0.004253	0.004707	0.004201	0.004102
Std. Dev.	0.001863	0.001548	0.001136	0.00154	0.001684
Upper Lim.	0.005	0.005	0.005	0.005	0.005
Lower Lim.	0.0014	0.0014	0.0006	0.0014	0.00091

Confidence Interval

Constituent: Barium (mg/L) Analysis Run 10/26/2023 11:14 AM View: Confidence Interval
 Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016	0.045	0.0782	0.0744		
10/26/2016	0.0462		0.0735		
11/7/2016		0.0764			
1/13/2017		0.0744			
1/27/2017	0.0451		0.0632		
5/25/2017	0.0488		0.0773		
6/3/2017		0.0933			
8/11/2017			0.0672		
10/2/2017	0.0479	0.0815			
11/15/2017	0.051	0.0807	0.0707		
6/5/2018	0.051	0.078	0.07		
10/2/2018	0.059		0.067		
10/5/2018		0.074			
8/22/2019	0.05	0.066			
8/23/2019			0.066		
10/21/2019		0.074	0.075		
10/22/2019	0.051				
3/24/2020			0.075		
3/25/2020	0.052	0.099			
5/22/2020				0.048	0.24
6/16/2020				0.049	0.24
8/25/2020				0.045	0.23
8/26/2020	0.041	0.057			
8/27/2020			0.062		
9/18/2020					0.21
9/21/2020	0.046			0.042	
9/28/2020		0.056	0.071		
11/11/2020					0.23
11/12/2020				0.042	
12/16/2020				0.041	0.24
1/20/2021				0.045	0.25
3/12/2021	0.047			0.043	0.27
3/15/2021		0.059	0.071		
8/16/2021	0.052	0.06	0.069		
8/19/2021				0.044	0.27
2/2/2022	0.054	0.064	0.072		
2/3/2022				0.043	0.24
8/4/2022	0.048	0.06	0.068	0.037	0.24
1/24/2023		0.059	0.068		
1/25/2023	0.051			0.042	0.24
8/10/2023	0.045	0.048		0.038	
8/11/2023			0.06		0.22
Mean	0.049	0.07045	0.06949	0.043	0.24
Std. Dev.	0.004044	0.01332	0.004646	0.003391	0.01683
Upper Lim.	0.05137	0.07825	0.07221	0.04552	0.2525
Lower Lim.	0.04663	0.06265	0.06677	0.04048	0.2275

Confidence Interval

Constituent: Chromium (mg/L) Analysis Run 10/26/2023 11:14 AM View: Confidence Interval

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016	<0.005	<0.005	<0.005		
10/26/2016	<0.005		<0.005		
11/7/2016		<0.005			
1/13/2017		<0.005			
1/27/2017	<0.005		<0.005		
5/25/2017	<0.005		<0.005		
6/3/2017		<0.005			
8/11/2017			<0.005		
10/2/2017	<0.005	<0.005			
11/15/2017	<0.005	<0.005	<0.005		
6/5/2018	<0.005	<0.005	<0.005		
10/2/2018	<0.005		<0.005		
10/5/2018		<0.005			
8/22/2019	0.00072 (J)	<0.005			
8/23/2019			<0.005		
10/21/2019		<0.005	0.00046 (J)		
10/22/2019	<0.005				
3/24/2020			0.00051 (J)		
3/25/2020	0.0015 (J)	0.0005 (J)			
5/22/2020				0.00058 (J)	<0.005
6/16/2020				0.00052 (J)	<0.005
8/25/2020				<0.005	0.00096 (J)
8/26/2020	<0.005	<0.005			
8/27/2020			<0.005		
9/18/2020					<0.005
9/21/2020	0.00065 (J)			<0.005	
9/28/2020		<0.005	<0.005		
11/11/2020					<0.005
11/12/2020				<0.005	
12/16/2020				<0.005	<0.005
1/20/2021				0.00081 (J)	<0.005
3/12/2021	<0.005			<0.005	<0.005
3/15/2021		<0.005	<0.005		
8/16/2021	<0.005	<0.005	<0.005		
8/19/2021				<0.005	<0.005
2/2/2022	<0.005	<0.005	<0.005		
2/3/2022				<0.005	<0.005
8/4/2022	<0.005	<0.005	<0.005	<0.005	<0.005
1/24/2023		<0.005	<0.005		
1/25/2023	<0.005			<0.005	0.0014 (J)
8/10/2023	<0.005	<0.005		<0.005	
8/11/2023			<0.005		<0.005
Mean	0.004362	0.004763	0.004525	0.003993	0.004412
Std. Dev.	0.001523	0.001032	0.001424	0.001914	0.001437
Upper Lim.	0.005	0.005	0.005	0.005	0.005
Lower Lim.	0.0015	0.0005	0.00051	0.00058	0.0014

Confidence Interval

Constituent: Cobalt (mg/L) Analysis Run 10/26/2023 11:14 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWC-120	HGWC-121A	HGWC-125
8/31/2016	0.0052 (J)	<0.005	
10/26/2016	0.0041 (J)		
11/7/2016		<0.005	
1/13/2017		<0.005	
1/27/2017	0.0034 (J)		
5/25/2017	0.0035 (J)		
6/3/2017		0.0005 (J)	
10/2/2017	0.0036 (J)	0.0003 (J)	
11/15/2017	0.0032 (J)	0.0003 (J)	
6/5/2018	0.0031 (J)	<0.005	
10/2/2018	0.0025 (J)		
10/5/2018		<0.005	
8/22/2019	0.0028 (J)	<0.005	
10/21/2019		<0.005	
10/22/2019	0.0031 (J)		
3/25/2020	0.0036 (J)	<0.005	
5/22/2020			0.01
6/16/2020			0.0096
8/25/2020			0.0087
8/26/2020	0.0023 (J)	<0.005	
9/21/2020	0.0041 (J)		0.012
9/28/2020		<0.005	
11/12/2020			0.012
12/16/2020			0.0055
1/20/2021			0.012
3/12/2021	0.0027 (J)		0.014
3/15/2021		<0.005	
8/16/2021	0.0037 (J)	<0.005	
8/19/2021			0.0054
2/2/2022	0.0072	<0.005	
2/3/2022			0.0086
8/4/2022	0.0058	<0.005	0.014
1/24/2023		<0.005	
1/25/2023	0.0055		0.0097
8/10/2023	0.0048 (J)	<0.005	0.012
Mean	0.003905	0.004268	0.01027
Std. Dev.	0.001274	0.001736	0.002774
Upper Lim.	0.004651	0.005	0.01233
Lower Lim.	0.003159	0.0005	0.008206

Confidence Interval

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 10/26/2023 11:14 AM View: Confidence Interval

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016	1.47	1.57	1.22		
10/26/2016	0.864 (U)		0.637 (U)		
11/7/2016		0.739 (U)			
1/13/2017		0.744 (U)			
1/27/2017	0.521 (U)		0.795 (U)		
5/25/2017	0.681 (U)		0.896 (U)		
6/3/2017		0 (U)			
8/11/2017			0.828 (U)		
10/2/2017	0.632 (U)	0.68 (U)			
11/15/2017	1.3	0.911 (U)	0.478 (U)		
6/5/2018	1.26 (U)	0.948 (U)	0.947 (U)		
10/2/2018	0.572 (U)		0.617 (U)		
10/5/2018		1.17 (U)			
8/22/2019	1.35	1.3			
8/23/2019			0.834		
10/21/2019		0.393 (U)	1.11 (U)		
10/22/2019	0.76 (U)				
3/24/2020			0.796 (U)		
3/25/2020	0.696 (U)	0.505 (U)			
5/22/2020				1.1 (U)	1.82
6/16/2020				1.62	1.82
8/25/2020				1.65	1.82
8/26/2020	0.357 (U)	1.96			
8/27/2020			0.494 (U)		
9/18/2020					0.841 (U)
9/21/2020	0.553 (U)			1.45	
9/28/2020		0.761 (U)	0.477 (U)		
11/11/2020					0.837 (U)
11/12/2020				0.633 (U)	
12/16/2020				0.818 (U)	1.26 (U)
1/20/2021				1.01 (U)	0.985 (U)
8/16/2021	1.25	0.192 (U)	0.734 (U)		
8/19/2021				0.721 (U)	1.11
2/2/2022	0.816 (U)	0.254 (U)	0.564 (U)		
2/3/2022				0.257 (U)	1.51
8/4/2022	0.687 (U)	1.16 (U)	0.16 (U)	0.971 (U)	1.34 (U)
1/24/2023		0.757 (U)	0.601 (U)		
1/25/2023	0.992			1.11	1.91
8/10/2023	0.682 (U)	0.585 (U)		0.953 (U)	
8/11/2023			0.449 (U)		1.34
Mean	0.8579	0.8127	0.7021	1.024	1.383
Std. Dev.	0.3312	0.4922	0.2575	0.4073	0.3943
Upper Lim.	1.058	1.11	0.8578	1.344	1.692
Lower Lim.	0.6576	0.515	0.5463	0.7048	1.073

Confidence Interval

Constituent: Fluoride (mg/L) Analysis Run 10/26/2023 11:14 AM View: Confidence Interval
 Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016	0.65	0.14 (J)	0.15 (J)		
10/26/2016	0.6		0.3		
11/7/2016		0.18 (J)			
1/13/2017		0.14 (J)			
1/27/2017	1.2		0.3		
5/25/2017	1.4		0.05 (J)		
6/3/2017		0.15 (J)			
8/11/2017			0.1 (J)		
10/2/2017	1	1.2			
11/15/2017	1.3	0.6	<0.1		
6/5/2018	0.48	0.19 (J)	0.078 (J)		
10/2/2018	0.34		0.078 (J)		
10/5/2018		0.23 (J)			
4/2/2019	0.47				
4/3/2019		0.14 (J)	0.089 (J)		
6/17/2019	1.2				
8/22/2019	0.3 (J)	0.2 (J)			
8/23/2019			0.11 (J)		
10/21/2019		0.18 (J)	0.073 (J)		
10/22/2019	0.53				
3/24/2020			<0.1		
3/25/2020	0.43	0.095 (J)			
5/22/2020				0.1 (J)	0.46
6/15/2020	0.37				
6/16/2020				0.12	0.44
8/25/2020				0.16	0.52
8/26/2020	0.48	0.16			
8/27/2020			<0.1		
9/18/2020					0.43
9/21/2020	0.33			0.11	
9/28/2020		0.15	<0.1		
11/11/2020					0.45
11/12/2020				0.12	
12/16/2020				0.2	0.49
1/20/2021				0.13	0.44
3/12/2021	0.42			0.12	0.46
3/15/2021		0.16	<0.1		
8/16/2021	0.39	0.15	<0.1		
8/19/2021				0.17	0.43
2/2/2022	0.36	0.15	<0.1		
2/3/2022				0.18	0.51
8/4/2022	0.38	0.18	0.074 (J)	0.15	0.5
1/24/2023		0.18	0.068 (J)		
1/25/2023	0.42			0.17	0.57
8/10/2023	0.36	0.18		0.15	
8/11/2023			<0.1		0.49
Mean	0.6095	0.2378	0.1135	0.1446	0.4762
Std. Dev.	0.355	0.2481	0.06687	0.03045	0.04174
Upper Lim.	0.65	0.19	0.11	0.1673	0.5072
Lower Lim.	0.37	0.15	0.078	0.122	0.4451

Confidence Interval

Constituent: Lead (mg/L) Analysis Run 10/26/2023 11:14 AM View: Confidence Interval

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016	<0.001	<0.001	<0.001		
10/26/2016	0.0002 (J)		<0.001		
11/7/2016		<0.001			
1/13/2017		<0.001			
1/27/2017	<0.001		<0.001		
5/25/2017	9E-05 (J)		<0.001		
6/3/2017		7E-05 (J)			
8/11/2017			8E-05 (J)		
10/2/2017	8E-05 (J)	<0.001			
11/15/2017	<0.001	<0.001	<0.001		
6/5/2018	<0.001	0.00036 (J)	<0.001		
10/2/2018	<0.001		<0.001		
10/5/2018		<0.001			
8/22/2019	<0.001	<0.001			
8/23/2019			4.9E-05 (J)		
10/21/2019		<0.001	4.9E-05 (J)		
10/22/2019	<0.001				
3/24/2020			9.4E-05 (J)		
3/25/2020	<0.001	<0.001			
5/22/2020				0.00014 (J)	<0.001
6/16/2020				0.00013 (J)	<0.001
8/25/2020				<0.001	4.5E-05 (J)
8/26/2020	<0.001	<0.001			
8/27/2020			<0.001		
9/18/2020					<0.001
9/21/2020	<0.001			<0.001	
9/28/2020		<0.001	7.5E-05 (J)		
11/11/2020					4.2E-05 (J)
11/12/2020				4.7E-05 (J)	
12/16/2020				<0.001	<0.001
1/20/2021				9.2E-05 (J)	<0.001
3/12/2021	<0.001			4.4E-05 (J)	4.6E-05 (J)
3/15/2021		0.00015 (J)	<0.001		
8/16/2021	<0.001	<0.001	<0.001		
8/19/2021				<0.001	<0.001
2/2/2022	<0.001	<0.001	<0.001		
2/3/2022				<0.001	<0.001
8/4/2022	<0.001	<0.001	<0.001	<0.001	<0.001
1/24/2023		<0.001	<0.001		
1/25/2023	<0.001			<0.001	<0.001
8/10/2023	<0.001	<0.001		<0.001	
8/11/2023			<0.001		<0.001
Mean	0.0008616	0.0008726	0.0007551	0.0006502	0.0007795
Std. Dev.	0.0003292	0.0003063	0.0004211	0.0004612	0.0004191
Upper Lim.	0.001	0.001	0.001	0.001	0.001
Lower Lim.	0.0002	0.00036	8E-05	4.7E-05	4.5E-05

Confidence Interval

Constituent: Lithium (mg/L) Analysis Run 10/26/2023 11:14 AM View: Confidence Interval
 Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWC-120	HGWC-121A	HGWC-124	HGWC-125	HGWC-126
8/31/2016	0.0333 (J)	0.0077 (J)	<0.03		
10/26/2016	0.0352 (J)		<0.03		
11/7/2016		0.0089 (J)			
1/13/2017		0.0091 (J)			
1/27/2017	0.0329 (J)		<0.03		
5/25/2017	0.0347 (J)		0.0011 (J)		
6/3/2017		0.0104 (J)			
8/11/2017			<0.03		
10/2/2017	0.0337 (J)	0.0095 (J)			
11/15/2017	0.0347 (J)	0.0086 (J)	<0.03		
6/5/2018	0.033 (J)	0.0092 (J)	0.0012 (J)		
10/2/2018	0.031 (J)		0.0012 (J)		
10/5/2018		0.0091 (J)			
8/22/2019	0.029 (J)	0.0084 (J)			
8/23/2019			0.0011 (J)		
10/21/2019		0.009 (J)	0.0011 (J)		
10/22/2019	0.03 (J)				
3/24/2020			0.0012 (J)		
3/25/2020	0.024 (J)	0.0066 (J)			
5/22/2020				0.0052 (J)	0.0046 (J)
6/16/2020				0.0053 (J)	0.0045 (J)
8/25/2020				0.0037 (J)	0.0037 (J)
8/26/2020	0.023 (J)	0.0071 (J)			
8/27/2020			0.00091 (J)		
9/18/2020					0.0035 (J)
9/21/2020	0.023 (J)			0.0038 (J)	
9/28/2020		0.0076 (J)	0.0011 (J)		
11/11/2020					0.0032 (J)
11/12/2020				0.0038 (J)	
12/16/2020				0.0055 (J)	0.0029 (J)
1/20/2021				0.0046 (J)	0.0038 (J)
3/12/2021	0.023 (J)			0.0039 (J)	0.0038 (J)
3/15/2021		0.0077 (J)	0.001 (J)		
8/16/2021	0.025 (J)	0.0075 (J)	0.0011 (J)		
8/19/2021				0.0074 (J)	0.0032 (J)
2/2/2022	0.025 (J)	0.0082 (J)	0.0012 (J)		
2/3/2022				0.0057 (J)	0.0038 (J)
8/4/2022	0.023 (J)	0.0069 (J)	0.0011 (J)	0.0035 (J)	0.0034 (J)
1/24/2023		0.0066 (J)	0.0011 (J)		
1/25/2023	0.018 (J)			0.0045 (J)	0.0046 (J)
8/10/2023	0.023 (J)	0.0069 (J)		0.0042 (J)	
8/11/2023			0.00097 (J)		0.0041 (J)
Mean	0.02813	0.008158	0.008704	0.0047	0.003777
Std. Dev.	0.005395	0.001093	0.01308	0.001101	0.000551
Upper Lim.	0.0337	0.008798	0.03	0.005518	0.004187
Lower Lim.	0.023	0.007518	0.001	0.003882	0.003367

Confidence Interval

Constituent: Mercury (mg/L) Analysis Run 10/26/2023 11:14 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWC-120	HGWC-124
8/31/2016	4E-05 (J)	<0.0002
10/26/2016	<0.0002	<0.0002
1/27/2017	<0.0002	<0.0002
5/25/2017	7E-05 (J)	5.1E-05 (J)
8/11/2017		<0.0002
10/2/2017	<0.0002	
11/15/2017	<0.0002	<0.0002
6/5/2018	<0.0002	<0.0002
10/2/2018	<0.0002	<0.0002
8/22/2019	<0.0002	
8/23/2019		<0.0002
8/26/2020	<0.0002	
8/27/2020		<0.0002
8/16/2021	<0.0002	<0.0002
2/2/2022	<0.0002	<0.0002
8/4/2022	<0.0002	<0.0002
1/24/2023		<0.0002
1/25/2023	<0.0002	
8/10/2023	<0.0002	
8/11/2023		<0.0002
Mean	0.0001807	0.0001901
Std. Dev.	5.133E-05	3.847E-05
Upper Lim.	0.0002	0.0002
Lower Lim.	7E-05	5.1E-05

Confidence Interval

Constituent: Molybdenum (mg/L) Analysis Run 10/26/2023 11:14 AM View: Confidence Interval

Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWC-120	HGWC-124	HGWC-125
8/31/2016	0.0176	<0.01	
10/26/2016	0.0187	<0.01	
1/27/2017	0.0214	<0.01	
5/25/2017	0.0231	0.0009 (J)	
8/11/2017		0.0013 (J)	
10/2/2017	0.0259		
11/15/2017	0.0281	0.0012 (J)	
6/5/2018	0.033	<0.01	
10/2/2018	0.036	<0.01	
8/22/2019	0.039		
8/23/2019		0.0014 (J)	
10/21/2019		0.0013 (J)	
10/22/2019	0.04		
3/24/2020		0.001 (J)	
3/25/2020	0.034		
5/22/2020			<0.01
6/16/2020			<0.01
8/25/2020			0.00099 (J)
8/26/2020	0.05		
8/27/2020		0.00091 (J)	
9/21/2020	0.043		<0.01
9/28/2020		0.0009 (J)	
11/12/2020			0.0017 (J)
12/16/2020			0.014
1/20/2021			0.0013 (J)
3/12/2021	0.033		0.0012 (J)
3/15/2021		0.00092 (J)	
8/16/2021	0.035	0.00091 (J)	
8/19/2021			0.021
2/2/2022	0.034	0.001 (J)	
2/3/2022			0.0067 (J)
8/4/2022	0.032	<0.01	0.0023 (J)
1/24/2023		<0.01	
1/25/2023	0.03		0.0053 (J)
8/10/2023	0.035		0.0031 (J)
8/11/2023		<0.01	
Mean	0.03204	0.004828	0.006738
Std. Dev.	0.008281	0.004533	0.006067
Upper Lim.	0.03689	0.01	0.007728
Lower Lim.	0.02719	0.00092	0.001411

Confidence Interval

Constituent: Selenium (mg/L) Analysis Run 10/26/2023 11:14 AM View: Confidence Interval
Plant Hammond Client: Southern Company Data: Hammond AP-3

	HGWC-120	HGWC-121A	HGWC-124
8/31/2016	<0.005	<0.005	<0.005
10/26/2016	<0.005		<0.005
11/7/2016		<0.005	
1/13/2017		0.0011 (J)	
1/27/2017	<0.005		<0.005
5/25/2017	<0.005		<0.005
6/3/2017		<0.005	
8/11/2017			<0.005
10/2/2017	0.002 (J)	<0.005	
11/15/2017	<0.005	<0.005	<0.005
6/5/2018	<0.005	<0.005	<0.005
10/2/2018	<0.005		0.0014 (J)
10/5/2018		<0.005	
8/22/2019	<0.005	<0.005	
8/23/2019			<0.005
8/26/2020	<0.005	<0.005	
8/27/2020			<0.005
8/16/2021	<0.005	<0.005	<0.005
2/2/2022	<0.005	<0.005	<0.005
8/4/2022	<0.005	<0.005	<0.005
1/24/2023		<0.005	<0.005
1/25/2023	<0.005		
8/10/2023	<0.005	<0.005	
8/11/2023			<0.005
Mean	0.0048	0.00474	0.00476
Std. Dev.	0.0007746	0.001007	0.0009295
Upper Lim.	0.005	0.005	0.005
Lower Lim.	0.002	0.0011	0.0014